FOOD FOR LIFE: AN EXPLORATION OF CONTEXT, METHODOLOGY AND RESEARCH IMPACT OF A COMPLEX PROGRAMME EVALUATION

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Section A: Commentary

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Acknowledgements

Abstract

This thesis involves the submission of published academic work with a critical commentary, in accordance with the regulations of UWE for DPhil degrees. Fourteen papers are submitted, published between 2008 and 2017. These include nine peer reviewed journal articles, one book chapter section and three externally reviewed research reports. These works share a common concern with the intersections between food, public health and sustainability, and the majority draw upon evaluation research on the Food for Life programme conducted from 2007 to 2016. I argue in the critical commentary that these works represent cumulative body of academic conceptual and empirical enquiry on the development, implementation and impacts of a complex community-based initiative. Broadly following a chronology, I examine the context, methodological and substantive themes that link the published works and how these developed over the course of time. In doing so I demonstrate how the thesis addresses UWE's doctoral descriptors in terms of originality, significance, methodological understanding and critical application in the context of a major programme of evaluation. I include an account of my personal intellectual contribution to the research and associated publications. My commentary then sets out and reflects on the impact of the published works in academic, service and policy arenas. I consider the widespread effects of the research and some challenges involved in creating an account of impact. In the conclusion, I draw out some overarching methodological concerns on the tensions between idealism and pragmatism; the balance between integrative and eclectic narratives and the value of an iterative approach towards the evaluative research on complex community based programmes. Finally, I summarise how the DPhil works contribute towards our understanding of how whole settings-based programmes can create food system change through offering a conceptual, practical and dialogical synergy for action.

Contents

Tables and figures

Acronyms and abbreviation

BLF   Big Lottery Fund

DoH   Department of Health

CFT   Children's Food Trust

FFL   Food for Life

FFLCM   Food for Life Catering Mark

QAA   Quality Assurance Agency

SA   Soil Association

SROI   Social Return on Investment

TOC   Theory of Change

Note on citations for works submitted in support of the DPhil award

Works submitted in support of the award are cited in text by paper number, for example '**Paper 1**'.
The list of the works is provided in the introduction and in Appendix 3.

1 Introduction

This thesis involves the submission of published academic work with a critical commentary, in accordance with the regulations of UWE for DPhil degrees. Fourteen works are submitted, published between 2008 and 2017. These include nine peer reviewed journal articles, one book chapter section, and three externally reviewed research reports. These works share a common concern with the intersections between food, public health and sustainability, and the majority draw upon two phases of evaluative research on the Food for Life programme conducted between 2007 and 2016. A list of the works is presented in Table 1.

Table 1: Works submitted in support of the DPhil award*

'Phase 1' Peer Reviewed Articles, Book Section and Evaluation Report

Paper 1	**Jones, M.** and Daykin, N. (2015) Sociology and Health. Case study: the social determinants and social construction of diet. In: Naidoo, J. and Wills, J., eds. (2015) *Heath Studies: an Introduction*. 3rd ed. London: Palgrave Macmillan, pp.155-195 (case study: pp.185-187). [Originally published in 2nd ed: 2008] ISBN: 9780230545205
Paper 2	Orme, J., **Jones, M.,** Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Morley, A. Smith, A., and Morgan, K. (2011) *Food for Life Partnership Evaluation.* University of the West of England, Bristol. Full report available at: http://eprints.uwe.ac.uk/14456 ISBN: 9781860435317
Paper 3	**Jones, M.,** Dailami, N., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Food sustainability education as a route to healthier eating: evaluation of a multi-component school programme in English primary schools. *Health Education Research.* 27 (3), pp.448-458. doi.org/10.1093/her/cys016 ISSN: 0268-1153
Paper 4	**Jones, M.,** Dailami, N., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Engaging secondary school students in food-related citizenship: achievements and challenges of a multi-component programme. *Education Sciences*, 2, pp.77-90. doi.org/10.3390/educsci2020077 ISSN: 2227-7102
Paper 5	**Jones, M.,** Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Realizing a holistic approach to food through school gardens and growing activities. *Children, Youth and Environments*. 22 (1), pp.75-98. www.colorado.edu/journals/cye ISSN: 1546-2250

Paper 6	Weitkamp, E., **Jones, M.,** Salmon, D., N., Kimberlee, R., Salmon, D. and Orme, J. (2013) Creating a learning environment to promote food sustainability issues in primary schools? Staff perceptions of implementing the Food for Life Partnership Programme. *Sustainability.* 5 (3), pp.1128-1140. doi.org/10.3390/su5031128 ISSN: 2071-1050
Paper 7	Orme, J., **Jones, M.,** Salmon, D., Weitkamp, E. and Kimberlee, R. (2013) A process evaluation of student participation in a whole school food programme. *Health Education*. 113 (3), pp.168-182. doi.org/10.1108/09654281311309819 ISSN: 0965-4283
Paper 8	Kimberlee, R., **Jones, M.,** Orme, J. and Salmon, D. (2013) Whole school food programmes and the kitchen environment. *British Food Journal,* 115 (5), pp.756-768. doi.org/10.1108/00070701311331535 ISSN: 0007-070X
Paper 9	Salmon, D., **Jones, M.,** Weitkamp, E., Kimberlee, R. and Orme, J. (2013) Take home messages on sustainable food: surveying parent perceptions of the effects of a primary school programme. *British Journal of Education, Society and Behavioural Science.* 3 (4), pp.490-503. 10.9734/BJESBS/2013/4211 ISSN: 2278-0998

'Phase 2' Peer Reviewed Articles and Evaluation Reports

Paper 10	**Jones, M.,** Pitt, H., Orme, J., Bray, I., Gray, S., Kimberlee, R., Means, R., Oxford, L., Powell, J., Salmon, D. and Weitkamp, E, (2016) *Evaluation of Food for Life 2013-15. Summary and Synthesis Report.* Bristol: University of the West of England. Full report available at: http://eprints.uwe.ac.uk/29454 ISBN: 9781860435300
Paper 11	**Jones, M.,** Pitt, H., Oxford, L., Bray I., Kimberlee, R. and Orme J. (2017) Association between Food for Life, a whole setting healthy and sustainable food programme, and primary school children's consumption of fruit and vegetables: a cross-sectional study in England. *International Journal of Environmental Research and Public Health*, 14, 639. doi:10.3390/ijerph14060639 ISSN 1660-4601
Paper 12	**Jones, M.**, Pitt, H., Oxford, L., Orme, J., Gray, S., Salmon, D., Means, R., Weitkamp, E., Kimberlee, R. and Powell, J. (2016) *Food for Life: a Social Return on Investment Analysis of the Locally Commissioned Programme. Full Report.* Bristol: University of the West of England. Available at: http://eprints.uwe.ac.uk/31897 ISBN: 9781860435294
Paper 13	Gray, S., **Jones, M.,** Means, R., Orme, J., Pitt, H., and Salmon, D. (2017) Inter-sectoral Transfer of the Food for Life Settings Framework in England. *Health*

Paper 14	Pitt, H. and **Jones, M**. (2016) Scaling up and out as a Pathway for Food System Transitions. *Sustainability*. 8 (10), pp.1025-1041. [doi.org/10.3390/su8101025](doi.org/10.3390/su8101025) ISSN: 2071-1050

I argue in this commentary that these works represent cumulative body of academic conceptual and empirical enquiry on the development, implementation and impacts of complex community-based initiatives. By December 2016, the research findings in these publications had been cited by 54 works, both nationally and internationally, and underpinned several government programme grants and commissions. My submission of published works is complemented by 23 conference presentations, which are listed in a bibliography (Appendix 4). The submitted works that are linked to earlier stage – or 'Phase 1' - of the research supported a UWE Impact Case Study for the Research Excellence Framework Unit of Assessment 22 in 2014.

My interests in food, health and sustainability go back to my early career as a community development worker engaged in urban renewal projects and, later, as a higher education lecturer in sociology and social policy for health and welfare professionals. Between 2000 and 2007, I became increasingly active as a researcher. This involved working on twelve externally funded research projects with community and voluntary sector agencies, both as principal investigator and co-investigator. This research, and the training that accompanied it, allowed me to acquire a range of research skills, following from project inception through to the production of a range of peer-reviewed publications (Salmon *et al.* 2015; Jones, 2004; de Viggiani, Jones and Naidoo, 2004; Salmon and Jones, 2004; Jones *et al.,* 2004*;* Jones, Salmon and Orme, 2004; Kimberlee, Jones and Powell, 2003; Powell, Kimberlee and Jones, 2003; Jones and Salmon, 2001; Salmon and Jones, 2001). In 2007, the research with the national Food for Life programme represented a step change for me in terms of the scale, complexity and policy significance of the research.

In the commentary that follows, I examine the context, methodological and substantive themes that link the published works and how these developed over the course of time. In doing so I seek to demonstrate how the thesis addresses UWE's doctoral requirements in terms of originality, significance, methodological understanding and critical application in the context of a major programme of research. UWE's requirements for doctoral submissions are set out in the UWE Academic Regulations 2015/16 and draw upon national guidance from the QAA (2015). A core point

of reference in the UWE regulations is the requirement for submissions to meet six doctoral descriptors, which are summarised as follows:

1) Creation and interpretation of new knowledge

2) Critical understanding of the current state of knowledge

3) Conceptualise, design and implement a project

4) Critical understanding of the methodology of enquiry

5) Judgement of issues and ideas

6) Critically reflect and evaluate strengths and weaknesses

(See Appendix 7 for descriptors in full)

For monograph-based PhDs there is an extensive stock of precedents to draw upon for the presentation and examination of submissions, and for judgements to be made on the extent to which submissions meet doctoral descriptors. By contrast, conventions for the DPhil - or thesis by publication - are less rehearsed in UWE and elsewhere, such that one commentator characterised the DPhil as 'the pioneering option' (Merga, 2015, p.303) for candidates seeking to undertake doctoral studies. This is partly because DPhils differ considerably in the specific composition and characteristics of the portfolios of works submitted. Recently, guidance from the QAA and empirical studies of the field have helped to clarify some of the less well-defined aspects of doctorates by publication. The QAA state that for a DPhil:

> *"A candidate presents a portfolio of interconnected, published research papers contextualised by a coherent narrative, demonstrating overall an original contribution to knowledge. Such publications may include papers, chapters, monographs, books, scholarly editions of a text, technical reports, creative work in relevant areas, or other artefacts."* (2015, p.8)

Studies of the content of DPhils, the process of their development and their examination suggest that the narrative – or commentary- has an important role in helping to clarify issues that are sometimes less visible in comparison to monograph theses (Guerin, 2016; Merga, 2015; Sharmini *et al.,* 2015). Notably, commentaries provide the opportunity to demonstrate overall coherence of the works, methodological insight, researcher development, and the intellectual contribution of the candidate. Building upon this guidance and research, I aim to ensure that my commentary acts to address these areas. Firstly, the role of this commentary is to introduce, bridge and weave together the connections between the submitted works. An important element of this is to give an account of the wider context within which the research took place. Secondly, the commentary provides an opportunity to expand upon the methodological basis of the research, which is an aspect that is often covered briefly and incompletely in published research papers (Rodgers *et al.,* 2016; Wisdom

et al., 2012; Simera *et al.*, 2010; Von Elm *et al.*, 2007). Thirdly, I present my development as a social science researcher and scholar - following QAA recommendations - and show how my work corresponds to a broader trajectory in research and scholarship. Fourthly, I clarify my personal intellectual contribution to the multi-authored works. Finally, this commentary will provide an account of the influence and impact of the works.

I decided to organise the commentary in the form of a reflective and historically organised narrative. This trajectory helps show the order of decision-making, my cumulative development as a researcher and how each successive sub-study arose from questions left unanswered by those that went before. The use of a timeline also serves to lay out much of the impact of the research and, in so doing, help gauge the contribution to existing knowledge. It is important to note that there is a matter of methodology and method with respect to the commentary itself. This is a retrospective account and, as such, entails a number of challenges concerned with the status of the knowledge claims presented and the process by which they have been put together. I have sought to adopt a structured and reflexive approach to my collation of sources to draw upon for the commentary. This involved, for example, reviewing original research proposals, protocols, ethics submissions and internal reports that underpin the submitted works. A second point to note is that, whilst peer-reviewed works sit at the core of the DPhil submission, I have also submitted technical reports along with a critical reflection on their validation. As well as being substantive scholarly works in their own right, these reports are important components that bring together the overall thesis.

The main body of the commentary covers the context to the Food for Life programme, the development of the evaluative research, with a focus on the methodological aspects of the work and the evaluation research outputs. This is divided into two sections that cover distinct phases of the research: the first between 2007 and 2011 (Phase 1) and the second for the period 2013-15 (Phase 2) – which are, in turn, linked to two groups of scholarly works. The latter section of the commentary is centrally concerned with the impact of the work submitted. This is assessed both through conventional indicators of research dissemination, quality and impact, and through a wider assessment of policy, practical and societal impact. In the conclusion I draw out overarching themes concerned with the tensions between idealism and pragmatism; the balance between integrative and eclectic narratives and the value of an iterative approach towards the evaluation of complex community based programmes. Finally, I summarise the contribution of the DPhil publications towards our understanding of how whole settings-based programmes can create food system change through offering a conceptual, practical and dialogical synergy for action.

2 Context of research linked to Food for Life Phase 1, 2007-12

Food for Life (FFL) is an England-wide programme led by the Soil Association developed with an overall aim to promote 'good food culture' in schools and other institutional and catering settings[1]. Its origins lie in a Soil Association campaign in 2003 that sought to expose the poor state of school meals and to highlight the opportunity reform the food procurement system in schools (Soil Association, 2003). Pilot work with a small number of schools and their caterers brought together a number of food related issues. These included the importance of cooking and food growing skills in an educational context, the connections between dietary health and children's performance in school and food sustainability issues such as those related to local food economies, organic food, fair trade and animal welfare.

The Soil Association's report was timely. It connected with the Hungry for Success school food enquiry underway in Scotland (Scottish Government Executive, 2002 and 2003) and chimed with work led by the Caroline Walker Trust on school nutritional standards (Crawley, 2005). The report came at a point of a significant upturn in government investment in education and child and family services. Notably, the Labour government's 2003 Comprehensive Spending Review led to an increase in funding for schools and was accompanied by a busy period in policy formulation that connected fields of education, public health, social exclusion, area based initiatives and environmental sustainability (Toynbee, 2011). Whilst the Labour government retained much of the market inspired reform mechanisms of the previous Conservative administrations, the early 2000s saw shifts towards greater guidance, planning and regulation of public services, such as schools, and their 'ancillary services', such as school caterers (Morgan, 2006; Passmore and Harris, 2004, Morgan and Sonnino, 2008).

We can also see the origins of Food for Life in the context of broader societal trends. For example, the early 2000s saw steady economic growth, and a move amongst consumers to purchase 'local', organic, fair trade and animal products with higher welfare standards or, at least according to consumer surveys, to look more favourably on such foods (Cabinet Office Strategy Unit, 2008). At the same time, major changes were taking place in the global food system, in all aspects of production, processing, distribution, through to retail (Lang, 2005). Much of this transformation was linked to greater market penetration of low cost (at point of purchase) ultra-processed foods and changing patterns of food consumption (Moodie *et al.*, 2013). In **Paper 1,** I reviewed some of these wider processes, with a focus on social anxieties surrounding food and eating practices and

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[1] A similar variant of the Food for Life programme has also developed in Scotland.

the persistence of diet-related health inequalities. This account showed the contribution of sociological theory, and ranged from macro-perspectives of globalisation, to micro-perspectives on the connections between food, meaning and (in)security. Some of these societal tensions, became manifest in public debates about the role of food in the education and wellbeing of children (Alcock, 2014), and was fuelled through close media attention in the early 2000s (Pike, 2008).

More widely, Food for Life was influenced by discourses surrounding the notion of a sustainable food system. Ideas that food exists in a 'system', or number of 'systems', are longstanding –albeit they are often ones in which the system of interest has been circumscribed to the relationships between production, processing and consumption (Erikson, 2008). In the twentieth century, Lang and Heasman (2004) have argued that the policy attention on food systems has been primarily directed through a productionist paradigm. In this worldview, improvements in human welfare are driven through the industrialisation of food and farming, and the application of the principles and logic of industrial production to drive efficiencies, increase food output, and lower consumer costs. The interests of farmers, and those linked to the farming industry, obtained precedence in public policy on the food system. Although the origins lie in the industrialisation of food and farming over the last 200 years, the productionist paradigm became pre-eminent in the reconstruction period that followed World War Two (Lang and Heasman, 2004, p2.6). By the twenty first century, this 'conventional food system' has come to be "fundamentally characterized by social and economic change [featuring] a marked intensification of food production, rapid growth of processing and packaging of food products, corporate concentration in retailing and distribution, and the rising influence of large numbers of urban consumers" (Erikson, 2008, p.234). It also became highly energy and capital-intensive, globally integrated, and increasingly economically consolidated (Feenstra, 2002).

Rising concerns about the hegemony of the productionist paradigm and its harmful impacts have produced reactions from diverse quarters (Lang and Heasman, 2004; Ashe and Sonnino, 2013). Early usages of the phrase 'sustainable food system' appeared in the works of environmentally minded agricultural scientists (e.g. Dahlberg, 1979; Knorr, 1983) as a means of framing alternatives to the ecologically destructive practices of mainstream agri-business[2]. By the 1980s, Hinrichs (2010) observes that food also became a concern for those working in the nascent sustainable development field, and who found expression in the Brundtland Commission (1987)'s balance of environmental, social, and economic pillars for sustainable development. In a further current of

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[2] Although it should be noted that ideas of sustainability appear in earlier agro-ecological thought including those linked to biodynamic, organic and regenerative agriculture (Harwood, 1990).

concern, dysfunctions of the food system attracted the attention of campaigners who primarily sought to promote 'sustainable livelihoods' for the world's poorest citizens through greater food and income security (Hinrichs, 2010).

As a consequence, multiple narratives and aspirations have come to sit behind the notion of food system sustainability (Hinrichs, 2010). Whilst attention towards ecological sustainability in farming practices is a major focus, commentators have also sought to emphasise the need for greater economic sustainability, for example with respect to protections for small scale producers and local food distribution systems – particularly in the face of global industrial actors (for example, Feenstra, 2002). Others have prioritised questions of social sustainability through drawing attention to the nutrition and diet-related rights of disadvantaged groups, and the health implications of poor diets (for example, Allen, 2004). To this, cultural dimensions of sustainability have been added, for example in terms of the preservation of culinary traditions (Johns and Sthapit, 2004). Thus, there have been shifting notions of *what* needs to be sustained with respect to an ever more expansive conceptualisation of the food system (Ambler Edwards *et al.,* 2009).

The theory and action in relation to sustainable food systems has therefore developed over time to encompass a wider range of issues and public values. Many of the key debates on courses of action resemble those of green thinking more widely (Dobson, 2000; Paterson, 2013), and in particular the tensions between bio-environmentalists, social greens and institutionalists (Clapp and Dauvergne, 2005). Given the expansiveness of interests in the field of sustainable food systems, it is little surprise that much food-related social movement action (Ashe and Sonnino, 2013) and policy development (Lang and Barling, 2013) has been dispersed or weakly integrated. Effort led by the Food and Agriculture Organisation alongside the UN Environment Programme and Bioversity in 2010 produced an important consensus definition on sustainable diets (Burlingame and Dernini, 2012) however, traction of the definition encounters major challenges, not least in part due to its conceptual breadth and complexity (Lang and Barling, 2013).

At the early stage in the development of the Soil Association's Food for Life initiative, the promotion of a sustainable food system appears to have held appeal because of its very breadth: elements of the idea resonated with a variety of actors, even if not all were interested, or in a position, to sign up to all dimensions. Here, there are parallels with Ashe and Sonnino's analysis of school food activism in New York, where concerns around food security and sustainability mobilized and brought together 'smaller agglomerations of activity' including, for example, the food justice movement, local food movement, organic movement, and acted as a basis for 'convergence in diversity' (Ashe Sonnino, 2013, p.61).

It was notable that the original Food for Life partnership did not seek to employ one consistently phrased goal for the programme. For example, in some of communications 'sustainability' constituted the overarching term for all aspects of the agency's agenda for the food system. In other communications, Food for Life disaggregated or elided sustainability with 'organic', 'local', 'fair' or 'ethical'. Similar processes have been noted in other contexts of activism on food (Flynn and Bailey, 2014), and may have helped mask potential sources of tension between different interest groups (Morgan, 2010), green identities (Horton, 2003), or moral sentiments in relation to food (Sassatelli, 2004; Warde, 1997). As lead agency behind FFL, the Soil Association's mission to promote organic food was something of a moot point, where some argued that agendas on 'sustainable food' needed to gain greater prominence within the organisation. This matter never achieved resolution in development of the programme. Along with ideas such as 'good food culture', the notion of a sustainable food system tended to be articulated through emblematic examples of practice rather than definitional statements.

In 2004, Channel 4 commissioned chef Jamie Oliver to front a series campaigning for improved food standards in school meals. The series drew a large national audience and, following major media reporting, obtained a commitment in April 2005 from Prime Minister Tony Blair to introduce tougher school meal standards and create a new body to raise food quality in schools (Blair, 2006; School Meals Review Panel, 2005). Ideologically and pragmatically committed to the role of the third sector in driving social change, ministers appear to have also given the steer to the Big Lottery Fund (BLF) to get behind the school food reform agenda. Third sector agencies, as in other fields of public policy, were being increasingly charged by the Labour government to lead on sensitive areas of public policy (Taylor, 2011; Macmillan, 2010; Carmel and Harlock, 2008; Lewis, 2005). Having learnt from some difficult experiences, the Big Lottery Fund had evolved its approach to making grant awards. The 2006 Wellbeing Programme reflected much of this learning in the form of a large award scheme designed for major consortia-led applications (Big Lottery Fund, 2006).

The Soil Association (SA) responded to the BLF Wellbeing programme call in 2016 and submitted a fast track application, shortly after publishing an agenda setting paper on the links between school meals, nutrition and sustainable consumption (Soil Association and Sustainable Consumption Roundtable, 2016). For the application, the Soil Association had convened a partnership of agencies, each bringing expertise and interests. The Soil Association's main interests lay in changing catering food procurement practices. Reflecting the role of the organisation in organic certification, the inclusion of organic ingredients was clearly a central concern. But in a sector that had become almost entirely driven by narrow cost concerns, the Soil Association needed to take a pragmatic

approach and to ally the organic food agenda to those of other food movements such as those of local food lobbyists. Food in school offered wider long-term opportunities for the Soil Association including the chance to raise children's awareness of organic and more widely sustainable food issues and perhaps to influence food attitudes at home. In addition to changing the school menu, a further opportunity for the Soil Association was to bring children and parents in closer contact with organic food producers through farm visits. Three other partners all brought their own interests. Garden Organic would lead on the promotion of food growing in schools. Focus on Food concentrated on cooking and food preparation skills. The Health Education Trust led on pupil, staff and parental involvement and some nutritional aspects of the programme. In late 2006, the Soil Association learnt that their bid for a £17m five-year programme had been successful.

Details on the design and characteristics of the Food for Life programme are provided in **Paper 2.** Here it is worth highlighting that the programme goals were to create an England-wide scheme that would be taken up by 4800 schools over the grant funding period. The initiative centred on an award-based framework that was intended to reflect school and caterer led action across a number of domains, which included procurement practices, the dining room environment, curriculum, stakeholder engagement and leadership reform. The Food for Life partnership would recruit 180 schools to become 'flagships' for piloting innovation and exemplifying best practice. It is also worth noting that early into the development of the programme, the Soil Association launched the Food for Life Catering Mark (FFLCM), an initiative closely aligned but initially separate to the Food for Life Partnership (Soil Association, n.d.). FFLCM was not only available to public sector caterers, such as those in the school food sector, but to private sector providers.

In the period between 2007 and 2010, further health and educational reforms acted as a backdrop to the FFL programme. These included measures to engage schools in wider public health, environmental and social cohesion agendas – such as Ofsted assessment of schools in promoting community cohesion and free school meal pilots – and policy intended to create greater coordination between geographical clusters of the schools (e.g. DoH, 2010). Other events, notably the financial crash of 2008 and the arrival of a coalition government in 2010, mainly affected the context in which the programme's future development would occur. This is explored more closely in a later section below. Put alongside other third sector-led educational reforms, FFL was ambitious in both programme scale and conceptual reach. FFL sought to recruit a substantial number of schools in all regions of England and to reshape dominant narratives about the role of food in school. The next section provides a critical and reflective commentary on the methodological issues raised in the evaluation of the programme.

3 Research outputs arising from the evaluation of the Food for Life Phase 1 programme

3.1 Introduction

This section sets out a group of works (**Papers 2-9**) submitted as part of the DPhil that draw upon my role as part of a UWE-led research team that successfully secured the £250k evaluation contract in 2007 (Orme *et al.,* 2007).

The brief presented by the research commissioners sought for an agency that could address a number of questions through an evaluation of the programme (Soil Association, 2007). These included understanding the impact of FFL works with flagship schools with respect to both specific behavioural outcomes (such as diet) and wider processes of change (such as engagement and inclusiveness). The evaluation brief did not specify the methodologies or methods to be adopted, but referred to the potential role of interview, case study and survey based work. It was also evident that the Soil Association was looking for an evaluation that would have a degree in independence and would address the interests of a broad range of stakeholders, including the Big Lottery Fund, government policy leads, head teachers, caterers and parents. The open-ended nature of the brief presented an opportunity to develop innovative evaluation project. However, this also raised challenges for colleagues and myself because, at the time of writing the evaluation proposal, we had few details about the design and organisation of the programme itself. In addition, in 2007, we were relatively new to this scale of work, and I had no previous direct experience of undertaking an evaluation of a programme with national reach, major grant funding and substantial political sensitivity.

My approach to addressing these circumstances was to draw upon the existing stock of theory and practice in the evaluation of complex community-based programmes (Blamey and Mackenzie, 2005; Tones and Green, 2004; Meyrick and Sinkler, 1999; Nutbeam, 1998; Weiss, 1995). I led on the development of the overall framework, management and the implementation of specific components of the evaluation. A senior colleague (JO) acted as Principal Investigator with responsibility for the governance of the evaluation. Four other colleagues at UWE worked on specific components. We also collaborated with researchers based at the University of Cardiff. Table 2 provides a summary how I contributed to the papers and indicative research skills I developed over the course of the research. In the following section, I document my role in development of the publications and examine key theoretical and methodological links between

the works. Appendix 6 provides further details on my intellectual contribution, and confirmation of this contribution from co-authors.

Table 2: 'Phase 1' submitted papers. Summary of intellectual contribution and indicative research professional development

	Title of Paper (abbreviated)	Intellectual contribution [mapped to Vancouver Protocol[+]]	Indicative research professional development [mapped to RDF*
Paper 1	**Jones, M.** & Daykin, N. (2015) Sociology and Health section. In: Naidoo, J. & Wills, J., eds. (2015) *Heath Studies*.	Daykin produced this chapter in an earlier edition of the book (2001). For case study section in the 2008 and 2015 editions, I led the conception, literature review, interpretation and all drafts. I revised the main chapter with Daykin for the 2008 edition and for the 2015 I led the revision process.	Literature review and synthesis of heterogeneous sources. Writing skills. Subject and theoretical knowledge.
Paper 2	Orme, J., **Jones, M.,** *et al.* (2011) *Food for Life. Full report.*	Lead project manager overseeing all aspects of data collection, analysis and interpretation. I designed, developed and led all drafts. I led on sign off and majority of linked presentations.	Managing research contract. Project planning and delivery. Cross-university team working Risk management. Research ethics application process. Research synthesis, critical realism and evaluand validation.
Paper 3	**Jones, M.,** Dailami, N., *et al.* (2012) Food sustainability education…*HER.*	Lead author. I led the research design, data collection and analysis. I conceived, designed, developed and led all drafts of the paper, including major revisions. I assisted with statistical aspects of the study.	Historical cohort research design. Measurement properties of tools. SPSS data management and analysis. Application of inferential statistics. Problem solving. Responding to peer review feedback.
Paper 4	**Jones, M.,** Dailami, N., *et al.* (2012) Engaging secondary school students... *Ed. Sci*.	Lead author. I led data collection, analysis and interpretation. I conceived, designed, developed and led all drafts of the paper.	Theory of Change methodology. Disseminating politically sensitive findings. IPR and copyright.
Paper 5	**Jones, M.,** Weitkamp, E., *et al.* (2012) Realizing a holistic approach to food through school gardens…*CYE.*	Lead author. I led data collection, analysis and interpretation. I conceived, designed, developed and led all drafts of the paper, including major revisions.	Creativity: argument construction. Perseverance. Problem solving. Research translation for a US audience.

Paper 6	Weitkamp, E., **Jones, M.,** *et al.* (2013) Creating a learning environment…*Sustainability*.	Co-author. I was involved in conception, design, development and final drafts of the paper.	Research communication with policy and practice audiences.
Paper 7	Orme, J., **Jones, M.,** *et al.* (2013) A process evaluation of student participation… *Health Ed.*	Co-author. I was involved in conception, design, development and final drafts of the paper.	Peer informed research, with elements of co-production. Interview and focus group skills. Addressing ethical risks.
Paper 8	Kimberlee, R., **Jones, M.,** *et al.* (2013) Whole school food programmes and the kitchen environment… *Br Food J.*	Co-author. I oversaw data collection and analysis. I was involved in designing, planning and making final revisions to this paper.	Management and analysis of complex datasets. Questionnaire design. Designing mixed methods study.
Paper 9	Salmon, D., **Jones, M.,** *et al.* (2013) Take home messages on sustainable food... *Br J Ed Soc & Bhvr Sci.*	Co-author. I was involved in conception, design, development and final drafts of the paper.	Sequential mixed methods design. Time management. Team working and collegiality.

[+] ICMJE [International Committee of Medical Journal Editors] (2009) Vancouver Protocol on authorship

*RDF: Vitae (2011) Researcher Development Framework

3.2 Creating an integrated account

As well as forming a central point of reference for the peer-reviewed articles, the Food for Life Partnership Full Evaluation Report (**Paper 2)** is an important research output in its own right because it provides a comprehensive account of the entire research programme. At 170 pages and 62,000 words the report is a substantial document that summarises the research and policy context, most elements of the methodology and findings across eight work-streams. The final report was preceded by four interim reports produced in 2010 (Jones, Dailami and Orme, 2010a; Jones *et al.,* 2010b; Jones *et al.,* 2010c; Kimberlee *et al.,* 2010) and developed on the basis on a revised research protocol agreed with the Soil Association in early 2010. Having agreed an overall framework with the Principal Investigator, it was my role to lead on the production of the first full draft of the report, to lead on writing nine out the 14 chapters, to coordinate the input from colleagues on specific sections, and to lead on drafting overall interpretation of the research. As well as a full report, I led on drafting the summary version and checking of all publicity messages being sought by FFL partners, the Big Lottery and other stakeholders.

Drafts of the report were checked and revised by all members of the research team. The range of disciplinary perspectives in the team led towards extensive discussion, for example on the reliability of some data. The full final draft was reviewed by the Food for Life Evaluation Steering Group, The Soil Association senior management and external academic advisors. Following an overview by the Principal Investigator, I led on presentation of the findings to the FFL Evaluation Steering Group in

December 2010. I led on the revisions to comments, which went through four rounds before final sign off for the report in May 2011.

For the report I sought to create methodological coherence by presenting the overarching theory of change (Connell and Kubisch, 1998) to summarise the evaluation of the programme as a whole. Then for each of the work-streams I co-developed and presented 'sub-theories of change' for each of the evaluation work-streams, focusing on the context, inputs, outputs, short-term and longer-term outcomes for each work-stream. One of the tensions in reporting the evaluation was that of presenting results either for the entire programme or for specific elements. This became a particular challenge at the point of deciding on how to present the findings through peer reviewed journal outlets, where it was clear that the short word length of conventional journal articles restricted the scope for producing a holistic account that was also rooted in empirical research. The following sections discuss each of the journal articles arising from the main report. However, before I do so, it is worth noting some aspects of the main report that I led on, but did not subsequently report through academic journals. Two areas of research concern the impact on the programme on (1) school meal take up and (2) school performance, student behaviour and attainment.

The impact of Food for Life on school meal take up was reported in Chapter 10 of the main report (Paper 2, page 93). School meal take up and free school meal take up are widely used indicators for the quality of school meals and, in some instances, wider aspects school performance and pupil needs. Although the data is reported nationally, it often proved difficult to obtain reliable school level data to fit the requirements of the evaluation. I had to develop a set of guidance to advise on how schools and caterers needed to report the data, and to develop rules for checking and triangulating the data with other records. Given that the quality of the data was variable, in consultation with schools and caterers I developed a system for grading the data and assessing the implications for the reliability of the results. Following our mixed methods approach I also developed open-ended questions to understand the perspectives of lead actors on their perceptions of the relationship between school meal take up and the Food for Life programme. The findings showed clear links between the programme and school meal take up, and role of the specific mechanisms such as increased participation of parents and children in menu planning.

A second area of research not reported elsewhere concerned the relationship between Food for Life and specific aspects of school performance, student behaviour and attainment. This was reported in Chapter 13 (p.148) of the report. Although most food-related programmes in schools seek to impact upon the core educational mission of schools, in terms of test results and core curricula outcomes, this is an area notoriously difficult to assess (Ellis *et al.,* 2006). Within the limits

of our evaluation, I learnt how to employ content analysis (Krippendorff, 2004) of Ofsted school reports combined with semi-structured reports from lead teachers. This approach provided a basis making judgements with reference to the views of internal and external experts. The study found that school leads assessment of impacts on Ofsted ratings and commentaries broadly concur with the documentary evidence from Ofsted itself.

3.3 Investigating connections between mechanisms and outcomes

The paper "Food sustainability education as a route to healthier eating" (**Paper 3**) started from the premise that, while the benefits of practical food education (such as cooking and growing) in schools have been widely reported, less was known about the potential for strategies that focus on food sustainability issues. These issues cover the promotion of awareness about local, seasonal, organic, fair trade and higher animal welfare foods. In primary schools, the article reported that higher self-reported fruit and vegetable consumption was associated with a range of indicators of school participation in the FFL programme. Working with a statistician, in this element of the research I learnt how to test and develop a scale to measure awareness of food sustainability issues and to assess the validity of self-report dietary measures. The pre-post design of the study needed to be revised over the course of the evaluation to fit the time and recruitment constraints of the evaluation. The final version of the article was the result of substantial revisions, with one external reviewer helpfully signposting me to similar research that had used a historical case-control design. I drew upon this research to help communicate the design of the research in line with the conventions of the quantitative health research community. A further benefit to arise from the process of revising the original manuscript was to set out a clearer and more comprehensive account of the limitations of the study with regard to the external validity of the results.

Paper 3 illustrates how Connell, Kubisch, Fulbright-Anderson and Weiss's Theory of Change (TOC) approach was a major influence on my development as a research practitioner and academic. TOC evolved from work by the Roundtable on Community Change of the Aspen Institute (Fulbright-Anderson *et al.,* 1998; Connell *et al.,* 1995; Weiss, 1995). Connell and Kubisch (1998, ix) define a theory of change approach as "systematic and cumulative study of the links between activities, outcomes and the contexts of the initiative". The TOC methodology in its optimal application requires both buy-in from programme actors and, in particular, license to act from its sponsors - none of which may be forthcoming in a context where there is little reflective space and there are expectations to adhere to an externally conceived theory of change. In the context of the Food for Life evaluation, I was able to implement key aspects of TOC methodology. In the first six months of the evaluation, I asked lead partners and frontline programme staff to respond through interview

and written request on questions regarding their expectations of how the programme was meant to work, both in terms of key elements and as a coordinated effort. I was able to use this feedback surface the theoretical underpinnings of the Food for Life programme in terms of the links between activities, outputs and intended outcomes. This process helped define the main measures for the data collection and the connections between food sustainability education and dietary outcomes that I explored in the paper.

3.4 Understanding stakeholders

While **Paper 3** was almost exclusively focused on the relationship between quantifiable outcomes and outputs, the other academic articles arising from the Phase 1 evaluation explicitly sought to report on findings arising from the mixed methods approach used in the evaluation.

Contributing to a special education on food and citizenship in the journal *Sustainability*, **Paper 4** focused on the opportunities and challenges for the implementation of FFL in secondary schools. This built upon argument that food sustainability issues are of relevance for young people as their lives progress towards becoming independent consumers and citizens with the capacity to shape food systems of the future (Scott, 2011). The article, using a two stage multi-methods design, reported on limited evidence of FFL to engage young people on these issues and pointed towards the organisational barriers in school settings and the complexity of the programme itself as sources of explanation. I also discussed potential limitations with the research design as a further explanation for the lack of evidence of impact of the programme. Whilst this remains a possibility, the consistent patterns of results from both the quantitative pre-post surveys and the self-reports of teachers and students indicated that there was an insufficient basis to adopt an alternative case-control based study to assess the effects of the programme. For this study, I was involved in all elements of the development of sampling and recruitment, tools and fieldwork. I found one of the greatest challenges concerned the development of appropriate questionnaire tools to assess students' attitudes towards sustainable food issues. Although I led on creating a number of measures, a limitation of the work was the restricted extent to which we were able to do piloting and validation work.

In contrast to Paper 4, **Paper 5** examined an aspect the FFL programme that was linked with stronger evidence of student impacts. The article 'Realizing a holistic approach to food through school gardens and growing activities' sought to provide an analysis of the process and conditions under which garden-enhanced education can become integrated into mainstream practice in primary schools. In this study, I led on the use of a two stage explanatory mixed methods design (Creswell 2009) in order to examine the implementation of the programme. I developed a wide

range of indicators of programme activities outputs and perceived outcomes, in order to understand the synergy between different elements of the programme. A main theme from the findings was that local adaptation stakeholders were able to develop school garden activities even in the adverse circumstances of low space, low skills and competing pressures. I argued that FFL provided a mandate for lead staff to develop the growing area as an outdoor classroom, to formalize the role of the food growing as part of curricular study and to create more personalized learning. In this way, school gardens could act as a locus for exploring issues such as local sourcing, ecological sustainability and socially just methods of food production. As with **Paper 3,** this element of the research included the development, testing and implementation of measures to assess complex constructs such as level of diversification in fruit and vegetable production and scale of linkage between food growing and the curriculum. Through participant checks and structured comparisons (Morgan, 2007) I developed approaches to triangulate qualitative and quantitative data sources in order to create a greater depth of account of change than might not otherwise be found in studies that are limited to one type of data.

Paper 6 examined FFL from the perspective of education for sustainable development (ESD), which is a specific field of enquiry within scholarship and practice in educational studies. My colleague (EW) developed the premise of this paper, which was that there had been relatively little reported on multi-component approaches to food education for sustainable development. The article reported on what appeared to be a number of innovative successes of the programme with regard to the initiation of whole school coordinated reforms, the fostering of connections between curricular and extra-curricular activities and the specific contributions from experts, for example in food procurement, organic gardening and farm-link education. However, we also reported significant challenges relating to communicating messages, equity of delivery and on-going implementation. My role in the co-authorship of this article enabled me to make links between the ESD and public health agendas on food, and to help show connections between mainstream pedagogical debates and those that take place in health education and science communication.

Paper 7, **Paper 8** and **Paper 9** all share a concern with the role of stakeholders in the implementation of complex schools-based programmes. **Paper 7** focused on the role of primary school students and sought to extend previous research to characterise the types and processes that underpin user involvement in programmes. Using thematic analysis (Mason, 1996), I helped identify how students played a number of different roles in FFL, which included acting as "activists", "conduits", "catalysts", "bonders" and "bridgers" – all of which had had a place in the programme's local evolution. The study also contested linear scale models of user involvement and argued from

the evidence that research in this field needs to adopt a more multi-dimensional and contextual account of user involvement. This element of the research built heavily on previous research with three of my co-authors (JO, RK and DS) in the context of schools-based health initiatives.

By extension, **Paper 9** sought to understand the perceived impacts and engagement with FFL by parents. In 'Take home messages on sustainable food' we sought to fill a gap in the research on parental experiences of food sustainability and public health nutrition school programmes. Using a mixed methods approach the research found that health promotion programmes could enhance their impact and sustainability through reinforcing the processes by which parents become engaged and can adopt programme messages in the home environment. As with Paper 7, this research arose from some years of sustained collaboration with my co-authors. I took an active role in the conception of the paper, the co-development of tools and measures and the collection and analysis of the data. My central place in the evaluation enabled me to frame the issues from the literature, and to identify some common themes from other components of the evaluation, for example with regard to the theory of change mechanisms by which the programme could influence food related practices in the home environment. The research was innovative in that it was able to test out key processes such as how children motivated families to change shopping and cooking habits, or how fuller engagement with parents on school food issues and school meal improvements helped set an agenda for change for families and the wider local community.

Paper 8 outlined the role of kitchen staff in FFL and illustrated the key dimensions and barriers that needed to be overcome to enhance their role through the delivery of improvements in school food uptake and the promotion of healthier and more sustainable food consumption. As with the other stakeholder-based papers (**Paper 7**, **Paper 9**), this study sought to add to the limited research on the role of an important group for the shaping and delivery of school food programmes. This element of the research was somewhat limited by the depth and lack of completeness of the data, but highlights the significance of prescriptive work pressures, the low cost catering model and the marginalised position of kitchen staff in school life in limiting the effectiveness of programmes such as FFL. It also identified cases of good practice emerging in individual schools and amongst school-caterer networks that offer exemplars of how positive changes might be achieved. My role in this paper was primarily with setting the parameters of the sampling, data collection and questionnaire measures so that they would correspond well with the wider evaluation. This involved working closely with food procurement experts at Cardiff University and developing my knowledge and understanding of the connections between school food programmes and the wider food system.

Papers 4-9 are distinct in that they address the influence of co-production research methodologies. The idiom of co-production has been widely adopted both as a description of a mode of engagement and as a normative goal in practice, policy and research settings (Jasanoff, 2004). Co-production can be seen as a process in which two or more parties co-operate – or co-produce – an outlook, activity or outcome (Heron, 1996). One example of the application of co-production is with respect to the aim of the FFL programme team to improve the diets of school children. During the first 18 months of the programme it was evident that a wide range of improvements were sought, but that there was not necessarily agreement between school staff, programme staff, researchers and children themselves on how this might best be defined and assessed. I worked through a process of pilot research projects to narrow down some core areas for focus in our enquiries. Fruit and vegetable consumption proved to be an area for consensus between the schools, programme teams and the evaluators. The second example concerned narrowing down the key areas of programme inputs and activities to focus on both as key performance indicators for staff and as 'key ingredients' from an evaluation perspective. The question arose from early pilot assessments of the programme delivery in schools where research fieldworkers, programme staff and school staff found themselves overloaded with data recording and collection. Through dialogue with the programme team, it was my role take oversight on what to keep and what to discard in cases where the information was uninformative or where its complexity and sensitivity was disproportionate to the goals of the evaluation. On two occasions, I needed to consult the Chair of Faculty Research Ethics Committee to check that we were adhering to the terms of the original research ethics protocol. Thirdly, the programme and evaluation teams collaborated to refine the theory base of the programme. Whilst the programme designers were able to draw upon practice-experiences of effective working in schools, the evaluation team brought evidence from research on other programmes to the discussion. Through this dialogue, both parties were able to agree on conceptualising the programme as a 'whole settings-based' scheme, in line particularly with the WHO healthy settings framework. This helped both programme and evaluation team draw upon external points of reference to understand the organising principles of the programme.

3.5 Discussion

The papers on the evaluation of Phase 1 of Food for Life present a multiple sided account of the programme's delivery and effects. Previous studies had explored specific interventions geared to reform food in schools, including those focusing on practical cooking skills (Walters and Stacey, 2009), gardening (McAleese and Ranking, 2007) or developing links with farms (Joshi *et al.,* 2008). My research on Food for Life was innovative in that it sought to undertake a whole system account

of the effects of combining approaches within school environments. In addition, there had been relatively little research on initiatives bridging the links between dietary health and food sustainability issues. The research found evidence of a range of positive outcomes arising from this approach in diverse 'real world' school settings. My role in the research was central in creating an understanding of the key mechanisms and contexts that supported or inhibited programme delivery. We identified central challenges in the form of the organisational structures and cultures of school environments, alongside the issues with the complex delivery and idealism of the programme itself. In this series of papers, the research highlighted the importance of key groups of actors – children and young people, teachers, kitchen staff and parents – in helping to interpret and embed the programme at the local level.

My work on the Food for Life evaluation reflects broader shifts in the social sciences towards the value of the pragmatic, yet theory-driven, use of mixed methods research (Morgan, 2007; Tashakkori and Creswell, 2007; Onwuegbuzie and Leech, 2005). One feature that I sought to develop over the course of the FFL evaluation was to apply a mixed methods approach towards the evaluation. A key indicator of mixed methods research is the integration, or purposeful mixing, of qualitative and quantitative methods (Creswell, 2009). This integration can occur at a number of phases in the research process, and has led to Creswell and Plano Clark (2011) to propose a number of 'mixed methods designs' to characterise the alternative approaches. Using the terms of Creswell and Plano Clark, my research on Phase 1 of Food for Life followed a 'convergent parallel' mixed methods design. This approach fitted with the overall goal to compare different perspectives from both qualitative and quantitative data sources. A central idea in this approach is collect data through the use of similar constructs and variables (*ibid*.). In my research, the qualitative and quantitative data were collected in parallel work-streams, initially analysed separately, then compared in the later phase of synthesis and interpretation. A central premise underpinning my choice of this approach was that the use of quantitative and qualitative approaches, in combination, would provide a better understanding of research problems than either approach alone. An important driver for the parallel data collection plan was the character of the central research questions adopted in the evaluation. These entailed not only an understanding of the effects of the programme but also a need to account for the processes by which these might come about. As discussed above, this required learning from the perspectives of key actors. Interview based and focus group qualitative research was therefore a central feature for the data collection strategy for **Papers 2, 4-9**, alongside pre- and post- quantitative measures to capture change. The decision to adopt a convergent parallel design in the research helped create an understanding of both observable outcomes and the processes that contributed or detracted from these outcomes.

Comparison between the different data sources created challenges that have been reported elsewhere in reviews of mixed methods research (Morgan, 2007; Brown *et al.,* 2015; Fàbregues and Molina-Azorín, 2017). These included: questions about the compatibility of the data types in the school meal take-up study in **Paper 2**; highly incommensurate data derived from school records and interviewees (teachers and students) in **Paper 7**; and gaps in both qualitative and quantitative data collection, that made limited opportunities for integration in **Paper 8**.

It was evident that the scale of the programme also lent itself to quantification. In the first instance, I had assumed that this would be restricted to the use of descriptive statistical analysis. However, over the course of the evaluation I developed new quantitative skills with respect to, for example, case-control research design; sampling techniques; the design, validation and administration of questionnaire tools; and descriptive and inferential statistical analysis of data. This was particularly the case for **Paper 3**, which involved use more complex statistical tests than had been used in the other sub-projects. The combination of pre- and post- qualitative data collection phases and the use of pre-post quantitative data collection proved to have a strong influence on how the results were organised and disseminated in the peer review publications for this phase of the evaluation. The presentation of findings in different contexts raised some ethical considerations for me given that, without clear access to the wider evaluation reports, audiences might be left with a partial or skewed picture of the programme and its evaluation. We sought to address this through clear signposting between the articles.

There were a number of limitations clearly in evidence in the published works associated with the evaluation of the Phase 1 FFL programme. Some of these reflected the process of my research learning with regard to the large-scale evaluation of school based programmes. A difficulty associated with theory-driven evaluation methodologies is that their dialogical and emergent character added complexity and unpredictability to the evaluation work-streams. I found that perhaps the greatest challenge over the course of the evaluation was that of managing expectations at the programme end given that delivery agencies were under considerable pressure to demonstrate results and evaluation findings were pivotal in this regard. In the first three years of the programme there was little in the way of outcome evidence. However, some of these issues were more a matter for the programme than one linked to my role in the evaluation. One limitation to the evaluation research plan concerned the management of data -and distinguishing between essential and non-essential data. This raised ethical issues with regard to the non-usage of data that participants consented to provide (Richards, 2014). A further limitation evident in the peer review papers is that it proved difficult to present an overall and comprehensive evaluative account of the

FFL programme. This was due not least to the scale and complexity of the initiative, but was also a function of the specific character of the evaluation questions – most of which lent themselves to parcelled short research articles on particular dimensions of the scheme. A benefit to emerge from the research process was that it led to a set of sub-studies, each of which offered a perspective (albeit partial) on the programme as a whole. In this sense the mixed methods sub-studies provided a form of 'triangulation' (Creswell, 2009) on the programme when put alongside one another.

This section has discussed **Papers 2-9**. I have sought to provide further depth to the research and the rationale to some of the key decisions involved. Much of the learning from research on the Phase 1 programme shaped the research agenda for Phase 2. In the next section, I outline the context to Phase 2 of the evaluation and how I had a role in identifying new areas for research enquiry.

4 Context of the research linked to Food for Life Phase 2, 2013-15

This section presents the programme context and methodological issues raised in the second set of works referred to in this report [**Papers 10-14**]. These works are based on the Phase 2 FFL programme, which ran between 2013 and 2015. The section outlines the Phase 2 programme in terms of the rationale and policy drivers. I then discuss four methodological themes organised with respect to (1) critical realism, (2) settings and socio-ecological theory (3), blended social value, and (4) scaling and policy transfer. These areas followed on from the research on Phase 1, but also reflected a shift in the focus and ambition of the research to encompass wider research questions, systemic in character, about the FFL programme. Essentially, I argue that evaluation methodologies of complex community-based initiatives need to respond directly to complexity whilst retaining a pragmatic focus on the importance of evaluation for informing social action.

In 2013, FFL successfully secured a grant from the BLF to run a two-year programme in England. The programme was not a simple extension of the 2007-2011 scheme. FFL would shift away from intensive support to a small number of flagship schools and orientate the focus on work towards larger clusters of schools and caterers at local authority level. In addition, the programme plan included measures to develop schemes, in addition to those with schools and caterers, which would work in other institutional settings, such as hospitals and care homes. The Phase 2 programme design grew out of the internal dynamics of the FFLP that propelled the scheme towards closer leadership from the SA's head office, a more peripheral role for the other partners, and a re-affirmed connection to the SA's core work of certification, accreditation and campaigning (Soil

Association, 2012). The programme plans also responded to the requirements of the BLF. The conditions of the BLF grant were that FFL was to receive a second stage funding to put some of its services on a commissionable footing and to test out the model in new contexts. The BLF presented itself as a development and innovation funder rather than as a funder of established services on an ongoing basis, FFL and SA could not anticipate open-ended funding from the BLF over a long-term basis.

Whilst the shape of the Phase 2 programme developed in response to the institutional concerns of the funder and delivery agency, it can also be seen in the context of social, economic and political climate of the time. By 2013, austerity in local government funding was becoming a main driver for the commissioning and support of services. The central government requirement to make savings – or cuts - in local authority spending was leading commissioning groups to de-commission, suspend and mothball selected services. Budget constraints also appeared to be leading to short term-ism in contracts and performance targets where commissioners are uncertain about future funding settlements. This was undoubtedly the case for Public Health where the local authority budget was due to cease to become ring fenced by April 2015. In this context, it was especially important to be able to demonstrate economic benefits of investment in health improvement (RSPH, 2014, p.13). Austerity was associated with measures to pool budgets and integrate contracts as commissioners looked for efficiency savings and responded to central government financial incentives for this direction (see for example, Commissioning Support Programme, 2012). These forced decisions opened up an opportunity for stakeholders to change and re-orientate the policy agenda, for example in the integration of 0-19 Years services or the creation of cross-sector catering contracts. They also sharpened the debate about the boundary between statutory and non-statutory duties – and definition of core and non-core services.

The education sector was also going through a process of change by 2013. Secondary schools, and subsequently primary schools, were being incentivised to adopt academy status (Education Act, 2011). In a change from the local authority devolved funding system, schools with academy status received direct central government funding. These changes were supplemented by the Pupil Premium (a free school meal weighted funding stream used at the discretion of the school); reformed – and to some degree looser central direction on the - National Curriculum; and changes to the Ofsted inspection regime (*ibid*.). Local authority education departments had more limited budgets, a weaker role in delivering or commissioning central school improvement services and less influence on the strategic direction on education within their area. Meanwhile academies had an increasingly important role in buying – or commissioning services. The strategic coordination of

academies acting in consort, potentially through 'academy chains', appeared to be emerging in some areas. Under the coalition new central government initiatives – such as the School Food Plan – were set to keep the debate about coordinated action alive (Dimbleby and Vincent, 2013).

Austerity was also shifting the discourse around the role of evidence and evaluation in commissioning and service development. Evidence-based practice (and policy) – or EBP -agenda had gained pace under the Labour governments of the early 2000s especially as one element in the reform of NHS, but also to a more uncertain degree in local government and the third sector. EBP and commissioning had attracted widespread criticism where it became linked to process-focussed target setting and the micro-management of services. Since 2009, the Labour government and subsequently the coalition government have sought to put greater emphasis on outcomes rather than processes. Notably this had become a major driver in public health with the arrival of the Public Health Outcomes framework in 2011 (PHE, 2011). Local authorities have a duty to conduct a Joint Strategic Needs Assessment (JSNA) on an annual basis. The JSNA is intended to summarise needs at a population level and to inform priorities that can have implications for a range of sectors and fields of service delivery- including those outside the direct influence of local government. Health and Wellbeing Boards (HWBs) build upon JSNAs to define periodically their Health and Wellbeing Strategy: the longer term, crosscutting strategy for the local authority area. HWBs differed in their configuration and might incorporate other governance structures concerned with, for example, local economic development. The transfer of key public health functions to local government in 2013 has created recent impetus for cross-sectorial working and, given the importance of EBP in public health, may be influencing the character of commissioning practices.

Fall-out from the financial crisis of 2008 extended to the relationships between food and society. The drop in household incomes was linked to a fall in food related expenditure – and notably hit some areas of the sustainable food market, for example through a drop in spending on organic produce (Mintel, 2012). There were concerns that there would be a reversal in rising consumption trends of fruit and vegetables, particularly amongst lower income groups hit by tighter welfare rules. The appearance of food banks was emblematic of this rise in basic food insecurity. Austerity was therefore placing pressure on narratives that connected public health nutrition and sustainable foods, in which sustainability was liable to become a discretionary (and thus dispensable) side to the public policy debate on food. In comparison to 2007, schools, their caterers - and public service caterers more generally - held questions of meal, ingredient and contract costs firmly centre stage. For FFL, this adverse context was compounded with the potential problem of programme fatigue. Rather like policy fatigue (Howlett and Rayner, 2013; McConnell, 2010) and charity campaign

fatigue (Keller and Lehmann, 2008; O'Dell, 2008), social programmes are vulnerable to a loss of momentum overtime due to a number of factors. Some of these include the challenges of implementation, loss of faith in the promise and mission of the programme, changes of leadership and sponsors, and the rise of competing initiatives. By 2013, FFL was no longer the new scheme of 2007, and shifting public concerns about food – such as food banks and food insecurity – and presented challenges for FFL.

5 Research works arising from the evaluation of Food for Life Phase 2
5.1 Introduction

I frame this section in relation to four methodological issues arising from the evaluation of the Food for Life Phase 2 programme. These derived from a combination of unanswered questions and learning that arose from the Phase 1 evaluation and in response to the new context and priorities of the programme itself. For Phase 2, I led the grant application, acted as Principal Investigator of the £200k evaluation and was assisted by a team of nine colleagues at UWE (Jones *et al.,* 2013). I was responsible for the overall conception and design of the evaluation, and delegated specific work streams to colleagues in line with their field of specialism. Table 3 provides a summary of how I contributed to the development of the works and outlines research skills that I developed.

Table 3: 'Phase 2' submitted papers. Summary of intellectual contribution and indicative research professional development.

	Title of Paper (abbreviated)	Summary of intellectual contribution [mapped to Vancouver Protocol[+]]	Indicative research professional development [mapped to RDF*]
Paper 10	**Jones, M.**, Pitt, H., *et al.* (2016) *Food for Life…Phase 2 full report.*	Principal investigator overseeing all aspects of data collection, analysis and interpretation. I conceived, oversaw and edited all drafts. I led on sign off and majority of linked presentations.	Conceptualisation and innovation in research methodology and application of theory. Leadership of a complex research programme under tight timescales. Devolution of researcher roles. Development and mentoring of staff. Quality and risk management. Research funding generation and financial management.

Paper 11	**Jones, M.,** Pitt, H., *et al.* (2017) Association between Food for Life, … and consumption of fruit and vegetables . *IJERPH.*	Lead author. I led data collection and analysis. I conceived, designed, developed and led all drafts of the paper, including major revisions. I assisted with statistical aspects of the study.	Cross sectional study design Adaptation and piloting of validated research tools Creative problem solving. Dissemination to new academic research audiences.
Paper 12	**Jones, M.,** *et al.* (2016) *Food for Life Locally Commissioned Programme: SROI report.*	Lead author. I led data collection and analysis. I conceived, designed, developed and led all drafts of the work, including major revisions.	Economic evaluation. Synthesis of multiple data sources. Creative problem solving. Stakeholder validation. Dissemination of complex research in non-academic settings.
Paper 13	Gray, S., **Jones, M.,** *et al.* (2017) Inter-sectoral transfer of the Food for Life settings framework in England. *H Prom Int.*	Co-author. I was involved in conception, design, development and final drafts of the paper, including major revisions.	Conceptualising systems change in the context of integrated and complex programmes.
Paper 14	Pitt, H. and **Jones, M.** (2016) Scaling up and out as a pathway for food system transitions. *Sustainability.*	Co-author. I was involved in conception, design, development and final drafts of the paper, including major revisions.	Application of policy analysis methods. Negotiating an inter-disciplinary conceptual framework.

[+] ICMJE [International Committee of Medical Journal Editors] (2009) Vancouver Protocol on authorship

*RDF: Vitae (2011) Researcher Development Framework

Paper 10, the Summary and Synthesis Evaluation Report of the Phase 2 FFL programme, sought to draw together all the material arising from several evaluation work streams. Rather like the main evaluation report for Phase 1 (**Paper 2**), I have included it as part of the DPhil submission because it provides a central point of reference for peer reviewed publications as well as standing as a scholarly work in its own right. At 23,000 words, the report is a substantial document and was subjected to a review process spanning submission to the FFL Evaluation Steering Group in June 2015 to the point of final sign off in January 2016. Over the course of this process, the report was reviewed by external academic and practice experts in school education, public health, sustainable food systems and third sector social programmes. Prior to the collation of the report, separate elements of the evaluation findings had been reviewed by commissioners and service development managers through the FFL Pathfinder Group. This group, with a membership of approximately 20 individuals, had representatives from local authorities in England closely engaged in the programme.

My role in the development of the report was to create the conceptual framework, to lead on the overall interpretation of the findings arising from separate work streams, and to lead on the production of sections of the report. It soon became apparent that the main report would become overly cumbersome if I sought to integrate fully the previous interim reports into a single document, so a function of the summary and synthesis format was to collate the key material, while also signposting the reader to the wider body of reporting.

I cover important aspects of the research on the Phase 2 FFL programme in further detail below with respect to subsequent published works. Whilst previous research has often examined the development and initiation of programmes similar to FFL, less has been reported on the embedding and extension of such initiatives over time. The report showed how the programme was gaining recognition within a range of local and national policies and organisations and was appreciated as a mechanism for facilitating change. The research identified a number of key mechanisms underpinning the consolidation and evaluation of the programme, such as the role of the standards for quality in catering, tested approaches for working with the local priorities of commissioners and policy advocacy work. The report sought to set out the agenda for the future of the programme. While the initiative worked through multiple institutional routes, what remained less clear is what additional benefits accrued through combining and connecting them to create a strategic approach capable of driving systemic change. The report also highlighted some limitations to the research, which mainly revolved around the short timescale available for the evaluation of the Phase 2 programme given that wider research tells us that the impacts of this type of programme were only likely to become visible over an extended period.

5.2 Taking a critical realist approach

This section considers the influence of critical realism through one of the Phase 2 work streams that led to the publication of **Paper 11**. This paper reports on a study to examine the association between the fruit and vegetable consumption of pupils and school engagement in the FFL programme. This study resembled some aspects of the Phase 1 [**Paper 3**] in terms of the school survey format, administration process and to some extent, the tools and analysis procedure adopted. The main difference is with regard to the type of research challenge it sought to address. Paper 3 was based upon an intensive programme delivered with a relatively small number of schools over time. The challenge I sought to address for the Phase 2 evaluation was to determine the potential nutritional impact of the programme in a context of a less resource intensive area-based scheme -and to do so within a limited period of time that precluded the use of a longitudinal

study design. By the time of this study, I already had considerable experience of managing schools-based surveys of the nature required and the administration of validated tools.

The cross-sectional study design reported in **Paper 11** was intended to address these issues. It can be understood as a response to the need to find pragmatic methodological solutions in evaluative research. A key problem faced by this study concerned the definition of a Food for Life school. This was not as simple as might appear at first sight. Food for Life commissions with local authorities involved different types of engagement with schools. Some were comprehensive, and had an expectation that Food for Life would work with all state-maintained schools in the local authority area. Others were selective, and required Food for Life to target schools – mainly on the basis of indicators of social deprivation or diet-related poor health. As well as the degree to which schools were subject to Food for Life contacts, a second form of definition of Food for Life engagement revolved around the degree to which schools had met Food for Life award criteria, recorded in terms of 'enrolment', bronze, silver and gold. A Food for Life school could therefore be defined as 'subject to Food for Life inputs' or 'enrolled with the Food for Life award' or a combination of both of these processes.

Critical realism (Bhaskar, 1998) provided me with a meta-theoretical framework through which to approach the existential question of 'what distinguishes a Food for Life school from a non-Food for Life school?' It would have been possible to adopt a relativist response to this question and to have concluded that no single form of categorisation would suffice given that the answer would differ according to the subject-position of the respondent. The evaluation sought to apply a pragmatic solution to this question by seeking to arrive at a consensus with programme staff and commissioners on important characteristics of programme engagement. After developing a list of key characteristics, we sought to face validate this list through piloting and consultation with school staff. We accepted that there would be no simple definition, but sought to produce a good enough definition that would be fit for purpose to undertake a cross sectional study to compare Food for Life schools with non-Food for Life schools. One of the main advantages of this approach was that we were able to undertake an evaluation within a relatively short period of time and to feedback results from the study to sponsors, commissioners and programme developers within the funding period – and therefore to give timely information for the future of the programme. This approach can be understood to be critically realist in character because we sought probabilistic and conjectural knowledge that would form a basis for action – which is a pragmatic aspiration that is central to the evaluative endeavour.

Some further challenges I experienced with this study included managing a complex fieldwork process and negotiating access with schools. This involved making sure that research fieldworkers focused on logging and feeding back information that in turn could help me prioritise the work of the team. I also needed to draw selectively on the advice of a statistician colleague to check that I was using the most appropriate procedure, for example in terms of the type of statistical test. Furthermore, the results of the study proved quite challenging to interpret, particularly after seeking to factor in the role of potential confounders in the analysis. Overall, the development and publication of the paper therefore involved me having to make a series of decisions with respect to managing timescales, the contributions of experts and thresholds of acceptability for the rigour of the research.

5.3 Developing a socio-ecological account

Organisational settings such as schools, workplaces and hospitals are well recognised as key environments for health promotion (Whitelaw *et al.,* 2001). **Paper 13** arose from the observation that, whilst there is extensive literature on specific types of settings, little empirical research has investigated the transfer of frameworks between sectors.

The methodological backdrop to Paper 13 was heavily informed by socio-ecological theory applied to the context of organisational reform. Socio-ecological theory is inspired by ecological thought in the biological and environmental sciences and applies the metaphor of the ecosystem to sociological phenomena (Bronfenbrenner, 1979). A starting place for socio-ecological thinking is the importance of the whole system and the connections between elements within the system (Boyd *et al.,* 2007). This focus is not the same as assuming that an examination of all elements individually will produce an understanding of how all work together – in other words, the sum of the whole is more than its constituent parts. An ecological perspective can also provide some general insights about how living systems operate. Firstly, elements operate in dynamic relationship with one another, thus a change in one part of the system is likely to affect another. Secondly, these relationships can be abstractly represented as feedback loops, positive and negative in character, that serve to amplify, resonate and resist change. Thirdly, ecological systems can be conceived of as networks with distinctive properties in their own right, largely contingent upon the density, interconnectedness and affiliation of the network elements. There have been many iterations of socio-ecological thinking, one strand of which concerns the need to engage more fully with processes of power, inequality and conflict – and to overcome the syllogistic errors of structural-functionalist reasoning.

It is useful to consider first the application of socio-ecological perspectives with respect to the Food for Life programme before discussing their application in the context of the evaluation research methodology. By 2013, Food for Life had fully adopted the World Health Organisation's whole school settings framework as a conceptual point of reference for the programme. This framework is explicitly socio-ecological in orientation (Dooris, 2006; Poland *et al.,* 2009). It emphasises that health is determined by environmental, organisational and personal factors, which interact in complex ways. The framework presents settings in terms of dynamic inputs, throughputs, outputs and impacts – and that these interact in complex ways. It also places a focus on introducing change across the whole organisation or system through engaging actors at multiple levels and contexts.

One limitation of the Phase 1 evaluation was that the research did not extensively examine these ecological or systematic changes. The Phase 2 programme created a unique opportunity to address this because it included an aspiration to adapt the schools-based Food for Life framework for use in hospitals, care homes, universities and early years nurseries. The component of the evaluation presented in **Paper 13** reports on a study, using an organisation case study design, that aimed to understand the transfer of the framework across settings. This involved abstracting the different systemic characteristics of the programme, which were over and above the concrete components of the programme. This methodological perspective helped us create an analysis of the relationship between the settings in each institutional sector, and the respective role of differing programme processes. This drew attention to the distinctive organisational features of each setting, some of the central obstacles involved in translation and some key systemic opportunities that could leverage change. I supported the development of the case study framework and interpretation of the findings – particularly with regard to the process of making comparisons between different types of settings. I also undertook underpinning literature review research on the scale of the issue and available ways to conceptualise the issue, and also teased out the importance of 'frame-working' and 'benchmarking' as pivotal developmental activities. I argued that these processes are critical in the transfer of learning from between sectors in a form that balances commonality with sufficient flexibility to adapt to specific settings. I, and my co-authors, felt that this subject would be of interest in a range of national contexts, which led us to submit the manuscript to Health Promotion International.

5.4 Creating a wider account of value

Paper 12 is concerned with understanding the social, health, economic and environmental value of Food for Life commissions. I drew upon my training as a Social Return on Investment (SROI) practitioner for this area of work and was at the forefront at all stages of this study, from the point

of conception to the final report. The study arose from the need for an analysis to inform audiences about the costs and benefits of the locally commissioned Food for Life programme and to support the development of area and settings-based food strategies. This was not the first occasion in which an economic analysis had been conducted on the Food for Life programme. Previous research had focussed on FFL catering procurement practises and their contribution to the local economy and the natural environment (Kersley *et al.,* 2011). There was little evaluative research concerned with impacts on health, wellbeing, educational and wider social returns of Food for Life and related programmes. I felt that application of SROI was appropriate in this context, given that it is a methodology suited for creating a holistic and systematic account of the resources (or investments) that go into a programme and the outcomes (or social returns) that are plausibly created (Arvidson *et al.,* 2010).

There were original aspects to this research that have been less clearly developed elsewhere. Firstly, I sought to collect considerable evidence on the programme's activities and outputs, as well as the outcomes, in order to create a more robust account of the processes by which anticipated outcomes might occur through the programme. Secondly, I addressed some particularly problematic aspects of the programme outcomes. Notably the health related aspects of the programme were perceived to be important but very challenging to evidence. I developed a stakeholder validation system in order to provide an account of the health related outcomes, given the lack of robust precedents for work in this area. Whilst this form of involvement cannot accurately be described as co-production, it did help address some of my ethically based commitments to develop the framework for evaluating the programme that would have fidelity with the outcomes that mattered to key stakeholders involved in the programme. A further innovative aspect of this study in the context of SROI research was to conduct two case studies in parallel and then to provide a synthesis of the findings drawing upon both datasets. This element of the evaluation established plausible evidence of the social, economic and environmental value of FFL as an area-based programme and, in so doing, helped construct an approach for the analysis of other local food system sustainability programmes – such as local food strategies and the Sustainable Food Cities programme.

5.5 Understanding matters of scale and transition

As with **Paper 13,** my concern for **Paper 14** was to understand the wider organisational and policy influences of the programme. Although there has been a lot of academic work on policy transfer, there has been relatively less focus on the application of this work in the context of the scaling up

of programmes for food system transitions. My co-author and I sought to investigate the evolution of FFL through the theoretical lenses of policy transfer and programme innovation.

This concern drew upon Food for Life's ambitious social mission, originally articulated as 'changing food culture in schools' and subsequently reformulated as 'changing Britain through food' in the Phase 2 programme. These aspirations implied changes to social norms and values, and the social practices of leading institutions. They drew attention to the position of schools in shaping the outlook and behaviour of future generations and in conveying a national outlook on not simply on the education of children, but on the wider aspects of society such as the place of work, family and community. This position went beyond the role of schools as settings for food consumption. There was a similar case to be made for the role of other institutional settings such as hospitals, care homes, universities and nurseries. Whilst changing the social relationship to food could be articulated as a general aspiration, one aspect that was reflected throughout the programme concerned its relationship to sustainability and, in particular, the transition towards a more sustainable agri-food system.

Paper 14 drew upon organisational and policy case study methodology and was directed at examining the processes by which FFL was engaged in the creation of sustainable food systems. As a technique for scholarly enquiry, case studies are widely used across the social sciences and have many applications (Exworthy and Powell, 2012; Yin, 2014). Marinetto observes that field of case study research has developed out of multiple disciplinary traditions, including those of Freudian psychoanalysis, Harvard Business school teaching, the Chicago school of sociology, and Anglophone political science from the 1950s (Marinetto, 2012). Marinetto suggests that these traditions hold in common an aspiration to generate an in-depth, multi-faceted understanding of a social unit in its real-life context (ibid.). However, this social unit might vary considerably: from a person, an organisation, a policy, a social movement to an institution (Exworthy and Powell, 2012). The depth of case studies lend themselves well to capturing information with regard to 'how', 'what' and 'why' type questions (Yin, 2014), indeed the orientation of case studies can often be distinguished in terms of their focus on exploratory, descriptive or explanatory research questions (*ibid*.). In the context of our research, our attention was directed towards exploring how and why practices in some settings came to be thought of an innovative and the processes by which such innovations were understood to be adopted elsewhere.

Exworthy and Powell (2012) note that production of research case studies appears to be increasing in policy and organisational arenas, particularly in those relating to health. This may be a consequence of the rise of evaluation research, where case studies provide a convenient format for

bringing together diverse forms of 'evidence' (Exworthy and Powell, 2012, p.9). Contractualisation of research has fostered an instrumental interest in case studies in the hope of delivering 'quick answers'. Researchers have shown how case studies can act as a flexible tool to meet policy pressures for rapid and highly episodic feedback (Marinetto, 2012; Yin and Davis, 2006). It is likely that these pragmatic considerations authorised some aspects of our research, given that Food for Life leads sought evidence of effective strategies for programme expansion and influence. While case study research has a methodological affinity with qualitative methods, this is not a definitional entailment. As Marinetto points out, "[t]he case study does not come with a discrete theory of how research should be conducted" (2012, p.22). We generated the empirical data through the analysis of programme documentation, observation of partnership meetings and semi-structured interviews. This approach fitted well with the realist evaluation and TOC evaluative aspirations of the wider research that seek to understand what works and why by interrogating programme and delivery processes (Connell and Kubisch, 1998; Pawson and Tilley, 1997). Discussion with FFL staff identified research participants with insight into strategic work to expand the programme, and experience of scaling activity. We held interviews with FFL staff involved in local commissioning and representatives of local authorities operating an FFL commission. Other aspects of the research project focused on delivery in schools and other settings, allowing the research team to draw on wider knowledge of FFL. Documents and interviews were analysed thematically with findings cross-checked between researchers. Although sometimes criticised as a basis for conflating incommensurate evidence (George and Bennett, 2005), overall we sought to make use of multiple data sources as a form of data triangulation and for enhancing the validity of the research (Crowe *et al.,* 2011; Yin, 2013)

One backdrop to our case study research was the methodological debate on the relationship between theory development and data analysis. In an influential article on organisational case study research, Eisenhardt noted that this link was "both the most difficult and the least codified part of the process" (Eisenhardt, 1989, p.539). Eisenhardt's solution was to propose a highly inductive data-led approach, with no *a priori* theory under consideration. Certainly, this form of reasoning has been popular with researchers seeking to build upon advocates of emergent theory building, for example in the traditions of grounded theory popularised by Glaser and Strauss (1967). Others have challenged this perspective as "an epistemological fairytale" (Wacquant, 2002, *cit.* Timmermans and Tavory, 2012, p.168) and, indeed, Eisenhardt admits, "it is impossible to achieve this ideal of a clean theoretical slate" (Eisenhardt, 1989, p.536). Yin (2014) argues that some form of preliminary theory, or theoretical proposition, is needed to conduct a case study – and that this work is best undertaken prior to conducting any data collection. Leading scholars of case study

methodology – such as Yin (2014) and Marinetto (2012) – therefore present theory development as being in an iterative relationship to the process of data collection and analysis. Our study reflected this relationship, in what Timmermans and Tavory's describe as an 'abductive' approach to reasoning (2012). This involves moving backward and forward among empirical data, research literature, and emergent theory to gain insights into the underlying structures and mechanisms that account for the phenomena involved. Over the course of the interview-based fieldwork we recursively reflected the data against previous research and theory. Initially we drew upon the literature on programme scale-ability (e.g. Jowett and Dwyer, 2012) and transition pathways (Geels and Schot, 2007). Over the course of the research, we revised our points of conceptual reference. In the light of the emphasis that interviewees placed on influencing public policy formation, we decided to re-frame the research in the context of the policy transfer literature (e.g. Dolowitz, 2003).

One widely perceived drawback of the case study concerns its lack of generalisability or, in other words, the inability of this form of research to generate learning about social units outside those of the case itself. Yin (2013) has challenged this view through arguing that the case study has value in aiding 'analytic' generalisation, or "the extraction of a more abstract level of ideas from a set of case study findings – ideas that nevertheless can pertain to newer situations other than the case(s) in the original case study"(2013, p325). In our research, our approach was explicitly directed towards conceptual development and the generation of mid-level theories (Biketine, 2007) that could be tested out more widely, not only on similar food-focused initiatives but also on other public health and sustainability programmes. In this way, this element of the evaluation sought to contribute towards greater debates in the sustainability and food transitions literature, and to reflect the position of FFL as one instance amongst a number of programmes that are seeking to create change at an institutional and societal level.

The study demonstrated the importance of interrogating motivations for transferring policies, and how motivations influence whether successful outcomes are achieved. This required a revised framework for analysing policy transfer, with greater attention to the links between motives and outcomes, and a non-binary understanding of agents' roles. Where scaling is the mode of policy transfer, we suggested that continuous involvement of at least one transfer agent across the process is significant to success. We concluded by highlighting implications for future research into policy transfer and food system transitions.

5.6 Discussion

The methodologies discussed in this section represent an evolution of the evaluation of the FFL programme over time. Whilst their application addressed specific research problems arising from the evaluation, they share a number of features. These include attention to the pragmatic demands of an applied piece of research alongside an orientation towards the systemic and higher order aspects of the programme as a whole. They also represent some level of continuity with the methodologies applied in the Phase 1 evaluation. Notably the work-streams in the Phase 2 evaluation continued to make use of a collaborative approach with the programme delivery teams in the development of research questions and data collection procedures. Phase 2 also sustained its utilisation of theory-driven methodologies to understand the context and mechanisms that underpin evidence of outcomes and to interrogate the practice rationale of leading actors. Some of my research clearly ran in parallel to other scholarly works, and to some extent, represented the *zeitgeist* of academic thinking around the relationship between public health and sustainable food systems. For example, over the course of the Phase 2 research a number of agenda-setting studies had sought to frame the field of theoretical enquiry (e.g. Reisch *et al.,* 2013; Marsden and Morley, 2014; Lang and Heasman, 2015; Blay-Palmer *et al.* 2016). Some of the issues raised in this literature have mirrored my concerns about actor engagement with third sector-led advocacy, campaigning and services at public, institutional and wider policy levels. In this context, a leading contribution of my research has been to critically apply contemporary conceptual work on 'real world' initiatives. In doing so, my research has helped ground the more theoretical thinking about the role of institutional settings, locality working and practice transfer in enabling food system transitions.

The Phase 2 evaluative research clearly has a number of limitations. I address many of these in each of the evaluation research articles. One restriction on the evaluation has been that it proved difficult to develop a longitudinal analysis of the impact of the programme on institutions and individual participants over time. This is partly because the programme has itself shifted its areas of focus; for example, those schools identified as flagship schools in the first phase of the programme were not prioritised in Phase 2 because Food for Life sought to move away from an intensive model of support. Much of the Phase 2 work with local authorities and in new institutional settings was simply too developmental to assess in the form of a standard pre- post evaluation within the funding period. As with most complex social programmes, the evaluative research with Food for Life was constrained by funding priorities, difficulties determining the programme's reach and exposure, and the challenge of tracking the multiplicity of the potential impacts.

In this section, I have developed a contextual and methodological commentary of **Papers 10-14.** Together with the section of the Phase 1 works, this provides a basis for considering the effects of

my research. The next section sets out to examine how the outputs to emerge from my research demonstrate a wide range of impacts at the levels of practice, policy and further research enquiry.

6 Impact of the DPhil publications

6.1 Introduction

In this section, I outline the impact of the works submitted in support of the DPhil award. I refer to 'impact' in terms of the effects on academia, practice, policy and wider society. As a long-term piece of work, it is not surprising that the effects of the research are quite widespread and unevenly spread over the course of time. Figure 1 provides a graphical representation of the impact of the DPhil works with reference to citations and programme-linked grants and commissions. I discuss these citations, alongside other forms of influence, more fully below.

6.2 Citations arising from the DPhil works

A group of 36 citations refer to the six process evaluation peer-review articles (**Papers 4-9**) and main evaluation report (**Paper 2**). Of these, 20 are derived from peer reviewed journal articles. It is noticeable that these citations include methodological reviews of the mixed methods research, stakeholder engagement and settings-based studies. The weight of these citations are concerned with reviewing or reporting on developments in schools-based programme models that link with aspects of the Food for Life programme. A further feature of these works is that some are clearly directed at shaping educational, economic and public health policy, particularly with respect to school meals. Good examples in this respect concern the works of Stahlbrand (2016) and Stein (2013) who both draw out the wider policy implications of research evidence from the evaluation of Food for Life to argue for the important role that the procurement of meals in schools and other institutional settings can play in supporting local, sustainable economic development. Academic connections I developed with Stahlbrand (based in Canada) and Stein (based in the UK) led to a joint symposium on food procurement at the International Farming Systems Association (IFSA) Conference in 2016.

Although there is evidence that some of the works linked to the evaluation of the Phase 1 Food for Life programme have been widely cited, some of my peer-reviewed articles appeared to have had less impact. In part, this is likely to reflect the type of journals that I published some of the research. For example, I published **Paper 5** in *Children, Youth and Environments*, a US journal that has a well-established reputation as the outlet for a global pedagogical and environmental network. Its focus for dissemination is through communities of practice and policy making in the form of membership

networks; however the journal does not prioritise the use of abstracting and indexing services to extend its academic reach.

The article reporting on the quantitative outcomes of the programme for primary school children (**Paper 3**) was published in Health Education Research, which has a five-year Impact Factor of 2.456 (2016). The article has been cited 24 times since 2012, of which 17 citations were in peer reviewed journal articles. It is noticeable that much of the academic reception has been in Northern European countries (especially Denmark) and North America (especially Canada), rather than in the UK. This possibly reflects the influence of closer connections between food, sustainability and health in aspects of educational policy in these countries. For example, Ruge and Mikkelson (2013) and He and Mikkelson (2014) drew upon Paper 8 as a point of reference to develop the theoretical framework for research on LOMA, a Danish organic school food programme. Since this time, I have had further contacts with this research team, culminating in a research and practice symposium with twelve Danish teachers and researchers hosted by the Soil Association in September 2016. Other non-peer review citations of Paper 8 mainly point towards the policy and practice influence of the work in the form of academic reports and books (Appendix 5).

6.3 Presentations arising from the DPhil works

Between 2011 and 2016, I have presented my research at 23 conferences and dissemination events (see Appendix 4). Of these nine were peer reviewed oral presentations, five were peer reviewed poster presentations and eight were invited presentations at non-academic policy or practice-oriented events. The main audiences I have sought to engage with are the wider public health workforce, third sector agencies involved in schools and other settings-based work, and social science academics. The presentations in a public health context have been either directed at the significance of environmental sustainability issues or on the importance of whole settings-based interventions. The situation is reversed in the context of those events more directly linked to food and agricultural sustainability, for example at the IFSA 2016 conference, where my arguments have been directed at bringing audiences round to health implications of food production systems. Most of this work was presented in the UK at a mix of regional, national and international events. My perception is that the reception of these events is mixed and sometimes unpredictable. For example, I had an audience of over 70 delegates at one recent academic conference, despite being allocated a 'poor slot' in the schedule. In contrast, at the previous conference I was part of an international symposium with eight people across the course of the day. Overall, it is quite hard to assess the impact of academic articles and conference presentations, particularly because there is a close relationship with wider impacts of the programme.

Figure 1: Food for Life Phase 1 Research Impact Timeline
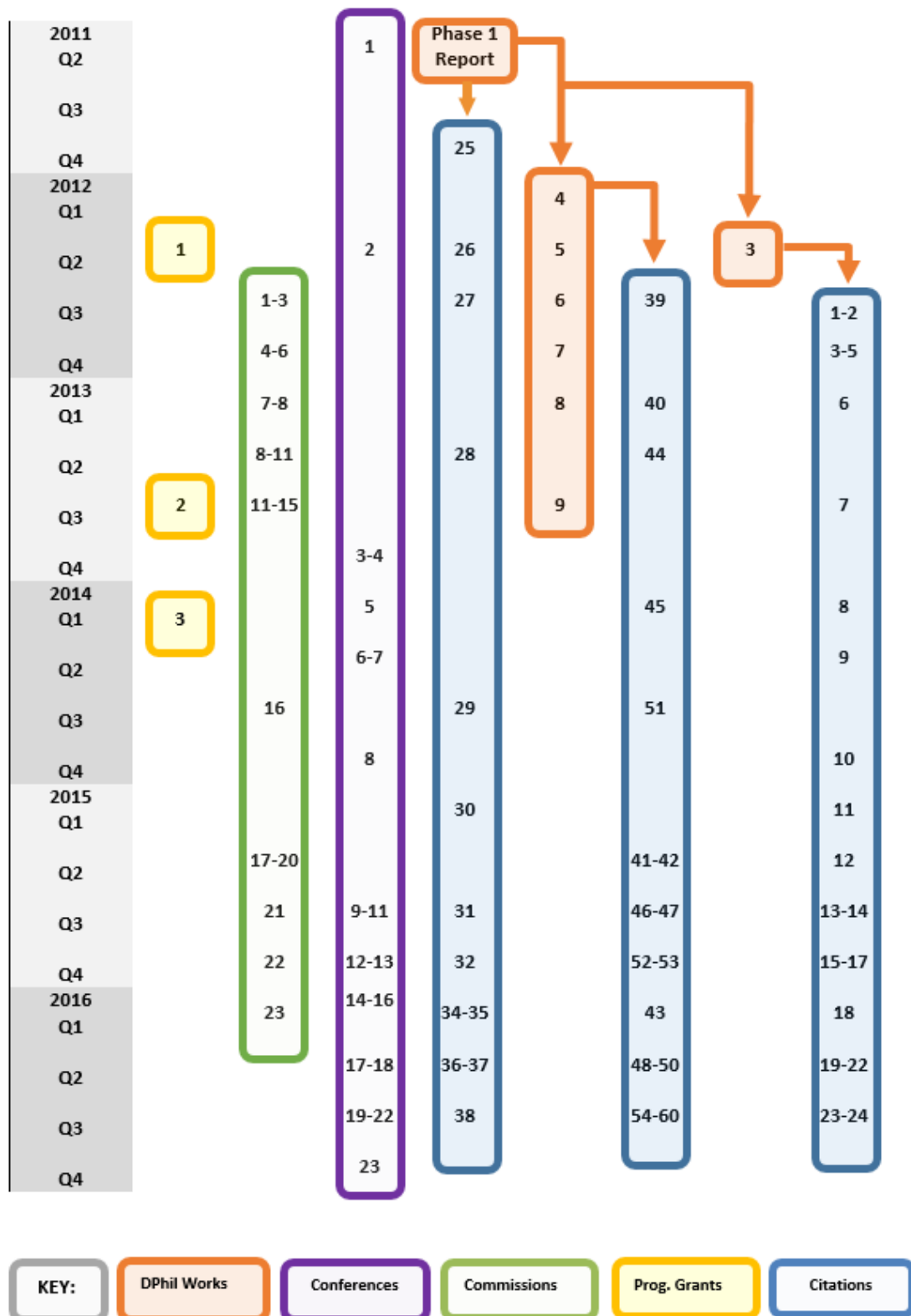
6.4 Influencing programme development

The partnership of agencies involved in developing the Food for Life programme have produced two evidence reports drawing upon the research findings of the Phase 1 and 2 evaluations (FFLP, 2014; Soil Association, 2016). These reports were widely used as a vehicle for communicating the outcomes, operation and theory-basis of the programme to practitioner and policy maker audiences. From the perspective of the Soil Association and its partners, perhaps the most significant impact of the research has been its role in obtaining three further major programme grants in 2011, 2012 and 2013, all of which have had a level of support from the Big Lottery.

Although these are examples of high-level impacts, a trickle of anecdotal information led me to believe that the DPhil works have had a wider set of influences. For example, a local authority reported results from the Food for Life research in their 2013 public health report (North Yorkshire Partnership, 2013). Since early 2016, I worked with the Food for Life programme team to track the impact of the evaluation through non-academic channels. I focused on media reports, feedback from FFL programme delivery staff, the perspectives of local authority commissioners and a document-based analysis of contracts with external agencies. The first step of this process involved piloting a search strategy through Kantar Precise Media Platform, a service for examining media audiences. Between August 2015 and July 2016 the search found 385 media reports on the programme overall, of which 13 of these directly referred to the evaluation itself. This is likely to be an under-recording given that there were difficulties undertaking an electronic search of the reports and selection of salient search terms. An example from the Huffington post (Hinde, 2016) reflects much of the debate around the role of evaluation evidence in programme development and policy change.

I supplemented this media analysis with a survey of the perspectives of eight FFL Local Programme Managers (LPMs). This enquiry established that staff involved in frontline delivery integrated findings from the evaluation into their practice. For example, all eight local programme managers said they had directly quoted my research to commissions (Local Authority, Public Health) and mentioned the partnership between the Soil Association and UWE and nearly all framed the programme in terms of its evidence based in dialogue with schools. I asked for LPMs to describe whether the research had had an influence on their work. Four examples are given here:

- "It is valuable and helps our credibility that our work is evaluated by a respected external organisation." *Devon LPM*

- "Present commissioner would not commission without evaluation evidence." *Peterborough LPM*
- "It is really helpful having validated evidence that what we are asking people to both fund and join in with has real measurable impacts. I also really appreciate the range of impacts we can demonstrate across different fields of policy." *Nottingham LPM*
- "I have used the UWE evaluation when talking to students on work experience." *Kirklees LPM*

There were similar results from a survey of local authority staff ('National Pathfinder Group') who act as advisors to the scheme. This might be anticipated given the interest of these parties in promoting the programme. With the assistance of FFL staff, I therefore sought to review the evidence available in the documentation of 21 local authority commissions. This analysis surveyed the tender documents or grant proposal, contracts or service level agreements (SLA), management documents and, where relevant, recommission documents (for further details see Appendix 5). This showed that:

- 11/21 of local authority commissions have at some point mentioned Food for Life's evidence base, partnership with UWE and quoted the evaluation findings across the commission process.
- 1/21 of local authority commissions mentioned the Food for Life evidence base and the UWE partnership.
- 8/21 of local authority commissions mentioned the Food for Life evidence base and directly quoted from the UWE evaluation findings.
- 9/11 of recommissioning documents mention Food for Life's evidence base and 8/11 then directly quote the evaluation findings or mention the partnership between Food for Life and UWE.

These findings suggest that the my research as part of the UWE evaluation was quite widely used across commission documents, and lends some support to the role of the research in the programme's contracting. However, this assessment found less evidence of the role of the evaluation in supporting the learning and development of the programme. This was particularly the case with regard to some of the difficulties the evaluation identified with regard to take up the programme in secondary schools, the use of staff time, interpreting the relationship between food and sustainability, and some of the resources involved in the delivery. One of the challenges involved in assessing these influences is that much of the decision-making on the role of evidence in programme development remains undocumented. Whilst interview-based research with key

stakeholders can often help understand such decision-making, this is difficult in the context of a highly policy and funding sensitive programme.

6.5 Wider related research activities, outputs and outcomes

The research on the Food for Life programme was used as a focus for one of UWE's Impact Case Studies for Unit of Assessment 22 of the Research Excellence submission of 2014. Entitled "Improving public health outcomes for children and young people: the importance of their active involvement in health promotion initiatives in school settings", the case study I was involved in developing included an account of the role of the Food for Life research on developing 'food literacy'. For example, it reports on England's National School Food Plan (June 2013) - an independent review on behalf of the Secretary of State for Education - that highlighted the evaluation evidence of Food for Life as a promising approach for promoting dietary improvements and sustainability in schools (2013, pages 61; 66; 70; 72; 73; 80; 110; 133; 137). This work subsequently went on to inform the revised Ofsted Common Inspection Framework in 2015, which gave greater prominence to food quality, dining room atmosphere and culture and practical cooking as part of the inspection process (Department for Education and Ofsted, 2015). The 2014 REF Impact Case Study also documented how the research evidence played a role in the decision to award the 2012 Health Promotion and Community Wellbeing Award from the Royal Society of Public Health (RSPH) to Food for Life. Currently the research on Food for Life is long-listed as a potential Impact Case study "Changing the Way We Eat: mainstreaming healthy and sustainable food in schools and wider institutional settings" for the next Research Excellence Framework submission from UWE.

My research in the field of food, public health and sustainability has also supported a wider set of research activities, outputs and outcomes. Table 4 provides a summary of these by specifying the area of research related activity, further details and a justification for including the evidence as part of this commentary.

Table 4. Wider research activities, outputs and outcomes post completion of Phase 1 Food for Life research

Research related activity	Details (Jan 2013-Dec 2016)	Justification
Research grants.	Twelve grants since 2013 including evaluations of 'Food Growing Schools London' and 'Living Well Taking Control' programmes. Value to UWE = £1.002m Total grant value £1.528m.	Publication record of accomplishment strengthens applications for funded research.
Reviewer/ panel member for research grant applications.	Three, including review of the New Zealand Foodback programme (May15).	Funding agencies make invitation on basis of publication profile.
Reviewer/ panelist for programme funding bid applications.	Five, including 'Growing Together: community gardening and social housing project' (Jan14).	Funding agencies make invitation on basis of publication profile.
Submissions to expert inquiries.	Three, including DEFRA Food in Schools taskforce (2011-12).	Wider application of subject expertise.
Journal manuscript reviewer.	8 manuscripts for 5 journals e.g. *Appetite; Perspectives in Public Health; Children, Youth & Environments.*	Editorial board make invitation on basis of publication profile.
Publication research influence: productivity and citation impact.	Google Scholar. i10 index=8; *h*-index = 9; lifetime citations=275; citations post-Jan13=119. ResearchGate. RG Score=16.38; h-index=6; lifetime citations=97; citations post-Jan13= 42. Scopus. *h*-index=5; lifetime citations=83 [review date: 9Dec16].	Thesis publications build research profile, which in turn broadens influence.
Line management responsibilities for researchers.	12 Research Assistants and Research Interns; 6 Research Associates: 3 Research Fellows: 2 Research mentees (academic lecturing staff).	Roles awarded on basis of researcher development track record.
Post-graduate research supervision and assessment.	Second Supervisor for 2 doctoral completions. 5 doctoral progression examinations.	Roles awarded on basis of researcher development track record.
Post-graduate teaching research methods lecturing.	Eight areas including mixed methods, complex evaluation, theory of change, meta-ethnography, and qualitative data analysis.	Application of learning derived from research experience.
Research methods training courses.	Six training events including: SROI Evidence-based approaches in community capacity building; evaluation of 3rd sector projects	Application of learning derived from research experience.

Public engagement.	Speaker at approximately ten events, including Bristol Green Capital (Nov15).	Exchanging knowledge with wider public audiences.
University research leadership.	Theme lead for Community Development in the Public Health and Wellbeing Research Group (Sept14-) Athena Swan Health and Social Science member (Jul15-) PDR reviewer (Aug16-).	Developing research capacity.

Table 4 shows a number of mutually reinforcing patterns for example, my role in advising on research and programme bids led to contacts in government, the third sector and academia. In turn, these contacts have led to invitations to bid for research, present at events and support new researchers within the university. One example is where I was invited to provide expert evidence to DEFRA's Food Growing Schools Taskforce, drawing upon the findings from the Food for Life evaluation. The Taskforce went on to report on the importance of adopting an integrated approach to food growing in schools (DEFRA, 2012). This evidence informed the development of the London Food Growing Schools programme by a consortium of charities and the Office of the Mayor for London in 2013. I successfully won a research tender of £30k to undertake the evaluation of the programme in 2013. One consequence of this has been to be invited to speak on the status of the research evidence on practical food education in schools at London City Hall in October 2016 to over 100 representatives from schools, NGOs, business, local and city government. Within the university, I was also able to use this research to develop roles for a research associate and post-graduate students in the form of placements.

This review of the influence of the works submitted shows how I have conducted a set of linked enquiries leading to the creation and interpretation of new knowledge through original research. In addition to the validation of the work through academic peer review, the dissemination and impact of the works in policy and practice contexts show how the research has achieved recognition in fields of education, public health, community development and sustainable food systems. It also demonstrates how I led on communicating and justifying new knowledge to diverse audiences and have sought to reflect on both the strengths and limitations of this engagement. In the final section, I bring together central themes from the preceding commentary to show how I have addressed the central doctoral descriptors.

6.6 Understanding the research on Food for Life in wider international context

A review of the impact of my research gives rise to a number of considerations on the international applicability of Food for Life, and implications for wider audiences beyond the UK. In the circumstances of schools, there are elements of Food for Life that appear to have the potential for translation. In part, this is because Food for Life increasingly identifies itself through concepts that resonate in international arenas. The 'Whole Settings Approach' (WSA) - of which the 'Whole School Approach' is one variant - has been strongly promoted as a mode for intervention by the World Health Organisation (Whitelaw *et al.,* 2001). The framing of Food for Life as a settings-based initiative is likely to have enhanced the recognition factor of scheme internationally. The notion of an 'integrated approach', with respect to public health nutrition and sustainable food systems, holds translation value through international policy developments such as the Sustainable Development Goals (United Nations, 2016), and has been identified as an important driver for promoting the use of organic food in school meals in Denmark, Finland, Germany, Italy and Norway (Løes and Nölting, 2011). Similarly, the specific principles and areas of focus for the programme - such as 'child and parental involvement' – are widely accepted and understood in social and health programmes (Langford *et al.,* 2014).

Although much of the overall framework and principles of Food for Life sit comfortably on an international stage, it is notable that some aspects of the schemes in England and Scotland differ from what has been tried elsewhere. It should be recognised that national contexts differ considerably in terms of the place of food in public institutional settings. The discursive positioning of school meals is by no means uniform across and within national school systems. Conditions of public food procurement in schools - laws, guidelines, control, financing – differ considerably in high-income countries (Harper *et al.*, 2008; Nielsen *et al*., 2009). Nielsen *et al.*'s study (2009) of four European countries found diversity of the extent to which school meals were utilised to learn about food. There are also substantial national differences in the capacity and scale of values-based food supply chains to meet the procurement demands of schools with, for example, Italy having a more established organic food supply system than Denmark (Nielsen *et al.,* 2009). Nations exhibit different patterns of development in educational policy and the balance of roles between state, market and civil society in school life. Social structures – notably those of class, gender, race/ethnicity, age, and locale – shape the culinary practices and food systems of nations. Such histories create 'path dependencies' (Pierson, 2000) that constrain the scope for action and opportunities for political change.

Nevertheless, several aspects of Food for Life are likely to be of interest to international audiences. From a perspective of governance and policy change, Food for Life holds a number of noteworthy

characteristics. The scheme is led by a coalition of third sector agencies (with the Soil Association clearly the lead agency), each offering specialist technical expertise. This partnership is formally detached from the education and wider state organisational structures although, in practice, it often cultivates close relationships geared towards public policy influence and funding. Food for Life, and the Soil Association more generally, have invested heavily in building formal and informal affiliations with like-minded agencies and individuals in the public eye– and a social media network of schools and caterers. Although the circumstances in England reflect weak engagement by governments at national and local level relative to other European countries (Nielsen et al., 2009), Food for Life illustrates the importance and the potential of building a third-sector led advocacy coalition in order to effect change. Food for Life reflects research, such as Ashe and Sonnino's case study of New York City (2013), on the growth of food movement coalitions that 'coalesce' around school food reform as a basis for concerted action despite diversity of interests and goals.

Food for Life also shows the importance of creating a niche within a wider system of third sector led campaigns, projects and policy solutions. In the UK, Food for Life exists in a 'crowded market' of school education-based initiatives alongside, for example, schemes promoting physical, mental or nutritional health; environmental action; social justice and moral awareness; vocational and life skills; and community engagement. Part of the learning for international audiences is how Food for Life has managed to embed its programme into schools (although less successfully in secondary schools) with the minimum displacement to, or duplication of, other initiatives. This is in contrast to top down intervention formats that can lead to competing and unsustainable demands on schools.

My research indicates that other characteristics of Food for Life are likely to hold applicability in other high-income national contexts. The Food for Life award frameworks – for schools, other settings and caterers – have been widely taken up in England. Award schemes are not novel in themselves; however, there are several noteworthy features of the Food for Life awards. The scheme has a very low entry threshold, in contrast to other schemes such as LOMA in Denmark (Ruge and Mikkelsen, 2013). This has encouraged take up of the scheme, although the top level award remains challenging enough to require major commitments from schools. The award incorporates elements of flexibility to allow for local variations at the school level. The scope of the award criteria also goes beyond that of many other 'whole school' food programmes and, as such, draws in a wider range of actors. The traction of the award scheme has been maintained partly through detailed appraisal of applicants and close review of award holders, and partly through efforts to use evaluative evidence as a form of validation for the award scheme.

An award scheme with the breadth and depth of Food for Life's would be more difficult to implement in national contexts where school meal provision has been historically limited to pre-packed sandwiches and soups such as in the Republic of Ireland and Germany (Harper *et al.*, 2008) or where the overwhelming majority take packed lunches, such as Canada (*ibid.*). Food for Life has shown flexibility in working with large-scale private caterers. Learning from this experience could be of value in national contexts such as Spain, where it is common to contract school catering through external private companies (Harper *et al.*, 2008).

Food for Life complements school meal developments in other countries, but is not necessarily an exemplar of innovative practice. For example, Sweden, France and Japan have a history of enforcing protected lunchtimes (Harper *et al.*, 2008), while municipalities in Italy (and particularly Rome) have been exemplars in their focus on the importance of dining environment, mealtime ambience, parental engagement and creative food procurement (Harper *et al.*, 2008; Morgan and Sonnino, 2007; Sonnino, 2009). Values-based supply chains are being widely piloted in US and Canadian public sector procurement (Lerman, 2012). Other countries, such as Finland, have a strong policy tradition of treating school meals as an educational and wider public service – with a highly restricted place for commercial practices (Tikkanen and Urho, 2009). Investment in high quality ingredients, with an emphasis on organic and locally sourced products, has been important in countries such as Italy, France, Japan and Hong Kong (Harper *et al.*, 2008). Therefore, although Food for Life has succeeded in expressing and codifying an integrated vision of healthy and sustainable food practice in schools, many components of the programme are simply reflections of practice that have already been tested and developed in other national contexts.

7 Summary and conclusions

This commentary provides a critical account of a set of works submitted for a DPhil award. It has sought to lend coherence to the works through an explanation of the context, connections and development of a programme of research. It offers further methodological depth to the DPhil works and reflections on how I have developed research related skills in a number of domains. I have also sought to demonstrate my intellectual contribution to the works and the multiple forms of impact of the published research. I now revisit and summarise how I have addressed the descriptors as set out in the UWE Academic Regulations for a doctoral award. Finally, I draw conclusions on the contributions to knowledge that are represented in the works submitted for the DPhil and implications for policy, practice and research.

The first doctoral descriptor is concerned with the creation and interpretation of new knowledge. I have shown how my research on a major national programme over a period of eight years led to the production of a series of empirical studies. These identified both specific processes and systemic interactions that underpinned evidence of outcomes of a complex community initiative. This work represents a large body of research on a scheme seeking to link food-system sustainability to public health and wider societal concerns. The works underwent independent expert review by scholarly experts from a number of disciplinary fields, and were published through a variety of academic channels.

The second doctoral descriptor requires me to demonstrate a critical understanding of the current state of knowledge. For all the DPhil publications, I was instrumental in conducting literature reviews of the current state of theory, research, policy and practice. These had to span several distinct fields, involving the structured exploration and synthesis of learning from mainstream and alternative education, health promotion, sustainability studies, local economic development and area-based studies. More generally, my work was informed by a sound knowledge of disciplinary contributions of sociological theory and social policy towards an understanding of complex community-based programmes.

Doctoral studies require the demonstration of the ability to conceptualise, design and implement a project for the generation of new knowledge (Descriptor 4). I interpreted this mainly with regard to the implementation of my research practice in the context of programme evaluation. This work not only involved a complex and nested series of studies; the conceptual challenges went beyond the routine evaluation demand of making assessments on highly prescriptive terms. The commentary led to critical points of discussion concerned with the challenges and opportunities arising from the use of mixed methods and multiple component research designs. Two themes running through the commentary are the value of diverse research strategies: firstly to harness the diverse forms of data arising from a large-scale programme and, secondly, to inform different forms of reporting to meet the interests of a range of stakeholders. I also discuss the limits (both theoretical and methodological) and the desirability of seeking to create a whole-system, or totalised, evaluative account of the programme, and place for partial or multi-perspectival accounts.

In this commentary, I have sought to explore the methodological influences on the evaluation (Descriptor 4), to tease out elements of commonality and contrast and discuss some of their limitations as applied to the programme evaluations. I have tracked the evolution of my evaluation

research work from its initial orientation and towards recent iterations. This involved an assessment of the limitations of the early work and the role of new or alternative approaches in addressing some central questions for the evaluation.

The fifth doctoral descriptor is concerned with the independent judgement of issues and ideas, and ability to justify judgements to appropriate audiences. In my commentary, I sought to develop solutions, arguments and strategies both independently and through dialogue with peers, clients and others. In the context of my work, I interpreted this primarily with regard to a number of moments of judgement that arose over the course of the evaluation. A theme to arise from the points identified is the need for ongoing and emergent ethical conduct in the context of complex and, on occasions, unpredictable circumstances. This involved the creation of a framework for the governance of the research that arose through, at times, difficult negotiations with programme delivery leads and wider stakeholders.

I have sought to develop a critical and reflexive account of my research journey over the course of two main phases of research (Descriptor 6). Given the scale, duration and research collaborations involved, this was potentially quite a complex story and, in itself, raised methodological questions about how to develop a credible and informative account. In this commentary, I selected aspects of the DPhil works that demonstrated an ability to appraise strengths and limitations of the research and the role of different validation procedures to determine the rigour of my interpretations.

Overall, this commentary has developed an account of a large body of work, with a focus on methodological influences, societal context and engagement. Over the course of the commentary one methodological concern revolved around the tension in the evaluative research between idealism and pragmatism or, in other words, between the imperatives of understanding and action. The lived experience was more complex and nuanced; nevertheless, the research often involved moments of selecting between the 'harder, high, narrow road' and the 'easier, low, wide road'. A second over-arching methodological theme to emerge from the work concerned the tensions between creating an integrated and holistic account, versus a more selective and eclectic picture of the programme under evaluation. This was in part a reflection of the organisational and contextual dynamics taking place between the evaluation, programme and wider actors. Wider interpretations of large scale and complex evaluations, such as the case examined here, are often heavily contested and struggle for consensus. In this context, more circumscribed evaluative sub-studies can be easier enact, even where they fail to deliver much understanding of the overall programme. A final methodological theme to emerge from this commentary concerns the value of adopting iterative approaches towards the evaluation of complex community programmes. This

retrospective account found no shortage of cases where small, timely adjustments to the direction of the work helped build relationships, respond to learning and react to unforeseen events.

It is important to recognise that there are limitations to the research presented in this DPhil submission. Some limitations are methodological in character and arise from, for example, the pragmatic use of mixed methods study designs, constraints on opportunities for data collection, and an evolving theorisation of the topics for enquiry. From a critical realist perspective, the contributions to new knowledge in this research are boundaried by the empirical context and discursive fields within which the work was conducted. Nevertheless, a number of insights emerge from across the research studies. A central focus has been on understanding how a conceptually coherent set of practices around sustainable food systems and dietary-health may be associated with systemic change in schools overall and with specific changes for participants in these school communities. Some of these changes were also plausible, although inadequately evidenced, in other institutional settings such as hospitals and early years children's centres. For the Food for Life programme, a key process of change appears to the general stimulus effect of messages that became reiterated or amplified through multiple stakeholder voices and organisational actions. In many contexts, the initiative appears to have affected and mobilised diverse actors, bridged formally disparate fields, and shown potential to operate at scale. Some, but not all, evidence emerging from the research was consistent with a thesis that intensity of implementation was associated with greater dietary impacts for children in primary schools.

The research presented in this commentary raises implications in a number of areas of policy, practice and research:

- The design of school food programmes can benefit from incorporating components that have a focus on sustainable food issues as an addition and complement to the narrow focus on the dietary health aspects of food. However, given the complex and emergent nature of the sustainability-related food issues, such programmes should not adopt narrow interpretations. In school, and other settings, strategies are needed to foster an open and critical dialogue through bringing in the perspectives of diverse, and sometimes conflicting, interest groups from across multiple food movements and the wider food system.
- Schools, and other public institutions, can enhance their work on healthy and sustainable food issues through support from specialist programme agencies, such as Food for Life. However, such agencies need to define clear and achievable outcomes to ensure that future activity is appropriately focused. This involves communicating both the overall value

of a whole setting approach and how specific mechanisms and processes are most clearly linked to outcomes.

- Advocates of 'good food' and 'sustainable food' need to further define how their policy solutions contribute towards greater health and social equity, for example in terms of benefit to those most nutritionally vulnerable and ensuring that benefits are not restricted to people or organisations able to invest.

- Food can become a higher organisational priority if healthy sustainable food is embedded in quality indicators that drive core activity in public institutions such as schools and hospitals. It is also important to communicate how 'good food' contributes towards other goals which are priorities in target sectors.

- There is a need to investigate the health and social impacts of providing more sustainable food in settings across the life course and to examine the longer-term effects of such initiatives. Further research is needed to explore potential synergies and differences of connecting activity in different settings, and between settings and local areas.

- There is an opportunity to co-develop research on the social value of area-based food strategies at the city and city-regional levels and large-scale catering initiatives with leading national providers. This will need to take place in dialogue with key stakeholders in order to validate methods and to facilitate translation of findings into practice.

- Further development is needed to ensure that school food programmes complement initiatives seeking to promote physical activity and mental wellbeing. Future research is needed to run alongside integrated programmes, particularly those that fit well with 0-19 integrated children's service strategies in local authority areas.

- Programmes focused on improving food-related issues in institutional settings are restricted in the absence of a supportive public policy environment. Wider policy-driven regulation, incentives, organisational and advisory support are highly important elements in areas such as procurement, meal standards, subsidies, curriculum development, professional training, and working conditions. Agencies involved in programme delivery are well placed to direct efforts towards policy advocacy in these areas.

- Further research is needed on the long-term impacts of programmes such as Food for Life. This work should include tracking effects for students (and other participants) and staff over time, as well as the systemic changes that are intended to occur at organisational levels. A further element of such research should seek to account for the processes and mechanisms that support or hinder the embedding and durability of programme related activities over time.

- Given the growing international interest in sustainable food programmes in institutional settings, there is scope to transfer evidence-based practices between national contexts. Research on programmes such as Food for Life can play an important role in such translational work.

The research, overall, suggests that the contested character of the public health and sustainable food system nexus acted to impede, disperse and potentially fragment the scheme. Students, teachers, cooks and others often struggled to engage, understand or find consensus on the multiple aspects of food issues raised through Food for Life. These issues were not necessarily leading priorities for those leading change, or tracked across contexts and scales of practice. Parents, schools and support agencies encountered costs, or anticipated costs, with shifts in the direction of healthier and sustainable diets. Similar patterns were evident on non-school settings.

In this context, an overarching theme to run through the research presented in this submission concerned the functions of stakeholder discourse and communicative action. Nearly all of the DPhil works explore the involvement of actors such as students, parents, teachers, kitchen staff, caterers, food producers and suppliers, programme staff and commissioners in school settings, or similar constituencies in other settings. Such involvement sometimes took the form of a means to an end: a measure to obtain traction and delivery of the programme targets. Yet views and perspectives of these groups also represented lived experiences in the encounter with Food for Life and the issues that came in its train. Students voted on school menus, teachers found ways to make food miles a part of their lesson, caterers negotiated new standards with suppliers, parents became involved in the school garden, and kitchen staff showed children how to cook. All these could be occasions for deliberation and argumentation on matters of 'good food' and, as such, created tangible opportunities to change minds, practices, relationships and systemic processes linked to food.

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Appendix 1 Research training requirement

I have met the research training requirement through the successful completion of the following module of 60 credits at M Level.

Evidencing Work Based Learning. UZSRUH-60-M

UWE Sociology and Criminology Field Board: 17th October 2016

Appendix 2 Statement on work submitted for another academic award

Statement confirming that this work has not been submitted for another academic award

I can confirm that none of the published body of work included within this portfolio of publications for the award of Doctor of Philosophy (DPhil) has been submitted for another academic award either in this or any other institution.

Mat Jones

28th June 2017

Appendix 3 Bibliography and validation of the works submitted
Phase 1 Evaluation reports, peer reviewed articles and book section

	Title of Paper	Type of research validation
Paper 1	Jones, M. and Daykin, N. (2015) Sociology and Health. Case study: the social determinants and social construction of diet. In: Naidoo, J. and Wills, J., eds. (2015) *Heath Studies: an Introduction*. 3rd ed. London: Palgrave Macmillan, pp.155-195 (case study: pp.185-187). [Originally published in 2nd ed: 2008] ISBN 9780230545205	Single blind peer review
Paper 2	Orme, J., Jones, M., Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Morley, A., Smith, A. and Morgan, K. (2011) *Food for Life Partnership Evaluation.* Bristol: University of the West of England. Full report available at http://eprints.uwe.ac.uk/14456 Summary report available at http://eprints.uwe.ac.uk/14453 ISBN: 9781860435317	Review by six members of evaluation steering group (inc. two members holding doctorates)
Paper 3	Jones, M., Dailami, N., Weitkamp, E., Kimberlee, R., Morley, A., Salmon, D. and Orme, J. (2012) Food sustainability education as a route to healthier eating: evaluation of a multi-component school programme in English primary schools. *Health Education Research.* 27 (3), pp. 448-458. doi.org/10.1093/her/cys016 ISSN 0268-1153	Double blind peer review
Paper 4	Jones, M., Dailami, N., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Engaging secondary school students in food-related citizenship: achievements and challenges of a multi-component programme. *Education Sciences*. 2, pp.77-90. doi.org/10.3390/educsci2020077 ISSN 2227-7102	Double blind peer review
Paper 5	Jones, M., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Realizing a holistic approach to food through school gardens and growing activities. *Children, Youth and*	Double blind peer review

	Environments. 22 (1), pp.75-98. www.colorado.edu/journals/cye ISSN 1546-2250	
Paper 6	Weitkamp, E., Jones, M., Salmon, D., Kimberlee, R., Salmon, D. and Orme, J. (2013) Creating a learning environment to promote food sustainability issues in primary schools? Staff perceptions of implementing the Food for Life Partnership Programme. *Sustainability.* 5 (3), pp.1128-1140. doi.org/10.3390/su5031128 ISSN 2071-1050	Double blind peer review
Paper 7	Orme, J., Jones, M., Salmon, D., Weitkamp, E. and Kimberlee, R. (2013) A process evaluation of student participation in a whole school food programme. *Health Education.* 113 (3), pp.168-182. doi.org/10.1108/09654281311309819 ISSN 0965-4283	Double blind peer review
Paper 8	Kimberlee, R., Jones, M., Morley, A., Orme, J. and Salmon, D. (2013) Whole school food programmes and the kitchen environment. *British Food Journal.* 115 (5), pp.756-768. doi.org/10.1108/00070701311331535 ISSN 0007-070X	Double blind peer review
Paper 9	Salmon, D., Jones, M., Weitkamp, E., Kimberlee, R. and Orme, J. (2013) Take home messages on sustainable food: surveying parent perceptions of the effects of a primary school programme. *British Journal of Education, Society and Behavioural Science.* 3(4), pp.490-503. 10.9734/BJESBS/2013/4211 ISSN 2278-0998	Double blind peer review

Phase 2 Evaluation reports and peer reviewed articles

Paper 10	**Jones, M.,** Pitt, H., Orme, J., Bray, I., Gray, S., Kimberlee, R., Means, R., Oxford, L., Powell, J., Salmon, D. and Weitkamp, E. (2016) *Evaluation of Food for Life 2013-15. Summary and Synthesis Report.* Bristol: University of the West of England. Available at: http://eprints.uwe.ac.uk/29454 ISBN: 9781860435300	Review by five members of evaluation advisory panel (including two members holding doctorates)

Paper 11	**Jones, M.,** Pitt, H., Oxford, L., Bray I., Kimberlee, R. and Orme J. (2007) Association between Food for Life, a whole setting healthy and sustainable food programme, and primary school children's consumption of fruit and vegetables: a cross-sectional study in England. *International Journal of Environmental Research and Public Health*, 14, 639. doi:10.3390/ijerph14060639 ISSN 1660-4601	Manuscript submitted. Under double blind peer review
Paper 12	**Jones, M.,** Pitt, H., Oxford, L., Orme, J., Gray, S., Salmon, D., Means, R., Weitkamp, E., Kimberlee, R. and Powell, J. (2016) *Food for Life: a Social Return on Investment Analysis of the Locally Commissioned Programme. Full Report.* Bristol: University of the West of England. Available at UWE Eprints http://eprints.uwe.ac.uk/31897 ISBN: 9781860435294	Stakeholder verification, plus review by five members of evaluation advisory panel (including two members holding doctorates)
Paper 13	Gray, S., **Jones, M**., Means, R., Orme, J., Pitt, H. and Salmon, D. (2017) Inter-sectoral Transfer of the Food for Life Settings Framework in England. *Health Promotion International*, pp.1-10. doi.org/10.1093/heapro/dax017 ISSN: 0957-4824	Double blind peer review
Paper 14	Pitt, H. and **Jones, M**. (2016) Scaling up and out as a Pathway for Food System Transitions. *Sustainability*. *8*(10), pp.1025-1041. doi.org/10.3390/su8101025 ISSN 2071-1050	Double blind peer review

Appendix 4 Bibliography of conference presentations and invited presentations

	Presentation	Type
1	**Jones, M.** and Orme, J. (2011) *Demonstrating Impact: Evaluation findings from the Food for Life Partnership.* Big Lottery Wellbeing Programme Conference, Birmingham. 11 March.	Invited presentation
2	Orme, J., **Jones, M.,** Weitkamp. E., Kimberlee, R., Salmon, D., Morgan, K. and Morley, A. (2012) *Food for Life Partnership Research Findings.* Big Lottery Wellbeing Programme School Food Conference. 20 January.	Invited presentation
3	**Jones, M.,** Orme, J., Pitt, H., Kimberlee, R., Salmon, D. and Weitkamp, E. *(2013) Food for Life: Putting the evaluation of a whole school programme on food and sustainability into an international context. 6th International Conference on Public Health*. Khon Kaen University. 11 November.	Peer review Presentation
4	**Jones, M.** (2013) *Tackling the Rise of Diet-related Non-communicable diseases through whole school health programmes*. Pnom Penh. Cambodia. 15 November.	Invited presentation
5	**Jones, M.,** Donnelly, A., Pitt, H. and Orme, J. (2014) *Scaling up Food Reform in Urban Contexts: from settings to systems.* 11th International Conference on Urban Health. Manchester, 4-7 March.	Peer review Presentation
6	**Jones M.,** Pitt H. and Orme, J. (2014) *Understanding the Evidence.* London. 16 April.	Invited Presentation
7	Pitt, H., **Jones, M.** and Orme, J. (2014) *Weighing Up the Scaling Up.* British Sociological Association. Food Studies Group. 26 June.	Peer review Presentation
8	**Jones M.,** Pitt H. and Orme, J. (2014) *Scaling Up and Out.* National Food for Life Pathfinder Event. Manchester. 18 November.	Peer review Presentation
9	Donnelly. A., **Jones, M.** and Orme, J. (2015) *Food for Life and School Meals. Response to the Inquiry on Hunger and Food Poverty.* University of Bristol. 30 June.	Peer review Presentation
10	Pitt, H., **Jones, M.** and Weitkamp, E. (2015) *School Gardens and City Foodscapes.* British Geographical Society. 7 July.	Invited Presentation
11	Gray, S., Means, R., Orme, J., Pitt, H., **Jones, M.** and Salmon, D. (2015) *Improving Hospital Food: Evaluating the impact of the Soil*	Peer review Poster

Association Food for Life programme. Public Health England Annual Conference 2015, University of Warwick. 15-16 September. Available from: http://eprints.uwe.ac.uk/26929

12	Orme, J. and **Jones, M.** (2015) *Food, Health and Sustainability in universities, colleges and beyond.* Edinburgh University. 27 November.	Invited presentation
13	**Jones, M.** (2015) *Changing the Way that Cities do Food: promises and prospects of the Food for Life programme.* Bristol European Capital Green Seminars. UWE Bristol. 4 December.	Invited presentation
14	**Jones, M.,** Pitt, H., Oxford, L., Orme, J., Gray, S., Salmon, D., Means, R., Weitkamp, E., Kimberlee, R. and Powell, J. (2016) *Key Findings from the Food for Life Phase 2 Evaluation.* National Pathfinder Event. Birmingham. 26 January.	Invited presentation
15	**Jones, M.,** Pitt, H., Oxford, L., Orme, J., Gray, S., Salmon, D., Means, R., Weitkamp, E., Kimberlee, R. and Powell, J. (2016) *Food for Life in Kirklees: Social Return on Investment Study.* Huddersfield University. 15 February. Available from: http://www.slideshare.net/kirkleescouncil/food-for-life-in-kirklees-social-return-on-investment-study-mat-jones	Invited presentation
16	**Jones, M.,** Oxford, L., Pitt, H., Bray, I., Kimberlee, R. and Orme, J. (2016) *Association between Food for Life, a whole setting healthy and sustainable food programme, and primary school children's consumption of fruit and vegetables.* South West Public Health Scientific Conference, Bristol. 16 March.	Peer review Presentation
17	**Jones, M.,** Oxford, L., Pitt, H., Bray, I., Kimberlee, R. and Orme, J. (2016) *Food for Life's Impact on Primary School Children's Consumption of Fruit and Vegetables.* FUSE Conference, Newcastle. 24 April.	Peer review Poster
18	Gray, S., Means, R., Orme, J., Pitt, H., **Jones, M.** and Salmon, D. (2016) *Improving Hospital Food: Evaluating the impact of the Soil Association Food for Life programme.* Food: The Forgotten Medicine, Royal Society of Medicine, London. 9 June. Available from: http://eprints.uwe.ac.uk/29606	Peer review Poster
19	**Jones, M.,** Donnelly, A., Pitt, H., Oxford, L., Orme, J., Gray, S., Salmon, D., Means, R., Weitkamp, E., Kimberlee, R. and Powell, J. (2016) *Capturing the Value of Sustainable Food Procurement through Social Return on Investment analysis: Lessons from the Soil Association's Food for Life*	Peer review Symposium Presentation

	programme. Symposium on Food Procurement. IFSA Conference, Harper Adams University. 12 July. Available from: http://www.harper-adams.ac.uk/events/ifsa-conference/papers/5/5.9%20Jones.pdf	
20	**Jones, M.,** Oxford L., Pitt H., Bray I., Kimberlee. and Orme J. (2016) *Putting evidence into practice: Food for Life, a whole setting healthy and sustainable food programme.* Faculty of Public Health Annual Conference, Brighton Conference Centre. 8 July.	Peer review Poster
21	**Jones, M.,** Oxford, L., Pitt, H., Bray, I., Kimberlee, R. and Orme, J. (2016) *A Social Return on Investment Analysis of the Locally Commissioned Food for Life Programme.* Public Health England Conference, University of Warwick. 13 September.	Peer review Poster
22	**Jones, M.,** Oxford, L., Pitt, H., Bray, I., Kimberlee, R. and Orme, J. (2016) *Food for Life's impact primary school children's consumption of fruit and vegetables, a cross sectional study.* Public Health England Conference, University of Warwick. 13 September.	Peer review Presentation
23	**Jones, M.,** Pitt, H., Oxford, L., Orme, J., Gray, S., Salmon, D., Means, R., Weitkamp, E., Kimberlee, R. and Powell, J. (2016) *England's Food for Life and Denmark's LOMA programmes: lessons from research on sustainable food procurement and the creation of social value.* Soil Association, Bristol. 3 October.	Invited presentation

Appendix 5. Citations of the evaluation research articles and reports

The citation search was conducted between 1st to 20th August 2016 using Google Scholar. A similar search using Scopus produced a more restricted list of citations and only included peer reviewed journal articles. Any duplications have been removed. Self-citations are recorded in the tables below and noted. Cases where a member of staff from Food for Life reports on the evaluation are recorded as self-citations. The citations cover the Phase 1 period only, given that the Phase 2 research has only recently been published.

Citations of the main outcome evaluation article

The research article reporting the main diet and food sustainability outcomes has been more extensively cited than the other outputs arising from the evaluation. The following table shows that the article has been cited by others in 17 peer review journals. These are mainly citations in the introduction literature review section of articles and focus on school related public health nutrition and food sustainability. It is notable that the study has been picked up by researchers mainly in North America and Northern Europe rather than the UK.

Paper 3
Jones, M., Dailami, N., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Food sustainability education as a route to healthier eating: evaluation of a multi-component school programme in English primary schools. *Health Education Research.* 27 (3), pp.448-458**.**

Ref #	Citation	Note
1	Frerichs, L., Perin, D.M.P. and Huang, T.T.K. (2012) Current trends in childhood obesity research. *Current Nutrition Reports*. 1 (4), pp.228-238.	Peer reviewed
2	Triador, L., Farmer, A., Maximova, K., Willows, N. and Kootenay, J. (2015) A school gardening and healthy snack program increased Aboriginal First Nations children's preferences toward vegetables and fruit. *Journal of Nutrition Education and Behavior*. 47 (2), pp.176-180.	Peer reviewed
3	Jones, M., Dailami, N., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Engaging secondary school students in food-related citizenship: Achievements and challenges of a multi-component programme. *Education Sciences.* 2 (2), pp.77-90.	Self- citation
4	Brooks, F. and Lemer, C. (2012) Life Stage: School Years. *Annual Report of the Chief Medical Officer*. pp.1-17.	
5	He, C. (2012) *Assessment of the impact of organic school meals to improve the school food environment and children's awareness of healthy eating habits*.	

Doctoral dissertation, Videnbasen for Aalborg Universitet VBN, Aalborg Universitet Aalborg University, Det Teknisk-Naturvidenskabelige Fakultet. The Faculty of Engineering and Science.

6	Ruge, D. and Mikkelsen, B. E. (2013) Local public food strategies as a social innovation: early insights from the LOMA-Nymarkskolen case study. *Acta Agriculturae Scandinavica, Section B–Soil and Plant Science*, 63 (sup1), pp.56-65.	Peer reviewed
7	Weitkamp, E., Jones, M., Salmon, D., Kimberlee, R. and Orme, J. (2013) Creating a learning environment to promote food sustainability issues in primary schools? Staff perceptions of implementing the food for life partnership programme. *Sustainability*. 5 (3), pp.1128-1140.	Self- citation
8	He, C. and Mikkelsen, B. E. (2014) The association between organic school food policy and school food environment: results from an observational study in Danish schools. *Perspectives in Public Health*. 134 (2), pp.110-116.	Peer reviewed
9	Nunez, G. H., Kovaleski, A. P. and Darnell, R. L. (2014) Formal education can affect students' perception of organic produce. *HortTechnology*. 24 (1), pp.64-70.	Peer reviewed
10	He, C., Perez-Cueto, F. J. and Mikkelsen, B. E. (2014) Do attitudes, intentions and actions of school food coordinators regarding public organic food procurement policy improve the eating environment at school? Results from the iPOPY study. *Public Health Nutrition*. 17 (6), pp.1299-1307.	Peer reviewed
11	Black, J. L., Velazquez, C. E., Ahmadi, N., Chapman, G. E., Carten, S., Edward, J. and Rojas, A. (2015) Sustainability and public health nutrition at school: assessing the integration of healthy and environmentally sustainable food initiatives in Vancouver schools. *Public Health Nutrition*. 18 (13), pp.2379-2391.	Peer reviewed
12	Morin, P., Demers, K., Robitaille, É., Lebel, A. and Bisset, S. (2015) Do schools in Quebec foster healthy eating? An overview of associations between school food environment and socio-economic characteristics. *Public Health Nutrition*. 18 (9), pp.1635-1646.	Peer reviewed
13	Elsden-Clifton, J. and Futter-Puati, D. (2015) Creating a health and sustainability nexus in food education: designing third spaces in teacher education. *Australian Journal of Environmental Education*. 31 (01), pp.86-98.	Peer reviewed
14	Ensaff, H., Canavon, C., Crawford, R., and Barker, M. E. (2015) A qualitative study of a food intervention in a primary school: pupils as agents of change. *Appetite*. 95, pp.455-465.	Peer reviewed
15	Segrott, J., Segrott, J., Holliday, J., Holliday, J., Murphy, S., Murphy, S., Macdonald, S., Macdonald, S., Roberts, J., Roberts, J. and Moore, L., (2015) Implementation of a Cooking Bus intervention to support cooking in schools in Wales, UK. *Health Education*. 117 (3), pp.234-251.	Peer reviewed
16	Jinfeng, C. (2015) *Action Research on Food and Farming Education-A Case of An Urban Elementary School*.	
17	Yoder, A.B.B., Foecke, L.L. and Schoeller, D. A. (2015) Factors affecting fruit and vegetable school lunch waste in Wisconsin elementary schools participating in Farm to School programmes. *Public Health Nutrition*. 18 (15), pp.2855-2863.	Peer reviewed
18	Oostindjer, M., Aschemann-Witzel, J., Wang, Q., Skuland, S.E., Egelandsdal, B., Amdam, G. V. and Lengard Almli, V. (2016) Are school meals a viable and	Peer reviewed

	sustainable tool to improve the healthiness and sustainability of children´s diet and food consumption? A cross-national comparative perspective. *Critical Reviews in Food Science and Nutrition*. pp.00-00.	
19	Stephens, T. A., Black, J. L., Chapman, G. E., Velazquez, C. E. and Rojas, A. (2016) Participation in school food and nutrition activities among grade 6–8 students in Vancouver. *Canadian Journal of Dietetic Practice and Research.* 77 (1), pp.1-6.	Peer reviewed
20	Ensaff, H., Crawford, R., Russell, J.M. and Barker, M.E. (2016) Preparing and sharing food: a quantitative analysis of a primary school-based food intervention. *Journal of Public Health.* pp1-7	Peer reviewed
21	Donnelly, A. (2016) Food for Life Partnership. Bristol: Soil Association	
22	Battjes-Fries, M. (2016) *Effectiveness of nutrition education in Dutch primary schools*. Doctoral dissertation, Maastricht University.	Peer reviewed
23	Battjes-Fries, M. C., Haveman-Nies, A., van Dongen, E. J., Meester, H. J., van den Top-Pullen, R., de Graaf, K. and van't Veer, P. (2016) Effectiveness of Taste Lessons with and without additional experiential learning activities on children's psychosocial determinants of vegetables consumption. *Appetite*. 105, pp.519-526.	Peer reviewed
24	Lavelle, F., McGowan, L., Spence, M., Caraher, M., Raats, M. M., Hollywood, L. and Dean, M. (2016) Barriers and facilitators to cooking from 'scratch' using basic or raw ingredients: a qualitative interview study. *Appetit*e. 107, pp.383-391.	Peer reviewed

Citations of the full report and process evaluation articles

Paper 2 (a) Full Report (b) Summary Report
Orme, J., **Jones, M.,** Kimberlee, R., Weitkamp, E., Salmon, D., Dailami, N., Morley, A. and Morgan, K. (2011) *Food for Life Partnership Evaluation: Full Report.* University of the West of England: Bristol.

	Citation	**Note**
25	Kimberlee, R. (2011) South Gloucestershire secondary school lunch time experience survey. University of the West of England: Bristol.	Self-citation
26	Markow, K., Coveney, J. and Booth, S. (2012) Enhancing food literacy through school-based cooking programs. What's working and what's not? *Journal of the Home Economics Institute of Australia*. 19 (2), p.2.	Peer reviewed
27	Dimbleby, H. (2012) Transforming food culture in schools, communities and throughout the life course.	
28	Lewis, J. (2013) In practice. *Perspectives in Public Health*, 133 (6), p.290.	Peer reviewed
29	Lincoln, P., Everett, C. and Lloyd, S. (2014) UK voluntary and community sector organisations. *Working in Public Health: An Introduction to Careers in Public Health*. p.134.	Peer reviewed
30	Brkovic, M. and Parnell, R. (2015) Schulbauten als dritter Pädagoge für Nachhaltigkeitsbildung. In *Stadtbaustein Bildung*. Wiesbaden: Springer Fachmedien, pp. 89-102.	

31	Kimberlee, R. and Biggs, O. (2015) A SROI analysis of the Penwith Community Development Trust's: Plant Eat and Teach (PEaT) project. University of the West of England: Bristol.	
32	Frerichs, L., Brittin, J., Sorensen, D., Trowbridge, M. J., Yaroch, A. L., Siahpush, M. and Huang, T.T.K. (2015) Influence of school architecture and design on healthy eating: A review of the evidence. *American Journal of Public Health*. 105 (4), e46-e57.	Peer reviewed
33	Datta, R. (2016) Community garden: A bridging program between formal and informal learning. *Cogent Education*. 3 (1), p.117-154.	Peer reviewed
34	Stahlbrand, L. (2016) The Food For Life Catering Mark: Implementing the Sustainability Transition in University Food Procurement. *Agriculture.* 6 (3), p.46.	Peer reviewed
35	Dwyer, K., Flores-Pajot, M. C., Lawlor, J., McGivern, J. and Pagotto, E. (2016) *Harvesting Health: Investigating the Therapeutic Effects of Gardens.* Carleton University: Ottawa.	
36	Stahlbrand, L. (2016) *Short food supply chains and 'infrastructure of the middle': The role of university food procurement in sustainability transition.* Shropshire: Harpers Adams.	
37	Stahlbrand, L. (2016) The Food For Life Catering Mark: Implementing the sustainability transition in university food procurement. *Agriculture*. 6 (3), p.46.	Peer reviewed
38	Brković, M. and Parnell, R. (2016) Schools as 3D textbooks for sustainability education. In *Education, Space and Urban Planning*. Springer International Publishing. pp. 79-90.	

Paper 4 (Process evaluation)
Jones, M., Dailami, N., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Engaging secondary school students in food-related citizenship: Achievements and challenges of a multi-component programme. *Education Sciences*. 2 (2), pp.77-90.

Citation

39	Reynolds, R. (2012) Civics and Citizenship Education in Its Global Context: The complexity of global citizenship dialogues. *Education Sciences*. 2 (4), pp.190-192.	Peer reviewed
40	Stein, M. (2013) Public sector food procurement in UK local authorities: ethics and sustainability. In *The Ethics of Consumption*. Wageningen Academic Publishers, pp. 395-398.	
41	Donnelly, A. (2015) Food for Life Partnership. Soil Association: Bristol.	

Paper 5 (Process evaluation)
Jones, M., Weitkamp, E., Kimberlee, R., Salmon, D. and Orme, J. (2012) Realizing a holistic approach to food through school gardens and growing activities. *Children Youth and Environments*, 22 (1), pp.75-98.

Citation

| 42 | Donnelly, A. (2015) Food for Life Partnership [online]. Food Active. http://www.foodactive.org.uk/wp-content/uploads/2014/12/Amanda-Donnelly-v2.pdf | Self-citation |
| 43 | Aboujaoude, N. (2016) *Bringing Curriculum Outdoors: Implementing gardening outdoors.* Capstone Projects and Theses. 534. California: California State University. | |

Paper 6 (Process evaluation)
Weitkamp, E., **Jones, M.,** Salmon, D., N., Kimberlee, R., Salmon, D. and Orme, J. (2013) Creating a learning environment to promote food sustainability issues in primary schools? Staff perceptions of implementing the Food for Life Partnership Programme. *Sustainability*, *5*(3), 1128-1140

	Citation	
44	Stein, M. (2013) Public sector food procurement in UK local authorities: ethics and sustainability. In *The Ethics of Consumption*. Wageningen Academic Publishers, pp. 395-398.	
45	Caputo, P., Ducoli, C. and Clementi, M. (2014) Strategies and tools for eco-efficient local food supply scenarios. *Sustainability*. *6* (2), pp.631-651.	Peer reviewed
46	Vu, A. (2015) *A Case Study of a Beginner Gardening Program in North Carolina*. Doctoral dissertation. Virginia Technology Institute: Virginia.	
47	Morgan, M. J. (2015) Food festivals, food marketing and the re-invention of a rural community. *The Journal of New Business Ideas and Trends*. 13 (2), p.57.	Peer reviewed
48	Waltz-Peters, R. (2016) *For the love of carrots and community: examining the Food Project's youth engagement in the context of dominant discourses about food and health*. Doctoral dissertation. Mount Holyoke College: Massachusetts.	
49	Kankainen, T., Määttä, K. and Uusiautti, S. (2016) Will a sustainable lifestyle fit as a part of special education? *International Journal of Research Studies in Education*. 5 (5), pp.47-59.	Peer reviewed
50	Caputo, P., Clementi, M., Ducoli, C., Corsi, S. and Scudo, G. (2016) Food chain evaluator, a tool for analysing the impacts and designing scenarios for the institutional catering in Lombardy (Italy). *Journal of Cleaner Production*. 140, pp.1014-1026.	Peer reviewed

Paper 7 (Process evaluation)
Orme, J., **Jones, M.,** Salmon, D., Weitkamp, E. and Kimberlee, R. (2013) A process evaluation of student participation in a whole school food programme. *Health Education*. 113 (3), pp.168-182.

	Citation	
51	Salmon, D., Jones, M., Weitkamp, E., Kimberlee, R., and Orme, J. (2014) Take home messages on sustainable food: surveying parent perceptions of the effects of a primary school programme. *British Journal of Education, Society and Behavioural Science*. 3 (4), pp.490-503.	Self citation

52	Morin, P., Demers, K., Robitaille, É., Lebel, A. and Bisset, S. (2015) Do schools in Quebec foster healthy eating? An overview of associations between school food environment and socio-economic characteristics. *Public Health Nutrition*. 18 (9), pp.1635-1646.	Peer reviewed
53	Brown, K. M., Elliott, S. J., Leatherdale, S. T. and Robertson-Wilson, J. (2015) Searching for rigour in the reporting of mixed methods population health research: a methodological review. *Health Education Research*. 30 (6), pp.811-839.	Peer reviewed
54	Dwyer, K., Flores-Pajot, M. C., Lawlor, J., McGivern, J. and Pagotto, E. (2016) *Harvesting Health: Investigating the Therapeutic Effects of Gardens.* Carleton University: Ottawa.	
55	Janhonen, K. H., Mäkelä, J. and Palojoki, P. (2016) Adolescents' school lunch practices as an educational resource. *Health Education*. 116 (3), pp.292-309.	Peer reviewed
56	Woodward, J., Sahota, P., Pike, J., & Molinari, R. (2015) Interventions to increase free school meal take-up. *Health Education*. 115 (2), pp.197-213.	Peer reviewed
57	Muñoz Cano, J. M., Salazar, T. M. and Hernández, J. A. C. (2016) *Integrar prácticas y contenidos acerca de alimentación en la escuela primaria.*	
	Paper 8 (Process evaluation) Kimberlee, R., **Jones, M.,** Orme, J. and Salmon, D. (2013) Whole school food programmes and the kitchen environment. *British Food Journal.* 115 (5), pp.756-768.	
	Citation	
58	Morin, P., Demers, K., Robitaille, É., Lebel, A. and Bisset, S. (2016) Do schools in Quebec foster healthy eating? An overview of associations between school food environment and socio-economic characteristics. *Public Health Nutrition*. 18 (9), pp.1635-1646.	Peer reviewed
59	Sørensen, N. N., Tetens, I., Lassen, A. D. and Løje, H. (2016) *Organic Food Conversion in Danish Public Kitchens: The effects of the Danish Organic Action Plan 2020 on organic public procurement and wellbeing at work.* National Food Institute, Technical University of Denmark: Søborg.	
60	Sørensen, N.N., Løje, H., Tetens, I., Wu, J.H., Neal, B. and Lassen, A.D. (2016) Wellbeing at work among kitchen workers during organic food conversion in Danish public kitchens: a longitudinal survey. *European Journal of Public Health*. 26 (2), pp.323-328.	Peer reviewed

Appendix 5 Impact of the research on programme commissioning decisions

In order to gain a fuller picture of the impact of the UWE evaluation on the Food for Life's attainment of commissions, an analysis of the commission documents was undertaken in August 2016. This analysis surveyed the tender documents or grant proposal, contracts or service level agreements (SLA), management documents and where relevant, recommission documents. Each document was assessed using a tiered structure: 1 means that the document says Food for Life is evidence based; 2 means the UWE – Food for Life partnership is mentioned; 3 means that the document includes quotes from the UWE evaluation findings. Instances where a link to the Food for Life website was inserted were not included in the analysis as many of the links are now broken and there is no way of knowing what of the UWE evaluation would have been present on the website at the time the documents were circulated.

The table below displays the findings of this analysis. There are some anomalous commissions presented in the table, which reflect the availability of documentation at Food for Life rather than the impact of the UWE evaluation. During the tender and grant application process, there are often undocumented individual conversations or presentations to commission members by Food for Life staff. It was not possible at this time to analyse the use and impact of the UWE evaluation in these instances.

Document analysis of Food for Life commissions with local authorities in England 2012-16

Commission	Date of first commission	Grant/ Commission (GC) or Tender?	ITT	(Tender) Proposal	Contract SLA	Management scheme	Re-commission documents
1	October 2012	GC	--	1,2,3	0	0	1,2,3
2	March 2014	GC	--	1	1	1	1,2
3	July 2012	GC	--	1,3	0	1	1,3
4	June 2013	GC	--	1,2,3	1,2,3	0	0
5	February 2013	GC	--	1	0	0	--
6	April 2013	GC	--	1,2,3	1	0	1,2,3
7	July 2012	GC	--	1,3	0	1,3	1
8	August 2016	Tender	1	1,2,3	0	1,2	--
9	December 2015	Tender	1	1,2,3	1,2,3	0	--
10	May 2013	GC	--	1,3	0	1	1,3
11	March 2015	Tender	1	1,2,3	0	0	--

12	December 2013	GC	--	1,3	0	0	--
13	April 2011	GC	--	1,3	0	1,3	--
14	June 2016	GC	--	1,3	1,3	1,3	--
15	October 2014	Tender	1	1,2,3	1,2,3	0	0
16	February 2014	GC	--	1,2,3		1,2,3	1,2,3
17	August 2014	GC	--	1,2,3	1,2	0	1,2
18	January 2015	GC	--	1,3	0	1,3	--
19	November 2012	GC	--	1,2,3	1,2,3	0	1,2,3
20	October 2015	GC	--	1,3	0	1	--
21	February 2014	GC	--	1,2,3	0	0	--

Notes: "Food for Life is evidence based" = 1; "UWE partnership" = 2; Quote evaluation findings = 3

All (4/4) of invitations to tender (ITT) stated that programmes submitting a suitable proposal would have to be evidence based. Knowledge of the UWE evaluation streamlines this aspect of the tender process and subsequently all Food for Life tender proposals have said that Food for Life is evidence based. For example, "These latest results confirm the on-going need to review current activity and continue to invest in evidence-based actions to tackle childhood obesity in Leicester." Leicester City Council ITT, *Healthy Eating Initiatives* (2014). The Food for Life response to 'Analytical and assessment skills' was to reference the UWE and Food for Life partnership: "external evaluation team at the University of the West of England support and advise FFLP on evaluation." In answer to questions of 'examples of positive outcomes and behaviour changes seen', a detailed list of UWE evaluation findings was included.

- 52.4% (=11/21) of commissions have at some point mentioned Food for Life's evidence base, partnership with UWE and quoted the evaluation findings across the commission process.
- 4.7% (=1/21) of commissions mentioned the Food for Life evidence base and the UWE partnership.
- 38.1% (=8/21) of commissions mentioned the Food for Life evidence base and directly quoted from the UWE evaluation findings.

Where there is a reference to Food for Life's evidence base, we cannot be certain that this pertains to the 2013-2015 evaluation, as some documentation will have been produced prior to the evaluation outcomes being shared. Having said this, as 95.2% (=20/21) of commissions' documentation also includes a reference to the UWE partnership or quotes the evaluation findings, we can still be confident in the impact of the UWE evidence base later in a commission even if the evidence base referenced initially was not that of UWE.

81.8% (=9/11) of recommissioning documents mention Food for Life's evidence base and 72.7% (=8/11) then directly quote the evaluation findings or mention the partnership between Food for Life and UWE.

Appendix 6 Statement on author's contribution to the works submitted

Summary of methods

Introduction

University and QAA guidelines recognise that co-authored works are an accepted component of doctorates by publication. However, there are currently few guidelines on how to present the contributions of doctoral candidates in such instances. Sharmini *et al.'s* review of the assessment of theses by publication concluded:

> *"To help resolve some of [the] unethical issues regarding authorship, institutions could promote the use of tools such as the multi-criterion decision-making [MCDM] approach or the Vancouver Protocol, which help clarify the issue of determining author order and the doctoral candidate's contribution on publications" (2015, p.98).*

In the following sections, I outline the steps I used, building upon the findings of Sharmini *et al.* (2015) and related studies of the International Committee of Medical Journal Editors ([ICMJE],2009) on the Vancouver Protocol Beveridge, and Morris (2007) on the MCDM method.

Step 1: Developing categories of contribution: mapping to Vancouver Protocol

The Vancouver Protocol, developed by the ICMJE, recommends that scientific publication authorship should be based on the following four criteria:

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
2. Drafting the work or revising it critically for important intellectual content; AND
3. Final approval of the version to be published; AND
4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Drawing upon these criteria, I broke down the different elements of contribution into a more refined set of 11 categories. Given relevance of research impact for DPhils, I then added a further three forms of contribution that relate to dissemination. These cover presentation of the research at academic events, at

non-academic events, and through 'other dissemination' that might, for example, include sharing the research through media channels.

Step two: Assigning weightings: MCDM method

I then drew upon Beveridge and Morris (2007)'s MCDM method to award weighted percentages. This involves assessing the relative important of each category of contribution where, for example, category A (the most important) might constitute a 15% weighting, category B 10% and category C 5%. This way, each item is given a weighting that represents its importance to the whole work. Finally, the author's relative contribution to each item is calculated.

Beveridge and Morris advise that the definition, weighting of categories and assignment of relative contribution from each author is agreed in advance undertaking the research. We did not use this process in advance with respect to the publications in question – although less formal agreements were made with co-authors. Prior to wider consultation, I therefore used my records and recollection to assign a standard weighting to the majority of works.

Step three: Piloting the framework

I asked three co-authors to provide feedback on drafts for:
1. Table of author contributions to works,
2. Summary statements of contributions to works.

My doctoral supervisors also provided feedback on drafts of this framework. This piloting led to further revisions that covered (a) simplifying the summary description (b) simplifying the presentation of information on the table (c) adjusting the weighted percentages for each category of contribution (d) avoiding the equivalent of 100% (for example, 10/10) for a category, given that this implied an improbable scenario that co-authors had no involvement in this aspect of the work. The piloting process also raised a question about the distinction between 'intellectual contribution' and 'contribution towards authorship'. The latter allowed for contributions that might not normally be considered intellectual, such as the acquisition of data, but were consistent with authorship definitions set out in the Vancouver Protocol. This piloting resulted in further adjustments to the summary statements and author contribution analysis table.

Step four: Co-author consultation

This step involved contacting all co-authors. I asked co-authors to review the table of author contributions and the author contribution summary statement. Co-authors were then asked to provide a signed statement of confirmation, or to propose revisions. Co-authors could provide feedback to a third party (Director of Studies). This process allowed co-authors to raise points that could then be summarised. In total, thirteen co-authors were consulted. Three co-authors asked for clarification about either the scoring system or the definition of co-authorship. Two additional co-authors, Kevin Morgan and Alastair Smith were not contacted

due to the logistics involved in consultation and their relatively small involvement in co-authorship. Both provided contributions to Paper 2: Morgan primarily in the capacity of an expert advisor and Smith in the role of research fieldworker for the food sourcing component of the underpinning study.

Step five: Collation of the results

This step involved bringing together the responses from co-authors and addressing points of difference. There were only minor revisions proposed in the feedback from co-authors.

References

Beveridge, C. A., and Morris, S. E. (2007) Order of merit. *Nature,* 448: pp.508.
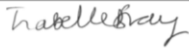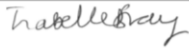
International Committee of Medical Journal Editors ([ICMJE] (2009) *Defining the Role of Authors and Contributors.* Available at: http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html [Accessed 4/1/17]

Sharmini, S., Spronken-Smith, R., Golding, C. and Harland, T. (2015) Assessing the doctoral thesis when it includes published work. *Assessment and Evaluation in Higher Education*, 40 (1), pp.89-102

Mat Jones's contributions to the work submitted, expressed as percentage contribution to stage or aspect of work. *Weighted percentage adjusted for Paper 1, which did not involve primary research.

Category of author contribution	Weighted percentage *	1 Daykin & Jones Health Studies(case)*	2 Orme et al Ph1 Full report	3 Jones outcome paper	4 Jones et al secondary schools	5 Jones et al school gardens	6 Weitkamp et al Sustainability	7 Orme et al student participation	8 Kimberlee et al cooks	9 Salmon et al parents	10. Jones et al Ph2 Full report	11. Jones et al FV outcomes	12. Jones et al SROI	13. Gray et al inter-sectoral transfer	14. Pitt & Jones. Scaling
Conception of research aim, design and methodology	10	9	8	8	8	9	5	5	5	5	5	8	9	5	5
Researcher-led fieldwork / data collection	10	NA	4	4	5	5	3	4	2	5	3	5	8	2	5
Context and literature review	5	13	3	4.5	4.5	4.5	1	1	1	2.5	2	4	4.5	2.5	1
Write up of materials, methodology and methods	5	NA	3	4.5	4.5	4.5	2.5	2.5	2.5	2.5	2	4	4.5	2	2
Data analysis and production of findings	10	NA	5	8	7.5	8	5	4	4	5	3	4	8	4	4
Interpretation of findings	5	NA	4	4.5	4.5	4.5	2.5	2.5	2.5	2.5	3.5	4	4.5	2	2
Conception of paper/report and brief	10	27	8	9	9	9	5	5	5	5	6	8	9	4	4
First full draft	10	9	7	8	8	8	3	3	3	3	3	9	9	3	2
Subsequent full drafts	10	9	7	5	5	5	5	5	5	5	6	5	5	5	2
Final draft and submission for review	10	14	9	9	8	9	0	2	0	2	6	9	9	2	2
Response to reviewers and final submission	5	9	4.5	4.5	4.5	4.5	2.5	2.5	2.5	2.5	3	4.5	4.5	2.5	2.5
Academic conference presentation	5	NA	3.5	4.5	4.5	4.5	3.5	4.5	2.5	2.5	2.5	4.5	4.5	3	0.5
Presentation at non-academic events	3	NA	2.1	3.5	2.1	2.1	2.1	1.5	2.1	2.1	2	2.5	2.5	1.5	1.5
Other dissemination (e.g. summaries for non-academic audiences)	2	NA	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1	1.5	1.5	1	1
Total score	100	90	69.5	78.4	76.5	79	41.5	43.9	38.5	46	48	73	83.5	39.5	34.5

Confirmation and responses from co-authors

Issy Bray Paper: 10,12	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Isabelle Bray	*Isabelle Bray*	27/06/17
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Isabelle Bray	*Isabelle Bray*	27/06/17

Narges Dailami Papers: 2-4	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Narges Dailami	*Narges Dailami*	8/6/17
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Narges Dailami	*Narges Dailami*	8/6/17

Norma Daykin	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Norma Daykin	*NDay*	8/6/17
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Norma Daykin	*NDay*	8/6/17

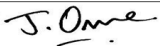Further comments or suggested revisions (optional)

Paper 1	Jones, M. & Daykin, N. (2015) Case Study: the social determinants and social construction of diet, pp.183-187. In: Naidoo, J. & Wills, J., eds. (2015) *Heath Studies*. Third Edition. Palgrave Macmillan. ISBN 9780-230545205 [Second Edition: 2008]	Daykin produced this chapter in an earlier edition of the book (2001). For case study section in the 2008 and 2015 editions, I led the conception, literature review, interpretation and all drafts. I revised the main chapter with Daykin for the 2008 edition and for the 2015 I led the revision process.

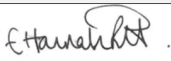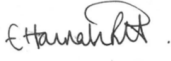| Selena Gray. Papers: 10,12,13	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Selena Gray		25/5/2017
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Selena Gray		25/5/2017

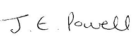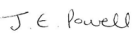| Richard Kimberlee Papers: 2-11	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Richard Kimberlee		22nd June 2017
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Richard Kimberlee		22nd June 2017

Robin Means. Papers: 10,12,13	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	ROBIN MEANS	(e-signature)	17th May 2017
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	ROBIN MEANS	(e-signature)	17th May 2017

Adrian Morley Papers: 2,3,8	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Adrian Morley		23/06/2017
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Adrian Morley		23/06/2017

Judy Orme. Papers: 2-13	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Judy Orme		17.05.2017
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Judy Orme		17.05.2017

Liz Oxford Papers: 10-12	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Liz Oxford		15/06/17
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Liz Oxford		15/06/17

Hannah Pitt Paper: 10-14	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Hannah Pitt		16.06.17
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Hannah Pitt		16.06.17

Jane Powell Paper: 10, 12	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Jane Powell	*J. E. Powell*	12th June 2017
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Jane Powell	*J. E. Powell*	12th June 2017

Deb Salmon Papers: 2-10, 13	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Professor Debra Salmon	*Debra Salmon*	9.06.2017
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Professor Debra Salmon	*Debra Salmon*	9.06.2017

Emma Weitkamp Papers: 2-7, 9,10	Name	Signature	Date
1. I confirm that (1) the summary statement(s) reflect the contributions that Mat Jones made to the works that I co-authored.	Emma Weitkamp	Digital Signature *Emma Weitkamp*	19/6/17
2. I confirm that (2) the analysis of contributions reflect the contributions that Mat Jones made to the works that I co-authored.	Emma Weitkamp	Digital Signature *Emma Weitkamp*	19/6/17

Further comments or suggested revisions (optional)

Regarding the papers relating to the Food for Life Programme, Mat took the lead on the overall study design and data collection, providing the essential link between the different outcomes. As a co-author, my main involvement was with the primary school qualitative work (case studies) and I worked closely with Mat to ensure that this met the overall programme objectives. He therefore, played a significant role (as outlined below) in the conceptual design and framing of these aspects and also in ensuring that, through analysis they were focused on complementary issues.

Appendix 7 Doctoral Descriptors

UWE Bristol (2016) Graduate School Handbook 2016-17

The award of a Doctorate of the University requires that a candidate should demonstrate that he/she:

1) has conducted enquiry leading to the creation and interpretation of new knowledge through original research or other advanced scholarship, shown by satisfying scholarly review by accomplished and recognised scholars in the field;

2) can demonstrate a critical understanding of the current state of knowledge in that field of theory and/or practice;

3) shows the ability to conceptualise, design and implement a project for the generation of new knowledge at the forefront of the discipline or field of practice including the capacity to adjust the project design in the light of emergent issues and understandings;

4) can demonstrate a critical understanding of the methodology of enquiry;

5) has developed independent judgement of issues and ideas in the field of research and/or practice and is able to communicate and justify that judgement to appropriate audiences;

6) can critically reflect on his/her work and evaluate its strengths and weaknesses including understanding validation procedures.