

2023-12-15

# Engaging with 'less affluent' communities for food system transformation: a community food researcher model (FoodSEqual project)

Pettinger, Clare

<https://pearl.plymouth.ac.uk/handle/10026.1/21869>

---

10.1017/s0029665123004913

Proceedings of the Nutrition Society

Cambridge University Press (CUP)

---

*All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.*

## **Engaging with ‘less affluent’ communities for food system transformation: a community food researcher model (FoodSEqual project)**

Pettinger C <sup>1,2</sup> ; Hunt L <sup>1,2</sup>; Gardiner H <sup>1,2</sup>; Garg P <sup>1,2</sup>; Howard L<sup>1,2,3</sup> and Wagstaff C <sup>1,2,4</sup>

1. School of Health Professions, Faculty of Health, University of Plymouth. UK.
2. FoodSEqual, one of four consortia projects focused on food systems transformation, funded by the United Kingdom Research and Innovation Strategic Priorities Fund 2021-2026.
3. Food Plymouth CIC The local Sustainable Food Places Food Partnership
4. Department of Food and Nutritional Sciences, University of Reading. UK.

**Shortened version of title:**

**Community food researcher model (FoodSEqual)**

## **Acknowledgements**

Acknowledging our Plymouth Community Food Researchers who have contributed to the FoodSEqual Plymouth project – Yve, Star, Joanna, Laura, Julia

## **Financial Support**

This review paper relates to the FoodSEqual project (Food Systems Equality: co-production of healthy and sustainable food systems for disadvantaged communities) which is funded by UKRI Strategic Priorities Fund - BBSRC Grant Ref BB/V004905/1

## **Declaration of interest**

The authors declare there are no conflicts of interest in relation to this review paper

## **Authorship**

CP led the review paper: drafts, writing, reviewing, collation and management of contributions; LH and HG reviewed the paper and contributed to specific sections; PG reviewed the paper, contributed to specific sections and worked on reference management; CW is chief investigator of the FoodSEqual project

## **Abstract**

The UK food system is distorted by inequalities in access, failing the people most in need, yet it *should* provide access to safe, nutritious affordable food for all citizens. Dietary patterns are associated with sociodemographic characteristics, with high levels of diet-related disease mortality attributed to poor dietary habits. Disadvantaged UK communities face urgent public health challenges, yet area often treated as powerless recipients of dietary and health initiatives.

The need for food system transformation has been illustrated within recent UK government policy drivers and research funding. The Food Systems Equality project<sup>1</sup> is a research consortium that aims to ‘co-produce healthy and sustainable food systems for disadvantaged communities’. The project focusses on innovating food products, supply chains and policies, placing communities at the center of the change.

Tackling the above issues requires new ways of working. Creative approaches in food research are known to empower a wider range of individuals to share their ‘lived food experience’ narratives, building relationships and corroborating co-production philosophies, thus promoting social justice, and challenging more traditional positivist/reductionist ‘biomedical’ approaches for nutrition and food studies.

This review paper critiques the use of community-centric approaches for food system transformation, focusing on one, a community food researcher model<sup>1</sup> as an exemplar, to highlight their utility in advocating *with* rather than *for* less affluent communities. The potential for creative methods to lead to more equitable and lasting solutions for food system transformation is appraised, consolidating the need for community driven systemic change to foster more progressive and inclusive approaches to strengthen social capital. The paper closes with practice insights and critical considerations offering recommendations for readers, researchers, and practitioners, enabling them to better understand and apply similar approaches.

## **Introduction**

Our global food system is distorted by inequalities in access and fails the people most in need. For over a decade evidence has emerged to show that more than enough food is generated for the 7 billion population, yet half the global population is malnourished<sup>2</sup> and about 2 billion are deficient in key micronutrients<sup>3</sup>. The consequent ‘double burden’ of disease (obesity and malnutrition), partially driven by ‘the nutrition transition’<sup>4</sup> with increased dietary intakes of refined sugars, fats, oils, and processed meats, is related to a pandemic of ill-health, which in the UK costs the NHS over £6 billion each year<sup>5</sup>. If unchecked, it is predicted that by 2050 current dietary trends will cause significant damage to the environment (e.g., biodiversity loss and increased pollution), as well as increased ill-health (i.e., higher prevalence of chronic non-communicable disease). The implementation of solutions to address the tightly linked ‘diet–environment–health’ trilemma has been flagged as a pressing global challenge<sup>6</sup> particularly for lower socio-economic (less affluent) communities, for whom the food system *should* provide sustainable access to safe, nutritious, affordable food.

The purpose of this review paper is to provide a critical overview of the need for food system transformation with a focus on how to engage ‘less affluent’ communities more effectively within this discourse. The paper firstly provides extensive context on the nature of the ‘wicked problems’ faced by less affluent communities, including: i) sustainability of the food system and social justice; ii) food choices to achieve a healthy and sustainable diet; iii) dietary impact of sociodemographic characteristics; iv) (diet related) social and economic inequities. The paper then proposes the use of more creative community centric approaches as solutions to support the transformation required to improve the food system to build community capacity and capital. A current exemplar is provided (the community food researcher model: FoodSEqual project) and critiqued to reflect on this approach of engaging communities in research processes. The paper ends with practice insights and critical considerations making recommendations on how to optimise the utility of such creative community centric approaches to support food system transformation.

### *i) Sustainability of the food system and social justice*



The term 'sustainability' is widely used and refers to three pillars for sustainable development - social, economic, and environmental. The relevant related historical definition is that: "*Sustainable development [meets] the needs of the present without compromising the ability of future generations to meet their own needs*"<sup>8</sup>. In public health nutrition, 'sustainability' refers to the ability to maintain food system capacity to support the nutritional health needs of current and future populations while protecting the ecological systems that produce food<sup>9</sup>. Traditionally, sustainability has been largely overlooked in public health nutrition activities as they have tended to focus on addressing relatively short-term nutritional needs of populations and framed these needs mainly within a biological health context. Yet in 2005, the Giessen Declaration highlighted how 'new nutrition science' needed to move beyond biomedical science to address ethical concerns that include social and ecological factors<sup>10</sup> and proposed more problem-solving scientific approaches coupled with compassion, socio-economics and a planetary perspective<sup>11</sup>. The Giessen Declaration stated that an integrative approach with strong technology links is needed to address human security<sup>10</sup>.

When considering sustainable (food) development, the goal should be to ensure a future when the expanded global population - predicted to reach 10 billion people by 2050<sup>12</sup> has enough food available to eat and access to high quality nutritious foods. Despite substantial evidence linking diets with human health and environmental sustainability<sup>13-15</sup> historically there has been a lack of globally agreed targets for healthy diets from sustainable food systems. In 2019, the Eat Lancet Commission assessed existing evidence and developed global scientific targets that define a 'safe operating space' for food systems<sup>16</sup>. These targets focus on i. healthy diets and ii. sustainable food production and are projected to reduce harmful environmental impacts (climate, freshwater use, biodiversity loss, nitrogen, and phosphorous use); to be capable of sustainably feeding the world's population in 2050; and also, to prevent approximately 11 million premature deaths among adults globally. For example, reduction in red and processed meats is a key target because they are known to have the single biggest environmental impact of any type of food<sup>14</sup> as well as also being associated with high rates of mortality and morbidity<sup>17</sup> and poor health outcomes such as colorectal cancer<sup>18</sup>.

The food system includes *'all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes'*<sup>19</sup>. In the UK, this system affects social, economic, and natural environments<sup>20</sup> and aims to provide access to safe, nutritious, affordable food for all citizens<sup>21, 22</sup>. But strong evidence suggests this aim is not being met. Food is known to be an *"identifier and maker of class, culture, and civilization"*<sup>23</sup> and its symbolic potential is powerful, both individually and collectively within society. Yet, because food sits at the intersection of multifarious disciplines (of which nutrition is one, others include humanities; food science; climate science; geography), it feeds into a highly complex and often contradictory, nuanced and politically-driven social justice discourse.

ii) *Food choices to achieve a healthy and sustainable diet*

There is well established evidence to support our food choices being influenced by a complex mix of interrelated factors such as socio-cultural, psychological, traditional, and political<sup>24</sup>. Similarly, environmental elements like marketing and labeling play an important role on influencing an individual's preferences and understanding of what constitutes a healthy diet<sup>25</sup>. These food practices are learned at an early age from parents/carers as well as via the school environment<sup>24, 26, 27</sup>. Consequently, the socio-economic background and cultures of the family/household has a significant influence on early habit-shaping, leading to longer term dietary preferences.

Evidence shows that the UK population does not currently consume the right balance of food recommended for either a healthy or a sustainable diet<sup>28</sup>. Poor diets are characterized by irregular eating patterns, high intake of 'less healthy' - processed meats, refined grains, fried and processed foods containing sugar, salt and fat<sup>29, 30</sup> and low intake of 'healthy foods' - fruit and vegetables<sup>31</sup>, nuts, and seeds<sup>32</sup>. Due to the constant development in understanding of the roles that foods play in health and disease, the definition of a 'healthy diet' continues to evolve<sup>33</sup>. Yet, the adverse health outcomes linked to poor diet continue to rise, including escalating rates of overweight and obesity (currently 64% of the UK adult population are overweight or obese), type 2 diabetes, cardiovascular diseases, and some cancers<sup>34-36</sup>. Indeed, 15.5% of Western European deaths are known to have been attributed

to poor dietary habits alone<sup>34</sup>. Furthermore, strong evidence supports the role diet and nutrition plays in affecting mental health outcomes<sup>37, 38</sup> often due to 'marginalization' and social isolation.

How a healthy diet links to a sustainable diet is of key importance. Strong evidence shows that the Greenhouse gas emissions of the average UK diets are reported to be higher than the whole European Union average<sup>28</sup>. This Scheelbeek study analyzed the UK Eat Well Guide<sup>39</sup> and found that if the population could adopt this way of eating, the overall carbon footprint would be reduced by almost a third as well as improvements in mortality risks from diet related diseases<sup>28</sup>. But this same study also showed very low adherence to the Eatwell guide, with less than 1% of the UK population adhering to all nine of the recommendations. The value of how food choices are influenced by such socio-cultural factors are vital considerations for health practitioners and policy makers<sup>24</sup> to better understand food system sustainability.

### *iii) Dietary impact of socio-demographic characteristics*

~~What's more,~~ Dietary patterns are strongly associated with sociodemographic characteristics<sup>40</sup> with lower sociodemographic groups ~~suggested as~~ being less likely to consume diets aligned with public health guidance<sup>41</sup>. According to the National Diet and Nutrition Survey (NDNS), when compared with more affluent households, less affluent households consume fewer fruit and vegetables (2.7 portions per day compared to 4.3 portions per day) and less fish (12g compared to 21 g per week). Similarly, sugar-sweetened soft drinks consumption (108g per day) is high in less affluent households<sup>42</sup> which is several times higher than the recommended intake for health<sup>43</sup>. These findings support evidence suggesting UK less affluent communities are failing to eat healthy diets.

Socially and economically disadvantaged communities can be defined as 'individuals and families at risk of food and housing insecurity, often culturally diverse, who can experience multiple challenges; financial, mental health, physical health'<sup>1</sup>. Such communities are particularly at risk of food insecurity due to their inability to afford healthier foods<sup>44, 45</sup>. Food access, quality and quantity are significant social determinants of health and there remains a lack of understanding about what underpins food choices (or lack of choices) in such

communities<sup>46-48</sup>. This is because multiple and complex factors underpin food consumption patterns such as: low income<sup>49</sup>, homelessness<sup>50</sup>, drug and alcohol addictions<sup>51</sup>, lack of nutritional knowledge and life skills such as such as food preparation, cooking and shopping<sup>52</sup> and limited cooking facilities<sup>53</sup>. Moreover, the food experiences of socially excluded adults vary widely with individual circumstance<sup>54</sup>, further accentuating the complexity of this topic. Although keen to improve their diets, socially and economically disadvantaged communities are often prevented from doing so by barriers such as poor access to affordable and healthy fresh produce<sup>55</sup>. Indeed, structural factors<sup>56</sup> and the food environment are known to play a key role in food/nutrition inequities, with disadvantaged communities having compromised access to and availability of healthier foods<sup>57</sup> and higher availability of low quality, highly obesogenic foods<sup>58</sup> e.g. hot food takeaways<sup>59</sup> and convenience offerings<sup>60</sup>. For this reason, disadvantaged communities are often treated as powerless recipients of dietary and health initiatives or as ‘choiceless’ consumers within food supply chains.

#### *iv) (Diet-related) social and economic inequities*

More recently, socially, and economically disadvantaged communities have faced further challenges due to the coronavirus pandemic and now the cost-of-living crisis<sup>61</sup>, which is exacerbating affordability issues<sup>62</sup>, coupled with escalating risk of food insecurity<sup>63</sup>. This means enhanced potential for physical and mental health concerns. Food insecurity is more than just an economic issue; however, it is also driven by social determinants. Inequalities in diets contribute to overall health inequalities<sup>64</sup> and are key preventable risk factors to ill health. Health inequalities arise because of the conditions in which we are born, grow, live work<sup>65</sup>. This aligns with evidence on the state of equality and human rights in England<sup>66</sup> highlighting geographical variation in life expectancy and health, supporting lack of fairness across England. Covid-19 had a stark impact on nutrition<sup>67</sup> and exposed widening inequalities in the UK food system<sup>68</sup>. Indeed inequity, as a known cause of malnutrition, was found to be linked to worse COVID outcomes<sup>69</sup>. There exists a growing recognition of unequal nutritional health and fragmented/insufficient welfare provision, particularly affecting vulnerable individuals, e.g., unemployed, households with children, people with health conditions and disabilities<sup>70</sup> and most notably ethnic minority groups, illuminating

stark racial disparities<sup>71</sup>. Consequently, there are short term and longer terms implications for wellbeing and equity<sup>65</sup>.

When it comes to diet and nutrition, in terms of their measurement, Dowler<sup>72</sup> confirmed a lack of UK research on the food and nutritional experience of individuals whose circumstances fall outside official surveys. Indeed, traditionally quantitative datasets (i.e. using dietary survey methodologies, such as NDNS outlined above) are the predominant source of information about UK diets<sup>73</sup> yet it is known that such datasets may mis-represent the diets in disadvantaged communities because sub-sample sizes are small<sup>74</sup> and they fail to consider the wider structural perspectives<sup>75</sup>. Interventions addressing individual factors and physical environments are necessary cornerstones for dietary reform but on their own are insufficient to bring about the large-scale social and system changes needed to fully respond to sustainability challenges<sup>9</sup>. Recent qualitative scoping review evidence highlights the need for food systems research to focus more on macro/structural factors, such as the nuances of socio-economic interactions and affordability and access issues<sup>56</sup>. The same review highlights the need to take a systems-thinking approach, embrace new theoretical perspectives and adopt innovative ‘co-production’ methods to support food system transformation and amplify community voices to build resilience, resourcefulness, and community capital.

## **The need for (socially driven) food system transformation**

As illustrated above, our dietary behaviours and the way we have developed and operate food systems are contributing to the disruption of ecological systems that are crucial to sustainability. The consequences of this disruption are profound and include adverse impacts on food security<sup>76</sup>, nutritional quality<sup>77</sup>, variety, food safety<sup>78</sup> and ultimately public health nutrition<sup>9</sup>. Not to mention the quality of lives of those producing the food, especially in resource-poor settings<sup>12</sup>. The need for urgent action is critical – action to remove the causes of the problem(s), build resilience to the problem(s) and treat the symptoms of the problem(s). Equitable dietary and food system change is needed at scale, and to do this, a multi-criteria approach is warranted, one that gives equal weight to nutrition and public health, the environment, socio-cultural issues, food quality, economics, and governance<sup>15</sup>.

The fact that diet-related inequalities continue to widen, and the food system is implicated in this, points to the need for urgent food system transformation<sup>79</sup> but it is highly complex (and political!). Indeed, Haerlin<sup>80</sup> highlights the scope and complexity of this task calling for a paradigm shift integrating the “*previously segregated sectors of production, processing, trade, consumption, environmental assessment, and health, as well as knowledge systems.*” In response to increasing social inequality, the government’s recent Levelling up agenda<sup>81</sup> purports to highlight ‘social capital’ (i.e. the strength of community’s relationships and trust) as one of their key drivers and priorities. However, there is debate around the nature of the term ‘social capital’<sup>82</sup>, and the levelling up agenda has been critiqued by researchers as unrealistic with limited potential to reduce health inequalities<sup>83, 84</sup>. Despite this, the proposed agenda aligns with the ‘social sustainability’ pillar [mentioned above] and supports the need to engage the communities within the food system that serves them<sup>85</sup>. This translates into working more closely *with* local people in their communities, empowering and enabling them to drive the change required, whilst also acknowledging power and the political landscape<sup>86</sup>. Thus, tackling the reality of community members often feeling like powerless recipients of dietary and health initiatives or as ‘choiceless’ consumers within food supply chains.

The vision *should be*, therefore, for a food system where the values of health, society and the ecosystem are of equal importance<sup>7</sup>. Critical food justice scholars use a more expansive lens to suggest that a ‘bottom-up’ democratized food system is needed<sup>85</sup>. This requires systemic change that embraces diversity and respects the variability in foodways (‘choices’) within our society. This would also embrace the proposed problem-solving scientific approaches of ‘new nutrition science’ coupled with compassion, socio-economics and a planetary perspective<sup>11</sup>. Such a model would liberate both the underrepresented and underserved, advocating *with* rather than *for* less affluent communities, as well as the elite, and result in more equitable and lasting solutions to complex social problems in the food system<sup>87</sup>. Engaging citizens in the complex food connections that shape their wellbeing is, however, challenging. Roe and Buser<sup>88</sup> argue the need for arts-based participatory activities, formed through food’s agentic potential, to support collaborative ecological citizenship. In a way, using creative food activities as a means for enhancing and rebuilding self-organizing community capacity<sup>89</sup>.

## **Creative community food system solutions**

There is an urgent need to ‘get creative’ with the way we tackle social and nutritional inequalities. Indeed, *“health inequalities should be addressed via processes that allow marginalised groups to have a ‘seat at the table’ and a real voice in decisions affecting their lives”*<sup>90</sup>. Community participation is believed to hold a number of benefits, including the incorporation of local knowledge in planning, generation of greater support for and sustainability of local actions and consistency with democratic values<sup>91</sup>. Community engagement interventions have been shown to improve health behaviours and self-efficacy<sup>92</sup> and co-production approaches can, if carried out comprehensively, radically redistribute power within the research process<sup>93</sup>. Participation in food/nutrition projects in particular can build trust, self-esteem and improve food skills<sup>94-96</sup>. The inherently social activity of engagement with food combines positive health outcomes with other cultural activities, such as the arts<sup>97</sup>. Creative expression has the potential to engage individuals in personal and community-level change through reflection, empowerment, and connectedness<sup>98</sup>. This suggests that novel methods (with food) can be seen as ‘co-creative’ in empowering people to re-connect with their food which might have the potential to lead to transformative food discourses<sup>96, 99</sup>. Such suggestions form important building blocks of cohesion and social capital and are therefore worthy of investigation.

Participatory research methods are geared towards planning and conducting the research process *with* those people whose life-world and meaningful actions are under study<sup>100</sup>. Participatory Action Research (PAR) specifically is defined as a *“systematic inquiry, with the participation of those affected by the problem, for the purposes of education and action or affecting social change”*<sup>90, 101</sup>. PAR is a well-documented strategy to improve the situations of vulnerable people<sup>99, 102</sup>. Such creative approaches can empower communities more effectively<sup>86</sup> in research processes cultivating narratives of hope and getting people more involved in decision-making<sup>93</sup>. By challenging elite models of policy and research, they can also subvert traditional top-down expertise and professional authority in favour of more democratically inclusive and participatory quests for knowledge<sup>103</sup>. Thus, we advocate for ‘co-production’ methodologies, which are more inclusive, democratic, fair, and non-stigmatising, challenging issues of power and transparency we often see in research practices<sup>56, 86, 99</sup>.

## **Participatory methods with food**

As illustrated above, arts-based methods offer emancipatory approaches to health research with the potential to promote social justice<sup>104</sup>, challenging more traditional positivist/reductionist 'biomedical' approaches for nutrition and other health professionals. By using such creative methods of engagement, the paradigm can be shifted towards more relational and progressive socially inclusive food system research with human connection at its heart<sup>105</sup>.

Creative approaches within food research have been extensively explored. Participatory visual methods specifically are considered to be "*modes of inquiry that can engage participants and communities, eliciting evidence about their own health and well-being*"<sup>106</sup>. For example, photo elicitation methods<sup>95</sup>, which involve inserting photography and photographs into a research process in order to maximise the possibilities for empirical and ethnographic enquiry. The photograph can be a neutral third party<sup>107</sup> and can 'evoke deeper elements of consciousness than words'<sup>108</sup>. Similarly, participatory food events<sup>96</sup> can offer knowledge exchange and public engagement opportunities to build relationships and social connections. Collage (or visual mind mapping) is an important arts-based method for engagement and empowerment<sup>109, 110</sup>, which utilises sought images and objects to foster the process of de-construction in the tearing, cutting and gluing of images and objects<sup>96</sup>. Music/song communicates expressively as a deeply reflexive tool<sup>111</sup> and can, within food justice discourses, enhance political potency, "*providing meaning to express things we don't know how to articulate in words*"<sup>112</sup>. Finally, documentary film-making has a rich history in humanities research and successful documentary films use compelling stories to influence positive individual and environmental changes<sup>113</sup>. Powerful and authentic food stories can be relayed in this authentic manner, falling within the tradition of public sociology<sup>114</sup> to generate new knowledge<sup>115</sup>. These methods (and others) are known to empower a wider range of individuals to share their 'lived food experience' narratives, building relationships and corroborating 'co-production' philosophies. The deeper understanding that emerges from close attention being paid to hearing and interpreting people's food stories through such creative methods, can offer alternative ways to understand the lived experience of food insecurity<sup>116</sup> and build a more collective voice that can democratise the food system<sup>85</sup>.



Another participatory approach that is emerging within the food system transformation space is the use of *community food researchers* to support research endeavours. The remainder of this paper will critique this as *one example* of a model to achieve positive outcomes.

### **Situating the community food researcher model**

Within participatory research methods, many researchers have attempted to quantify levels of public participation, for example with scoring systems<sup>117, 118</sup>, and visualisation as a spectrum<sup>119</sup> [figure 1] or citizen participation ladder<sup>120</sup>. Questions are also asked on whether the participation is 'genuine'<sup>121</sup> and who actually has rights within research decision-making processes<sup>100</sup>. This is about how research processes are done and who does what within them.

### **Figure 1 here**

The community researcher model attempts to sit within the parts of the spectrum where community members collaborate or are empowered<sup>86</sup>. This is enacted by them taking researcher roles and co-delivering research [figure 1]. Community researchers are normally 'peers' to those being researched<sup>123</sup>, usually due to geographical proximity or shared characteristics or experiences. For example, people who use drugs<sup>124</sup> or cancer survivors<sup>125</sup>.

Across different disciplines and geographic regions, there are many models and terms used for participatory research<sup>126</sup>. For example: Participatory Action Research (PAR)<sup>127, 128</sup> as already discussed; Community-Based Participatory Research (CBPR)<sup>126</sup>; Community-Based Research<sup>129, 130</sup>, and Co-Production<sup>131, 132</sup>. All of these models aim to engage non-academic stakeholders in knowledge production processes, but the roles given, and engagement methods vary widely. In fact, even those using the same terminologies may implement delivery very differently<sup>132-134</sup>. Thus, by instating the community members as 'researchers', projects make a statement of *intent* in terms of engagement. Other terms with similar intent include peer researchers<sup>124, 135</sup>, and co-investigators<sup>136</sup>.

Benefits of working with community researchers include the social capital brought to the project by their community knowledge and embeddedness<sup>137</sup>. As they are insiders, they can gain the access and trust required to carry out effective research<sup>138</sup>, and support in developing accessible language and culturally safe research practices<sup>139</sup>. There are also benefits for those who take the role of community researcher, such as developing new skills and expanding their social network<sup>138, 140</sup>; increased self-confidence and self-efficacy<sup>140, 141</sup> and personal lifestyle changes or progression to further opportunities<sup>141</sup>.

Nonetheless, engaging community researchers brings novel practical and ethical challenges and considerations<sup>96</sup>. Community Researcher relationships to the 'community' they are researching are variable<sup>123</sup>. They may have personal relationships with those they are researching, creating potential for coercion and conflicts of interest<sup>142</sup>. Similarly, they may also be emotionally triggered by topics for which they have personal experience. These phenomena have been called 'cultural proximity'<sup>143, 144</sup>. Challenges also arise when working in 'physical proximity' to domains controlled by the target research participants, including conflicts between keeping themselves safe, a sense of duty to help others (relational ethics) and research norms<sup>145</sup>. During research delivery they must navigate shifting identities and competing priorities<sup>146</sup>, and tensions can exist between different lines of accountability<sup>147</sup>. Gaining increased knowledge about their community through research can also be experienced as a burden<sup>138</sup>.

Given these complexities and the known power asymmetries within the food system<sup>148, 149</sup>, there is a need for careful consideration of community research design and process. For example, including appropriate emotional and peer support for community researchers<sup>123</sup> and 'wrap up' activities to create closure at the end of initiatives<sup>142</sup>. Role specific training is also essential to prepare peer researchers for group facilitation, for example counselling sessions<sup>151</sup> and exploration of challenges and tensions of the 'insider research role', such as conflicts of interest and confidentiality<sup>142</sup>. Furthermore, it is important to remember Community Researchers have varied backgrounds and motivations<sup>147, 152</sup>. To reflect these varied learning styles, training should offer different types of value, and the research design include next steps for the Community Researchers to progress with their new skills<sup>123</sup>. Training can also be a space for power dynamics to be re-written, if intentionally delivered to facilitate this<sup>123</sup>. For example, by demystifying academic terms, community researchers

can be enabled to have more input into the process<sup>123</sup>. Existing inequalities can also be worsened if certain communities or stakeholders are excluded, so barriers to participation must be addressed, including social, logistical, financial, and cultural<sup>147</sup>. As use of these techniques grows, giving research attention to aspects of process will be crucial, for example exploring outcomes for and experiences of participants<sup>150</sup>.

It is clear that the community researcher model has powerful potential to support community centred action and perhaps also to tackle the identified food system problems. But this model has not been extensively explored to date in the context of food system transformation research. As well as the [disputed] 'levelling up' agenda, recent government led funding (UKRI Strategic Priorities Fund Transforming the UK Food Systems (TUKFS) programme of work) has been realized to create an active 'Community of Practice' across food system researchers to address the 'broken' food system<sup>153</sup>.

### **Food Systems Equality (FoodSEqual) – a community food researcher model example of good practice**

One of the funded consortium projects is the Food Systems Equality (FoodSEqual) project<sup>1</sup>, which aims to 'co-produce healthy and sustainable food systems for disadvantaged communities'. The project focusses on innovating food products, food supply chains and food policies for a more sustainable food system. The most important aspect of the project, however, is putting 'community' at its heart, so that change can be catalysed by the communities themselves. The project has set up and run community food researcher models in four geographical urban areas in England to support the research project and adhere to its co-production philosophies. Co-production has core values relating to i) 'being human'; ii) inclusivity (participation) iii) transparency (sharing of power) and iv) challenging the status quo<sup>154</sup>. Central to FoodSEqual's model of engagement and co-production are four local sites or research hubs hosting trans-disciplinary research teams comprising community researchers, academic researchers and community partners and practitioners<sup>1, 155</sup>.

The following account critiques the set up and training of a group of community food researchers within an urban geographic community in the Southwest of England, with the

aim of facilitating the group to participate in research processes in their local community and within the wider FoodSEqual research team.

The potential benefits and complexities for individual community members participating in research have already been discussed above and include the development of personal and social capital<sup>89</sup>, clear 'insider, outsider' positions<sup>156</sup>, and recognition of power relations between community researchers and academic researchers as dynamic and contingent<sup>156</sup>. The (co)development of a framework of training and support which can respond appropriately to the local context and the individual and collective needs of this group<sup>93, 123</sup> is therefore a key focus for this group.

Project resources have created capacity within the community partner<sup>155</sup>, a local food partnership and network, which acts as a community liaison, utilising existing knowledge and relationships to facilitate the engagement of community researchers at a local 'Wellbeing Hub' - a provider of low cost and emergency food, health services and a focal point for community activity in the area. Such organisations are identified as assets for community research endeavours: comprising physical and social and relational<sup>85</sup> spaces and knowledge of local issues, creating the potential to galvanise around shared values and goals<sup>89</sup> and as such are understood to play an important role in shaping determinants of health<sup>81</sup>.

A series of participatory recruitment events at the Wellbeing Hub were advertised using flyers and social media as invitations to informal (creative) discussions about local food issues in a relaxed and social environment<sup>109, 157</sup>. These events provided the preliminary framework to introduce the idea of community (food) research and the aims of the FoodSEqual project to potential community researchers, many with existing roles and connections to local food and community action<sup>155</sup>.

Consideration of individual circumstances and potential challenges for community researchers gathering data within their community<sup>156</sup> informed a training package, which focused on professional research skills<sup>158</sup>, the practicalities of community research up-skilling<sup>123</sup> and essential ethical practices<sup>159</sup> [informed consent, confidentiality safeguarding and managing data]. Training sessions facilitated discussion about motivations for taking part in research about the local food system and outlined fiscal support offered, an hourly

rate and expenses. Equitable compensation to remunerate community researchers is essential<sup>160</sup> to fairly acknowledge their input and expertise.

Conceptualising activity in three distinct and interlinked strands: 1) learning and personal development of community researchers; 2) actual research activities and 3) community-based creative events, has offered flexibility<sup>161</sup>. Indeed, this approach provides varied entry points into the co-research process supporting diverse interests, individual capacities and learning styles whilst maintaining an important dialogue with local context and priorities<sup>89</sup> all of which are essential drivers of FoodSEqual project processual deliverables.

Creating different 'spaces' to meet and learn<sup>109, 157</sup> has enabled training sessions to be focussed - weekly 'catch ups' at the community base as well as more formal team meetings at the University support learning and social interaction in different settings, building relationships<sup>162</sup> and confidence<sup>123</sup> across the team. Developing practice of ongoing debriefing, reflection, and reflexivity<sup>163</sup> will address emerging questions from community researchers<sup>156</sup> and provide depth of learning about the different skills and types of labour involved in supporting community researchers within this highly complex shared learning process<sup>138, 144</sup>.

Training in research skills has supported the co-design of appropriate participatory research tools<sup>157</sup> and strategies for gathering data within local research workshops and for the meaningful participatory analysis<sup>164</sup> and presentation of that data<sup>165</sup>. Foregrounding creative and participatory approaches throughout all aspects of the research process, by integrating drawing and making within research activities and analysis<sup>157</sup>, diverse learning and communication preferences and inclusion in the research process are supported, for community researchers, workshop participants and potential audiences for research outputs<sup>166</sup>.

Opportunities to co-design informal and social community-based activities are welcomed and prioritised by community researchers, in line with Blake<sup>89</sup>. This includes programming monthly drop in *Breakfast Meet Ups*, foraging walks in the local woods, a *Cream Tea* event and creation of a *Community Cookbook*<sup>155</sup>, facilitating local engagement with and mediation of the FoodSEqual project and its aims<sup>1</sup>.

## Applying the community food researcher model within food system transformation

Using the FoodSEqual project's development of the community food researcher model as an exemplar, the team have learnt and reflected on the benefits of this type of model to support its potential to facilitate food system transformation. We appreciate this is *one example* of good practice, and others also exist. Five key reflective learnings are appraised below, with practice insights and critical considerations offering recommendations for readers, researchers, and practitioners, enabling them to better understand and put into practice if/when using similar approaches. See table 1 for further details.

- 1) **'Knowledge'** matters and is crucial to societies<sup>167</sup>. This is a well-known aspect of co-production whereby there exists shared learning and skills development. With the community food researcher model approach comes the opportunity to explore knowledge mobilisation to address the complex nature of contemporary sustainability challenges better than more traditional approaches<sup>168</sup> as well as power relations inherent in research practices<sup>86, 167</sup>. Similarly, the sharing of knowledge and dialogue are essential expressions of the lived experience of poverty towards political change and transformation<sup>169</sup>. This also links to related themes of capability, agency, and empowerment<sup>123, 156</sup>, some of which have already been discussed. There is a known historical contextual definition that links poverty with 'capability deprivation'<sup>170</sup>. What's more, engagement in an occupation (in this case a food system project) is important for the development of self-concept, self-identity health and well-being<sup>171</sup>. The community food researcher model, therefore, aligns with other inclusive models such as the 'social cooperative model'<sup>172</sup> because it offers skills development (and potentially employability) opportunities which might address individual determinants of poverty (e.g. social abilities) as well as infrastructural factors<sup>56</sup>. In this context, therefore, transfer of knowledge can more authentically support and facilitate relationship building.
- 2) **Relationship building** is a vital part of collaboration and connection and has been a visible ongoing outcome of the FoodSEqual community food researcher model to date. Relationships can be facilitated by shared identities, support, reciprocity and

trust<sup>174</sup>. For the paradigm to be shifted towards more relational and transformative socially inclusive food (system) research, human connection<sup>105</sup> and community assets need to be placed at its heart<sup>167</sup>. This chimes with the principles of Asset-based Community Development<sup>175</sup> and ‘human learning systems’<sup>176</sup> which appreciate and mobilise community talents, skills, and assets, rather than focussing on problems. This can more effectively serve to address health inequalities<sup>65</sup> and improve mental health outcomes<sup>177</sup>. This not only applies to community relationships but also community-academic relationships<sup>162</sup>. The inherent issue of power dynamics is, therefore, a vital consideration within community food researcher practices<sup>86, 96, 152</sup>. Training, reflection and reflexivity are also required to deliver such approaches equitably. By acknowledging and acting on these considerations can enable community capacity building and resilience<sup>89</sup>.

- 3) **Community capacity building** is one of the intended outcomes of using an approach such as the community food researcher model. The capacity to self-organise is a vital community asset that is necessary for building resourcefulness and social sustainability<sup>89</sup>. In this manner, new pathways can be forged to more self-sustaining communities<sup>89</sup>, that can flourish and achieve their full potential as proposed by Marmot<sup>65</sup>. Here we deliberately substitute ‘resilience’ for resourcefulness. This is because although the term ‘resilience’ has been widely used recently in response to the UK’s efforts to ‘build back better’ post-COVID<sup>180, 181</sup>, it is critiqued as being defined by state agencies operating within capitalist social relations<sup>182</sup>. The concept of ‘resourcefulness’ is proposed as an alternative, which centres community agency. It is hoped that the FoodSEqual community approach will have a positive impact on this (although it is too early to say).
- 4) **Adding value to research process** is clearly recognized as a current emerging methodological push from funders<sup>139</sup>. There is a requirement for academics to meet impact and public engagement outputs as part of their research. The National Coordinating Centre for Public Engagement<sup>159</sup> describes public engagement as ‘*the myriad ways in which the activity and benefits of higher education and research can be shared with the public*’. Engagement is, by definition, a two-way process, involving interaction and listening, with the goal of generating mutual benefit. Yet this has been critiqued as being often somewhat tokenistic<sup>184</sup> and that the research

community should be more intimately and proximally associated [or entwined] with 'the public'<sup>185</sup>. The community food researcher model offers a legitimate, yet inclusive, way for researchers to achieve social impact. Investment is needed, however, to ensure that such methods are delivered effectively and with mutual benefits.

- 5) **The complexity of food system challenges** is well known<sup>186</sup>. Although often seeming overwhelming for researchers and communities, with challenges relating to conceptual and definitional diversity, changing (socio-political) structures and seeming lack of individual control over these factors<sup>176</sup>, food system research and action needs to acknowledge and embrace this complexity. Emerging food system research (such as FoodSEqual, using a community food researcher model) advocates more strongly for collaborative and co-production approaches with multiple stakeholder involvement. This goes some way to embrace the need for interdisciplinarity<sup>187</sup> or moreover transdisciplinary<sup>188, 189</sup> and considers 'systems thinking'<sup>190</sup> and intersectionality to support knowledge mobilization<sup>191</sup> within context specific interventions. In this manner, authentic social action can be facilitated, and social capital consolidated ensuring that public services can be more responsive to the needs of individuals and communities.

**Table 1 here**

## **Conclusions**

This review has demonstrated the extent of the (wicked) 'problems' that need to be tackled in relation to food system transformation for less affluent communities. As part of proposed solutions, it critiques the utility of creative co-production methods, in particular the use of the community food researcher model (explored within the FoodSEqual<sup>1</sup> project), in advocating *with* rather than *for* less affluent communities. This progressive model serves to facilitate effective human relationships that can explore better understanding of people's food narratives, lives, and contexts. Therefore, it shows real promise for positive health and wellbeing outcomes, as well as building community capacity, thus leading to more equitable and lasting solutions for food system transformation.



We acknowledge that this is *one approach* that has potential to contribute to community-led food system transformation. Other approaches exist that may contradict or challenge some of our critique of this topic. Despite this, we offer reflective learning, practice insights and critical considerations for researchers and practitioners around the importance of building such approaches in an authentic and inclusive manner, acknowledging the time and resource required to do them justice. Many concepts are given critical consideration for this purpose, such as the appreciation of power dynamics and transparency. Similarly, knowledge exchange, mobilisation and training needs are critically reviewed as essential for effective application, as well as the importance of relationships and community capacity building as core components. When applying such approaches, it is essential to recognize the building blocks of good co-production practice and the need to embrace complexity and systems thinking. We advocate for these more collaborative ways of working (embedding inter/transdisciplinarity) which can lead to enhancement for both research *and* practice, whereby social and community action can build stronger and more resourceful communities that can tackle their own food system challenges.

## **References**

1. FoodSEqual Food systems equality: Co-production of healthy, sustainable food systems for disadvantaged communities See <https://ukfoodsystems.ukri.org/research-training-reports/food-systems-equality/>.
2. McGuire, S. (2015) FAO, IFAD, and WFP. *The State of Food Insecurity in the World 2015: Meeting the 2015 International Hunger Targets: Taking Stock of Uneven Progress*. Rome: FAO, 2015, *Advances in Nutrition*. **6**, 623-624.
3. FAO The State of Food Insecurity in the World 2014: Strengthening the enabling environment for food security and nutrition See <https://reliefweb.int/report/world/state-food-insecurity-world-2014-strengthening-enabling-environment-food-security-and>.
4. Popkin, B. M. (2002) Part II. What is unique about the experience in lower-and middle-income less-industrialized countries compared with the very-high income industrialized countries?, *Public Health Nutrition*. **5**, 205-214.
5. NHS Statistics on Obesity, Physical Activity and Diet, England 2021 See <https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-obesity-physical-activity-and-diet/england-2021#>
6. Tilman, D and Clark, M. (2014) Global diets link environmental sustainability and human health, *Nature*. **515**, 518-522.
7. Carlsson, L.; Mehta, K.; Pettinger, C. (2019) *Critical Dietetics and Sustainable Food Systems*. In *Food Policy*). Springer International Publishing, 97-115.
8. Burndtland, G. H. (1987) *Report of the World Commission on Environment and Development: Our Common Future*.
9. Lawrence, M.; Burlingame, B.; Caraher, M.; et al. (2015) Public health nutrition and sustainability, *Public Health Nutrition*. **18**, 2287-2292.
10. Beauman, C.; Cannon, G.; Elmadfa, I., et al. (2005) The principles, definition and dimensions of the new nutrition science, *Public Health Nutrition*. **8**, 695-698.
11. Wahlqvist, M. L. (2005) The new nutrition science: sustainability and development, *Public Health Nutrition*. **8**, 766-772.
12. UN Transforming our world: the 2030 Agenda for Sustainable Development (2016) See <https://sdgs.un.org/2030agenda>
13. Fischer, C. G. and Garnett, T. (2014) Plates, Pyramids, Planet - Developments in national healthy and sustainable dietary guidelines: a state of play assessment See <https://www.fao.org/3/i5640e/i5640e.pdf>
14. British Dietetic Association (2018) BDA One Blue Dot - the BDA's Environmentally Sustainable Diet Project See <https://www.bda.uk.com/resource/one-blue-dot.html>

15. Mason, P. and Lang, T. (2017) *Sustainable Diets: How Ecological Nutrition can Transform Consumption and the Food System*, 1st edn. London: Routledge.
16. Willett, W.; Rockström, J.; Loken, B., et al. (2019) Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems, *The Lancet*. **393**, 447-492.
17. Schwingshackl, L.; Schwedhelm, C.; Hoffmann, G., et al. (2017) Food groups and risk of all-cause mortality: a systematic review and meta-analysis of prospective studies, *The American Journal of Clinical Nutrition*. **105**, 1562-1573.
18. WCRF (2018) Diet, Nutrition, Physical Activity and Cancer: Global Perspective. A summary of the third expert report See <https://www.wcrf.org/wp-content/uploads/2021/02/Summary-of-Third-Expert-Report-2018.pdf>
19. HLPE (2017) Nutrition and Food System: A Report by the High Level Panel of Experts on Food Security and Nutrition.). Communities on World Food Security and HLPE.
20. Parliament Postnote (2020) A Resilient UK Food system See <https://researchbriefings.files.parliament.uk/documents/POST-PN-0626/POST-PN-0626.pdf>
21. FAO-UN (2006) Food Security Policy Brief See [https://www.fao.org/fileadmin/templates/faoitally/documents/pdf/pdf\\_Food\\_Security\\_Coept\\_Note.pdf](https://www.fao.org/fileadmin/templates/faoitally/documents/pdf/pdf_Food_Security_Coept_Note.pdf)
22. Border, P. and Barnes, R. (2017) Security of UK Food Supply See <https://researchbriefings.files.parliament.uk/documents/POST-PN-0556/POST-PN-0556.pdf>
23. Coveney, J. (2014) *Food (Shortcuts)*, London: Routledge.
24. Monterrosa, E. C.; Frongillo, E. A.; Drewnowski, A.; et al (2020) Sociocultural Influences on Food Choices and Implications for Sustainable Healthy Diets, *Food and Nutrition Bulletin*. **41**, 59S-73S.
25. Leng, G.; Adan, R. A. H.; Belot, M., et al. (2017) The determinants of food choice, *Proceedings of the Nutrition Society*. **76**, 316-327.
26. Hardcastle, S. and Blake, N. (2016) Influences Underlying Food Choices in Mothers from an Economically Disadvantaged Community, *Eating Behaviours*. **20**, 1-8.
27. Swinburn, B. A.; Caterson, I.; Seidell, J. C. et al (2004) Diet, nutrition and the prevention of excess weight gain and obesity, *Public Health Nutrition*. **7**, 123-146.
28. Scheelbeek, P.; Green, R.; Papier, K., et al. (2020) Health impacts and environmental footprints of diets that meet the Eatwell Guide recommendations: analyses of multiple UK studies, *BMJ Open*. **10**, e037554.
29. Rauber, F.; Da Costa Louzada, M. L.; Steele, E. et al (2018) Ultra-Processed Food Consumption and Chronic Non-Communicable Diseases-Related Dietary Nutrient Profile in the UK (2008–2014), *Nutrients*. **10**, 587.

30. Rauber, F.; Steele, E. M.; Louzada, M. L. D. C. et al (2020) Ultra-processed food consumption and indicators of obesity in the United Kingdom population (2008-2016), *PLOS ONE*. **2020**, *15*, e0232676.
31. Salvin, J. L. and Lloyd, B. (2012) Health Benefits of Fruits and Vegetables, *Advances in Nutrition*. **3**.
32. d'Angelo, C. (2020) *Food consumption in the UK: Trends, attitudes and drivers*, Europe: RAND.
33. Cena, H. and Calder, P. C. (2020) Defining a Healthy Diet: Evidence for the Role of Contemporary Dietary Patterns in Health and Disease, *Nutrients*. **12**, 334.
34. Afshin, A.; Sur, P. J.; Fay, K. A., et al. (2019) Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017, *The Lancet*. **393**, 1958-1972.
35. Jannasch, F.; Kroger, J. and Schulze, M. B. (2017) Dietary Patterns and Type 2 Diabetes: A Systematic Literature Review and Meta-Analysis of Prospective Studies, *The Journal of Nutrition*. **147**, 1174-1182.
36. Cancer\_Research\_UK (2018) Obesity could overtake smoking as biggest preventable cause of cancer in women See <https://news.cancerresearchuk.org/2018/09/24/obesity-could-overtake-smoking-as-biggest-preventable-cause-of-cancer-in-women/>
37. Firth, J.; Gangwisch, J. E.; Borsini, A. et al (2020) Food and mood: how do diet and nutrition affect mental wellbeing?, *BMJ*. m2382.
38. Grajek, M.; Krupa-Kotara, K.; Bialek-Dratwa, A., et al. (2022) Nutrition and mental health: A review of current knowledge about the impact of diet on mental health, *Frontiers in Nutrition*. **9**.
39. Public Health England (PHE, 2016) The Eat Well guide *Government Dietary Recommendations*.
40. Roberts, K.; Cade, J.; Dawson, J. et al (2018) Empirically Derived Dietary Patterns in UK Adults Are Associated with Sociodemographic Characteristics, Lifestyle, and Diet Quality, *Nutrients*. **10**, 177.
41. Maguire, E. R. and Monsivais, P.(2015) Socio-economic dietary inequalities in UK adults: an updated picture of key food groups and nutrients from national surveillance data, *British Journal of Nutrition*. **113**, 181-189.
42. National Diet and Nutrition Survey (NDNS 2020) United Kingdom: Public Health England.
43. SACN The Scientific Advisory Committee on Nutrition (2015) recommendations on carbohydrates, including sugars and fibre See <https://www.gov.uk/government/publications/sacn-carbohydrates-and-health-report>
44. Pechey, R. and Monsivais, P. (2016) Socioeconomic inequalities in the healthiness of food choices: Exploring the contributions of food expenditures, *Preventive Medicine*. 203-209.

45. Gillies, C.; Super, S.; Te Molder, H. et al (2021) Healthy eating strategies for socioeconomically disadvantaged populations: a meta-ethnography, *International Journal of Qualitative Studies on Health and Well-being*. **16**, 1942416.
46. Graham, R.; Stolte, O.; Hodgetts, D. et al (2016) Nutritionism and the construction of 'poor choices' in families facing food insecurity, *Journal of Health Psychology*. **23**, 1863-1871.
47. Lovelace, S. and Rabiee-Khan, F.(2015) Food choices made by low-income households when feeding their pre-school children: a qualitative study, *Maternal & Child Nutrition*. **11**, 870-881.
48. Antin, T. M. J. and Hunt, G. (2012) Food choice as a multidimensional experience. A qualitative study with young African American women, *Appetite*. **58**, 856-863.
49. Hough, G. and Sosa, M. (2015) Food choice in low income populations – A review, *Food Quality and Preference*. **40**, 334-342.
50. Sprake, E. F.; Russell, J. M. and Barker, M. E. (2014) Food choice and nutrient intake amongst homeless people, *Journal of Human Nutrition and Dietetics*. **27**, 242-250.
51. Spooner, C. and Hetherington, K. (2004) Social Determinants of Drug Use See <https://ndarc.med.unsw.edu.au/sites/default/files/ndarc/resources/TR.228.pdf>
52. Pooler, J. A.; Morgan, R. E.; Wong, K. et al (2017) Cooking Matters for Adults Improves Food Resource Management Skills and Self-confidence Among Low-Income Participants, *Journal of Nutrition Education and Behavior*. **49**, 545-553.e541.
53. Oakley, A. R.; Nikolaus, C. J.; Ellison, B. et al (2019) Food insecurity and food preparation equipment in US households: exploratory results from a cross-sectional questionnaire, *Journal of Human Nutrition and Dietetics*. **32**, 143-151.
54. Burnett, R.; Hallam, C.; Kirby, B. et al (2016) Exploring food experiences and challenges in traditionally hard-to-reach adults through a cross-sectional questionnaire., *Journal of Human Nutrition and Dietetics*. **29**.
55. Wang, Y.; Touboulic, A. and O'Neill, M. (2018) An exploration of solutions for improving access to affordable fresh food with disadvantaged Welsh communities, *European Journal of Operational Research*. **268**, 1021-1039.
56. Hunt, L.; Pettinger, C.; Wagstaff, C. (2023) A critical exploration of the diets of UK disadvantaged communities to inform food systems transformation: a scoping review of qualitative research using a social practice theory lense. *BMC Public Health* 23,1970 <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-023-16804-3>.
57. Sawyer, A. D. M.; Van Lenthe, F.; Kamphuis, C. B. M., et al. (2021) Dynamics of the complex food environment underlying dietary intake in low-income groups: a systems map of associations extracted from a systematic umbrella literature review, *International Journal of Behavioral Nutrition and Physical Activity*. **18**.
58. Eskandari, F.; Lake, A. A.; Rose, K. et al (2022) A mixed-method systematic review and meta-analysis of the influences of food environments and food insecurity on obesity in high-income countries, *Food Science & Nutrition*. **10**, 3689-3723.

59. Turbutt, C.; Richardson, J. and Pettinger, C. (2019) The impact of hot food takeaways near schools in the UK on childhood obesity: a systematic review of the evidence, *Journal of Public Health*. **41**, 231-239.
60. Williamson, S.; Mcgregor-Shenton, M.; Brumble, B. et al (2017) Deprivation and healthy food access, cost and availability: a cross-sectional study, *Journal of Human Nutrition and Dietetics*. **2017**, **30**, 791-799.
61. The Food Foundation (2022) Press Release - Millions of adults missing meals as cost of living crisis bites See <https://foodfoundation.org.uk/press-release/millions-adults-missing-meals-cost-living-crisis-bites>
62. Goudie, S.; Hughes, I. The Food Foundation (2022) The Broken Plate The State of Nations Food System See [https://foodfoundation.org.uk/sites/default/files/2023-01/FF\\_Broken\\_Plate\\_Report%202022\\_DIGITAL\\_UPDATED\\_2023.pdf](https://foodfoundation.org.uk/sites/default/files/2023-01/FF_Broken_Plate_Report%202022_DIGITAL_UPDATED_2023.pdf)
63. Loopstra, R. (2020) Vulnerability of food security since the COVID-19 lockdown. Preliminary Report. ENUF and The Food Foundation.
64. Parliament Postnote (2022) Diet-related health inequalities See <https://researchbriefings.files.parliament.uk/documents/POST-PN-0686/POST-PN-0686.pdf>
65. Marmot, M.; Allen, J.; Boyce, T. et al (2020) Health Equity in England: The Marmot Review 10 years on. The Health Foundation and Institute of Health Equity.
66. EHRC (2016) Is England Fairer? The state of equality and human rights See <https://www.equalityhumanrights.com/sites/default/files/is-england-fairer-2016.pdf>
67. Rodriguez-Leyva, D. and Pierce, G. N. (2021) The Impact of Nutrition on the COVID-19 Pandemic and the Impact of the COVID-19 Pandemic on Nutrition, *Nutrients*. **13**, 1752.
68. Power, M.; Doherty, B.; Pybus, K. et al (2020) How COVID-19 has exposed inequalities in the UK food system: The case of UK food and poverty, *Emerald Open Research*. **2**, 11.
69. Nabarro, D. (2020) The Global Nutrition Report in the Context of COVID-19 See <https://globalnutritionreport.org/reports/2020-global-nutrition-report/2020-global-nutrition-report-context-covid-19/>
70. Barker, M. and Russell, J. (2020) Feeding the food insecure in Britain: learning from the 2020 COVID-19 crisis, *Food Security*. **12**, 865-870.
71. Alkon, A. H.; Bowen, S.; Kato, Y. et al (2020) Unequally vulnerable: a food justice approach to racial disparities in COVID-19 cases, *Agriculture and Human Values*. **37**, 535-536.
72. Dowler, E.(2008) Symposium on 'Intervention policies for deprived households' Policy initiatives to address low-income households' nutritional needs in the UK, *Proceedings of the Nutrition Society*. **67**, 289-300.
73. Campbell, M.; Smith, D.; Baird, J. et al (2020) A critical review of diet-related surveys in England, 1970-2018, *Archives of Public Health*. **78**.

74. Holmes, B.; Dick, K. and Nelson, M. A (2008) comparison of four dietary assessment methods in materially deprived households in England, *Public Health Nutrition*. **11**, 444-456.
75. McLaren, L. (2005) Ecological perspectives in health research, *Journal of Epidemiology & Community Health*. **59**, 6-14.
76. The world Bank. (n.d.) Food Security Update | World Bank Response to Rising Food Insecurity See <https://www.worldbank.org/en/topic/agriculture/brief/food-security-update>
77. Miller, V.; Webb, P.; Cudhea, F., et al. (2022) Global dietary quality in 185 countries from 1990 to 2018 show wide differences by nation, age, education, and urbanicity, *Nature Food*. **3**, 694-702.
78. Uyttendaele, M.; Franz, E. and Schlüter, O. (2015) Food Safety, a Global Challenge, *International Journal of Environmental Research and Public Health*. **13**, 67.
79. Dimpleby, H. (2021) National Food Strategy Independent Review: The Plan See <https://www.nationalfoodstrategy.org/wp-content/uploads/2021/07/National-Food-Strategy-The-Plan.pdf>
80. Haerlin, B. (2021) The making of a paradigm shift. In *Agriculture at a Crossroads - findings and recommendations for future farming* (Amiot, M. J., Anderson, M. D., Anderson, C. R., et al (eds.)). Online: Agriculture at a Crossroads - findings and recommendations for future farming.
81. UK Gov (2022) Government Levelling up the United Kingdom (Policy Paper) See <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>
82. Thomson, G.; Balaam, M.-C. and Hymers, K. (2015) Building social capital through breastfeeding peer support: insights from an evaluation of a voluntary breastfeeding peer support service in North-West England, *International Breastfeeding Journal*. **10**.
83. Bamba, C. (2022) Levelling up: Global examples of reducing health inequalities, *Scandinavian Journal of Public Health*. **50**, 908-913.
84. Fransham, M.; Herbertson, M.; Pop, M. et al (2023) Level best? The levelling up agenda and UK regional inequality, *Regional Studies*. 1-14.
85. Cachelin, A.; Ivkovich, L.; Jensen, P. et al (2019) Leveraging foodways for health and justice, *Local Environment*. **24**, 417-427.
86. Booth, J. (2019) Empowering Disadvantaged Communities in the UK: Missing the Potential of Co-production, *Social Change*. **49**, 276-292.
87. Moore, K. and Swisher, M. (2015) The Food Movement: Growing White Privilege, Diversity, or Empowerment?, *Journal of Agriculture, Food Systems, and Community Development*. 1-5.
88. Roe, E. and Buser, M. (2016) Becoming ecological citizens: connecting people through performance art, food matter and practices, *Cultural Geographies*. **23**, 581-598.

89. Blake, M. K. (2019) More than Just Food: Food Insecurity and Resilient Place Making through Community Self-Organising, *Sustainability*. **11**, 2942.
90. Minkler, M. (2010) Linking Science and Policy Through Community-Based Participatory Research to Study and Address Health Disparities, *American Journal of Public Health*. **100**, S81-S87.
91. Pelletier, D.; McCullum, C.; Kraak, V. et al (2003) Participation, power and beliefs shape local food and nutrition policy, *Journal of Nutrition*. **133**, 301S-304S.
92. O'Mara-Eves, A.; Brunton, G.; Oliver, S et al (2015) The effectiveness of community engagement in public health interventions for disadvantaged groups: a meta-analysis, *BMC Public Health*. **15**.
93. Thomas-Hughes, H. (2018) Ethical 'mess' in co-produced research: reflections from a U.K.-based case study, *International Journal of Social Research Methodology*. **21**, 231-242.
94. Pettinger, C. and Whitelaw, E. (2012) Food Cultures: Growing Cooking Eating - An exploration of improving food practices in young men and older adults in Plymouth - research evaluation report written for the local Department of Health funded project (Unpublished work). University of Plymouth, available at <https://pearl.plymouth.ac.uk/handle/10026.1/8125>
95. Pettinger, C.; Parsons, J. M.; Cunningham, M., et al. (2017) Engaging homeless individuals in discussion about their food experiences to optimize wellbeing: a pilot study, *Health Education Journal*. **76**, 557-568.
96. Pettinger, C.; Parsons, J. M.; Letherby, G. et al (2019) Participatory food events as collaborative public engagement opportunities, *Methodological Innovations*. **12**,
97. Stuckey, H. L. and Nobel, J. (2010) The Connection Between Art, Healing, and Public Health: A Review of Current Literature, *American Journal of Public Health*. **100**, 254-263.
98. Gray, N.; Oré De Boehm, C.; Farnsworth, A. et al (2010) Integration of Creative Expression Into Community-Based Participatory Research and Health Promotion With Native Americans, *Family & Community Health*. **33**, 186-192.
99. Pettinger, C.; Letherby, G.; Parsons, J. M., et al. (2018) Employing participatory methods to engage an under-researched group: Opportunities and challenges, *Methodological Innovations*. **11**,
100. Bergold, J. and Thomas, S. (2012) Participatory Research Methods: A Methodological Approach in Motion, *Forum Qualitative Sozialforschung Forum: Qualitative Social Research*. **13**.
101. Green, L. W.; George, M. A.; Daniel, M. et al (1995) *Study of participatory research in health promotion : review and recommendations for the development of participatory research in health promotion in Canada*, Ottawa: Royal Society of Canada.
102. Crane, P. and O-Regan, M. (2010) On PAR Using Participatory Action Research to Improve Early Intervention See <https://eprints.qut.edu.au/34301/1/34301.pdf>
103. Richardson, L. (2014) Engaging the Public in Policy Research: Are Community Researchers the Answer?, *Politics and Governance*. **2**, 32-44.



104. Fraser, K.; Brady, J. and Lordly, D. (2019) Taking Social Justice to a Different Stage, *Critical Dietetics*. **4**, 18-27.
105. Cottam, H. (2018) *Radical Help: How We Can Remake the Relationships Between Us and Revolutionize the Welfare state*, London: Virago Press.
106. Mitchell, C. M. and Sommer, M. (2016) Participatory visual methodologies in global public health, *Global Public Health*. **11**, 521-527.
107. Schulze, S. (2010) The usefulness of reflexive photography for qualitative research: A case study in higher education, *South African Journal of Higher Education*. **21**.
108. Harper, D. (2002) Talking about pictures: A case for photo elicitation, *Visual Studies*. **17**, 13-26.
109. Wheeler, B. (2018) Non-prescribed spaces, creativity and narrative formation: a systems-based examination of a community art group exploring food poverty, *Ethnography and Education*. **13**, 359-376.
110. Flint, P.; Pettinger, C.; Schoen, V., et al. (2016) Using the Arts for Food Research and Dialogue See <https://foodresearch.org.uk/wp-content/uploads/sites/8/2017/03/Using-the-Arts-for-Food-Research-and-Dialogue-FINAL-.pdf>
111. Pettinger, C.(2021) A Creative Response to Food Issues during the COVID19 lockdown: Singing Out the Anger, *Journal of Critical Dietetics*. **5**.
112. Douglas, K.(2016) Song Writing as Reflexive Practice, *Qualitative Inquiry*. **22**, 798-802.
113. Brandt, H. M.; Freedman, D. A.; Friedman, D. B., et al. (2016) Planting Healthy Roots, *Family & Community Health*. **39**, 242-250.
114. Burawoy, M. (2005) 2004 American Sociological Association Presidential address: For public sociology\*, *The British Journal of Sociology*. **56**, 259-294.
115. Pettinger, C and Elwood, J. (2023) Food on the Margins: A Creative Film Collaboration to amplify the Voices of Those Living with Food Insecurity. *Sociological Research Online* 0(0) (Beyond the text special issue) - <https://journals.sagepub.com/doi/10.1177/13607804231182005>
116. O’Kane, G. and Pamphilon, B. (2016) The importance of stories in understanding people’s relationship to food: narrative inquiry methodology has much to offer the public health nutrition researcher and practitioner, *Public Health Nutrition*. **19**, 585-592.
117. Khodyakov, D.; Stockdale, S.; Jones, A. et al (2013) On Measuring Community Participation in Research, *Health Education & Behavior*. **40**, 346-354.
118. Johnson, C. R. S.; Diaz, A. E. K. and Arcury, A. E. (2016) Participation levels in 25 Community-based participatory research projects, *Health Education Research*. **31**, 577-586.
119. IAP2 (n.d.) IAP2 Public Participation Spectrum See <https://iap2.org.au/resources/spectrum/>

120. Arnstein, S. R. A (2019) Ladder of Citizen Participation, *Journal of the American Planning Association*. **85**, 24-34.
121. Jagosh, J.; Bush, P. L.; Salsberg, J., et al. (2015) A realist evaluation of community-based participatory research: partnership synergy, trust building and related ripple effects, *BMC Public Health*. **15**.
122. Vaughn, L. M. and Jacquez, F. (2020) Participatory Research Methods – Choice Points in the Research Process, *Journal of Participatory Research Methods*. **1**.
123. Thomas-Hughes, H. and Brake, J. (2018) Community Researchers and Community Researcher Training: Reflections from the UK's Productive Margin' s: Regulating for Engagement Programme, *Bristol Law Research Paper Series*. 1-24.
124. Damon, W.; Callon, C.; Wiebe, L. et al (2017) Community-based participatory research in a heavily researched inner city neighbourhood: Perspectives of people who use drugs on their experiences as peer researchers, *Social Science & Medicine*. **176**, 85-92.
125. Mosavel, M. and Sanders, K. D. (2014) Community-Engaged Research: Cancer Survivors as Community Researchers, *Journal of Empirical Research on Human Research Ethics*. **9**, 74-78.
126. Minkler, M. (2008) *Community-Based Participatory Research for Health: From Process to Outcomes*, 2nd edn.: John Wiley & Sons.
127. Fals-Borda, O. (1987) The Application of Participatory Action-Research in Latin America *International Sociology*. **2**.
128. Fals-Borda, O. and Rahman, M. A. (1999) *Action and knowledge : breaking the monopoly with participatory action-research*, London: Apex Press.
129. Israel, B. A.; Schulz, A. J.; Parker, E. A. et al (1998) REVIEW OF COMMUNITY-BASED RESEARCH: Assessing Partnership Approaches to Improve Public Health, *Annual Review of Public Health*. **19**, 173-202.
130. Caine, V. and Mill, J. (2016) *Essentials of Community-based research*, 1st edn. New York: Routledge.
131. Ostrom, E. (1978) Citizen Participation and Policing: What Do We Know?, *Nonprofit and Voluntary Sector Quarterly*. **7**.
132. Smith, B.; Williams, O.; Bone, L. et al (2023) Co-production: A resource to guide co-producing research in the sport, exercise, and health sciences, *Qualitative Research in Sport, Exercise and Health*. **15**, 159-187.
133. Hoekstra, F.; Mrklas, K. J.; Khan, M., et al. (2020) A review of reviews on principles, strategies, outcomes and impacts of research partnerships approaches: a first step in synthesizing the research partnership literature, *Health Research Policy and Systems*. **18**.
134. Masterson, D.; Areskoug Josefsson, K.; Robert, G. et al (2022) Mapping definitions of co-production and co-design in health and social care: A systematic scoping review providing lessons for the future, *Health Expectations*. **25**, 902-913.

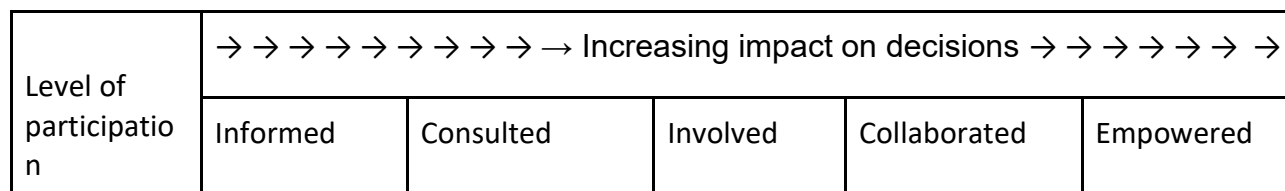
135. Guta, A.; Flicker, S. and Roche, B. (2013) Governing through community allegiance: a qualitative examination of peer research in community-based participatory research, *Critical Public Health*. **23**, 432-451.
136. Wallerstein, N. (1992) Powerlessness, Empowerment, and health implications for health promotion programs, *American Journal of Health Promotion*.**6**, 197-205.
137. Mosavel, M.; Henderson, A.; Beck-Berman, R. et al (2022) The WE Project Partnership: The Role and Scope of Community Researchers, *Collaborations: A Journal of Community-Based Research and Practice*. **5**.
138. Salway, S.; Chowbey, P.; Such, E. et al (2015) Researching health inequalities with Community Researchers: practical, methodological and ethical challenges of an 'inclusive' research approach, *Research Involvement and Engagement*. **1**.
139. Hearn, F.; Biggs, L.; Brown, S., et al. (2022) Having a Say in Research Directions: The Role of Community Researchers in Participatory Research with Communities of Refugee and Migrant Background, *International Journal of Environmental Research and Public Health*. **19**, 4844.
140. Vaughn, L. M.; Jacquez, F. and Zhen-Duan, J. (2018) Perspectives of Community Co-Researchers About Group Dynamics and Equitable Partnership Within a Community–Academic Research Team, *Health Education & Behavior*. **45**, 682-689.
141. Rodríguez Espinosa, P.; Sussman, A.; Pearson, C. R. et al (2020) Personal Outcomes in Community-based Participatory Research Partnerships: A Cross-site Mixed Methods Study, *American Journal of Community Psychology*. **66**, 439-449.
142. Flicker, S.; Roche, B. and Guta, A. (2010) Peer Research in Action III: Ethical Issues See [https://www.wellesleyinstitute.com/wp-content/uploads/2011/02/Ethical\\_Issues\\_WEB.pdf](https://www.wellesleyinstitute.com/wp-content/uploads/2011/02/Ethical_Issues_WEB.pdf)
143. Simon, C. and Mosavel, M. (2010) Community Members as Recruiters of Human Subjects: Ethical Considerations, *The American Journal of Bioethics*. **10**, 3-11.
144. Mosavel, M.; Ahmed, R.; Daniels, D. et al (2011) Community researchers conducting health disparities research: Ethical and other insights from fieldwork journaling, *Social Science & Medicine*. **73**, 145-152.
145. Richman, K. A., Alexander, L. B. and True, G. (2012) Proximity, Ethical Dilemmas, and Community Research Workers, *American Journal of Bioethics*. **3**, 19-29.
146. True, G.; Alexander, L. B. and Fisher, C. B. (2017) Supporting the role of community members employed as research staff: Perspectives of community researchers working in addiction research, *Social Science & Medicine*. **187**, 67-75.
147. Facer, K. and Enright, B. (2016) Creating Living Knowledge: The Connected Communities Programme, community-university partnerships and the participatory turn in the production of knowledge. Arts and Humanities Research Council See [https://research-information.bris.ac.uk/files/75082783/FINAL\\_FINAL\\_CC\\_Creating\\_Living\\_Knowledge\\_Report.pdf](https://research-information.bris.ac.uk/files/75082783/FINAL_FINAL_CC_Creating_Living_Knowledge_Report.pdf).
148. Clapp, J. (2021) The problem with growing corporate concentration and power in the global food system, *Nature Food*. **2**, 404-408.

149. IPES-Food (2019) *Towards a common food policy for the European Union*. See [https://www.ipes-food.org/\\_img/upload/files/CFP\\_FullReport.pdf](https://www.ipes-food.org/_img/upload/files/CFP_FullReport.pdf)
150. Gardiner, H.; Pettinger, C.; Hunt, L. et al (2023) Engaging citizens as co-researchers in knowledge co-production for food systems transformation: a scoping review focused on high income countries. In *OSF - Protocol for a scoping Review*. See <https://osf.io/69ts4>
151. Logie, C.; James, L.; Tharao, W. et al (2012) Opportunities, ethical challenges, and lessons learned from working with peer research assistants in a multi-method HIV community-based research study in Ontario, Canada, *Journal of Empirical Research on Human Research Ethics*. **7**, 10-19.
152. Thomas-Hughes, H. (2018) *Critical Conversations with Community researchers: Making Co-production Happen?* Bristol: University of Bristol, AHRC. [https://research-information.bris.ac.uk/files/350615050/Thomas\\_Hughes\\_2018\\_Critical\\_Conversations\\_with\\_Community\\_Researchers\\_Making\\_Co\\_Production\\_Happen.pdf](https://research-information.bris.ac.uk/files/350615050/Thomas_Hughes_2018_Critical_Conversations_with_Community_Researchers_Making_Co_Production_Happen.pdf)
153. UKRI Transforming UK Food Systems (TUKFS) Strategies Priorities Fund (2020) See <https://ukfoodsystems.ukri.org/>
154. Co-Production Collective (n.d.) *Co-Production Change Together* See <https://www.coproductioncollective.co.uk/>
155. Food Plymouth (2022) A team of six community food researchers and working with FoodSEqual in Whitleigh, Plymouth. Blog post - See <https://foodplymouth.org/a-team-of-six-community-food-researchers-are-working-with-foodsequal-in-whitleigh-plymouth/>
156. Alexander, C. and Rosalind, E. (2011) Researching with peer/community researchers - ambivalences and tensions. In *The SAGE Handbook of Innovation in Social Research Methods* Eds M Williams, WP Vogt). London, GB: SAGE Publications, 269-292.
157. Food Plymouth (2021) *Food Equality Creative Methods Toolkit* See <https://foodplymouth.org/actions/food-equality-toolkit/>
158. Digirolamo, A.; Geller, A. C.; Tendulkar, S. A. et al (2012) Community-Based Participatory Research Skills and Training Needs in a Sample of Academic Researchers from a Clinical and Translational Science Center in the Northeast, *Clinical and Translational Science*. **5**, 301-305.
159. NCCPE (2012) *Community-Based Participatory Research - A guide to ethical principles and practices.* National Co-ordinating Center for Public Engagement.
160. Black, R. E.; Victora, C. G.; Walker, S. P., et al. (2013) Maternal and child undernutrition and overweight in low-income and middle-income countries, *The Lancet*. **382**, 427-451.
161. Minkler, M. (2004) Ethical challenges for the "outside" researcher in community-based participatory research, *Health Education and Behaviour*. **31**, 684-697.
162. Chak, C. M. (2018) Literature Review on Relationship Building for Community-academic Collaboration in Health Research and Innovation, *MATEC Web of Conferences*. **215**, 02002.

163. Olmos-Vega, F. M.; Stalmeijer, R. E.; Varpio, L. ET AL (2023) A practical guide to reflexivity in qualitative research: AMEE Guide No. 149, *Medical Teacher*. **45**, 241-251.
164. Nind, M. (2011) Participatory data analysis: a step too far?, *Qualitative Research*. **11**.
165. Liebenberg, L. (2018) Thinking Critically About Photovoice, *International Journal of Qualitative Methods*. **17**, 160940691875763.
166. Fitzgerald, H.; Stride, A. and Enright, E. (2021) Messy methods: Making sense of participatory research with young people in PE and sport, *European Physical Education Review*. **27**, 421-435.
167. Campbell, H. and Vanderhoven, D. (2016) Knowledge That matters: Realising the Potential of Co-Production, *N8 Research Partnership*.
168. Norström, A. V.; Cvitanovic, C.; Löf, M. F., et al. (2020) Principles for knowledge co-production in sustainability research, *Nature Sustainability*. **3**, 182-190.
169. Freire, P. (2017) *Pedagogy of the Oppressed*: Penguin Classics.
170. Sen, A. (2000) *Social Exclusion: Concept, Application and Scrutiny* - social development papers No. 1. See <https://www.adb.org/sites/default/files/publication/29778/social-exclusion.pdf>
171. Chard, G.; Faulkner, T. and Chugg, A. (2009) Exploring Occupation and its Meaning among Homeless Men, *The British Journal of Occupational Therapy*. **72**, 116-124.
172. Villotti, P.; Zaniboni, S. and Fraccaroli, F. (2014) Social Cooperatives in Italy, *L'encephale*. **40**, S57-65.
173. Macgregor, S.; Cooper, A.; Searle, M. et al (2022) Co-production and arts-informed inquiry as creative power for knowledge mobilisation, *Evidence & Policy*. **18**, 206-235.
174. Colistra, C.; Bixler, R. and Schmalz, D. (2019) Exploring factors that contribute to relationship building in a community center, *Journal of Leisure Research*. **50**, 1-17.
175. IDeA (2010) A glass half-full: how an asset approach can improve community health and wellbeing See <https://www.local.gov.uk/sites/default/files/documents/glass-half-full-how-asset-3db.pdf>
176. Human Learning System (n.d) See <https://www.humanlearning.systems/>
177. Southby, K.; Bidey, T.; Grimes, D. et al (2022) Together through tough times: a qualitative study of community resilience to protect against mental health issues in the UK, *Journal of Public Mental Health*. **21**, 279-287.
178. Andress, L.; Hall, T.; Davis, S. et al (2020) Addressing power dynamics in community-engaged research partnerships, *Journal of Patient-Reported Outcomes*. **4**.
179. Arnold, D.; Glässel, A.; Böttger, T. et al (2022) "What Do You Need? What Are You Experiencing?" Relationship Building and Power Dynamics in Participatory Research Projects: Critical Self-Reflections of Researchers, *International Journal of Environmental Research and Public Health*. **19**, 9336.

180. Shaw, D. P. D. (2021) Community resilience: A new capability for local resilience See <https://www.localgov.co.uk/Community-resilience-A-new-capability-for-local-resilience/52338>
181. HM Treasury (2021) Build Back Better: our plan for growth (Policy Paper) See <https://www.gov.uk/government/publications/build-back-better-our-plan-for-growth>
182. MacKinnon, D. and Derickson, K. D. (2012) From resilience to resourcefulness: A critique of resilience policy and activism, *Progress in Human Geography*. **37**, 253-270.
183. Peters, L. E. R.; Shannon, G.; Kelman, I. et al (2022) Toward resourcefulness: pathways for community positive health, *Global Health Promotion*. **29**, 5-13.
184. Watermeyer, R. (2015) Lost in the 'third space': the impact of public engagement in higher education on academic identity, research practice and career progression, *European Journal of Higher Education*. **5**, 331-347.
185. Bond, R. and Paterson, L. (2005) Coming down from the ivory tower? Academics' civic and economic engagement with the community, *Oxford Review of Education*. **31**, 331-351.
186. Ng'endo, M. and Connor, M. (2022) One Size Does Not Fit All - Addressing the Complexity of Food System Sustainability, *Frontiers in Sustainable Food Systems*. **6**.
187. Foran, T.; Butler, J.; Williams, L. J. et al (2014) Taking Complexity in Food Systems Seriously: An Interdisciplinary Analysis, *World Development*. **61**, 85-101.
188. Schwarz, G.; Vanni, F. and Miller, D. (2021) The role of transdisciplinary research in the transformation of food systems, *Agricultural and Food Economics*. **9**.
189. West, S. and Schill, C. (2022) Negotiating the ethical-political dimensions of research methods: a key competency in mixed methods, inter- and transdisciplinary, and co-production research, *Humanities and Social Sciences Communications*. **9**.
190. Peters, D. H. (2014) The application of systems thinking in health: why use systems thinking?, *Health Research Policy and Systems*. **12**, 51.
191. Haynes, A.; Rychetnik, L.; Finegood, D. et al (2020) P. Applying systems thinking to knowledge mobilisation in public health, *Health Research Policy and Systems*. **18**.

**Figure and table**



*Figure 1: The spectrum of public participation from informed to empowered, taken from<sup>119</sup>. See also<sup>122</sup> for an adapted version tailored towards research. Please note that use of such spectrums has been critiqued as allowing research which only consults with people in some way (e.g. through interviewing) to class itself as participatory<sup>100</sup>.*

Table 1. Reflective learning, practice insights and critical considerations for the community food researcher model to support food system transformation		
	Elements of reflective learning	Insights for practice and research
<b>Knowledge</b>	<p>There are multiple ways of knowing that can support shared learning and skills development</p> <p>Knowledge exchange and mobilisation, are key aspects of note for researchers and practitioners using this type of approach</p>	<p>Creative approaches can support two-way knowledge flow</p> <p>Appreciation needed of already existing community knowledge</p> <p>Public engagement skills are required</p>
<b>Critical consideration</b>	Creative, and arts-informed methods within research can facilitate shared learning and knowledge exchange	
<b>Relationship building</b>	<p>Vital part of collaboration and connection</p> <p>Built on trust and mutual respect</p> <p>Focus on already existing assets within communities</p>	<p>Need to be aware of and address unequal power dynamics</p> <p>Training might be required</p> <p>Ongoing reflexivity and continuous reflection on relationships is required</p>

		Creative approaches can support and maintain relationships
<b>Critical consideration</b>	<p>Within participatory research processes, it is essential to address inequitable power dynamics through relevant training [such as implicit bias training]<sup>178</sup></p> <p>There is a need for researchers and practitioners to engage in ongoing reflexivity<sup>163</sup></p> <p>Continuous reflection is required on relationships and power dynamics within these participatory research processes<sup>179</sup></p>	
<b>Community Capacity</b>	<p>Building on existing assets, facilitating strengths and capabilities</p> <p>Concepts of ‘resilience’ and ‘resourcefulness’ are important</p>	This is seen as a longer-term goal of this model and requires investment
<b>Critical consideration</b>	<p>Creative, and arts-informed methods within research can facilitate knowledge exchange and support capacity building<sup>173</sup></p> <p>Such approaches can shift the focus towards the strengths and capabilities of the community, to foster interdependence and autonomy, diversity, and inclusion<sup>183</sup></p>	
<b>Adding value to research</b>	<p>Needs to be authentic and inclusive and non-tokenistic</p> <p>Needs full investment</p> <p>Can deliver impact and inform public engagement activities</p>	<p>The ‘ethics of participation’ is called into question</p> <p>Such approaches take time and resource to deliver effectively</p> <p>Creative method development takes skill</p> <p>Funding implications</p>
<b>Critical consideration</b>	<p>The community food researcher model provides an authentic and inclusive way to engage communities in action</p> <p>Researchers and practitioners must be prepared to invest time and resource to ensure they fully understand the needs for adequate implementation of this approach</p>	
<b>Complexity of food systems</b>	Can be a barrier to engaging in food system transformation	Creative methods (eg visioning activities) can work well with communities



	Requires 'systems thinking' and consideration of intersectionality	Embracing complexity  Delivery and application needs to be context specific
<b>Critical consideration</b>	<p>Taking an interdisciplinary<sup>187</sup> or moreover transdisciplinary<sup>188, 189</sup> approach to these 'wicked real life' problems is essential.</p> <p>This should be based on 'systems thinking'<sup>190</sup> to support knowledge mobilization<sup>191</sup> and also based on intersectional and context specific interventions</p>	