

GROW SHARE COOK



ENGAGE
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Process Evaluation
Cities of Service
'Grow, Share, Cook' Project
Plymouth

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A Research report written by

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Contents

Executive summary	6
1.0 Introduction	7
1.1 Background	7
1.2 The local context - Plymouth	7
1.3 Importance of (process) evaluation	8
1.4 Aim of process evaluation	8
2.0 Methodology	9
2.1 Design	9
2.2 Participants	9
2.3 Methods	9
2.3.1 Procedures for stakeholder consultations	10
2.3.1.1 Steering group	10
2.3.1.2 Volunteers	10
2.3.1.3 Families	11
2.4 Data Analysis	11
2.5 Ethics	11
3.0 Results	12
3.1 OBJECTIVE ONE – MAPPING OF INTERVENTION ACTIVITY	12
3.1.1. Grow Share Cook metrics	12
3.1.1.1 Volunteers	14
Grow	14
Share	14
Cook	14
3.1.2. Food distribution points	15
3.1.3 Participants	15
3.2. OBJECTIVE TWO – CONSULTATIONS WITH KEY STAKEHOLDERS	15
3.2.1. Key findings from steering group surveys	16
3.2.1.1 Key Aims of Project at Outset	16
3.2.1.2 Target Population	16
3.2.1.3 Recruitment	16
3.2.1.4 Needs of Stakeholders	17
3.2.1.5 Project Implementation	17
3.2.1.6 Suggested project improvements	17
3.1.1.7 Leadership steering Group Membership	18
3.2.2. Key findings from 'Grow' volunteer survey	18
3.2.2.1 Reasons for volunteering:	18
3.2.2.2 Project aims and target population	18

3.2.2.3 Improvements to project	18
3.2.3 Key findings from 'Share' volunteer survey	19
3.2.3.1 Reasons for volunteering	19
3.2.3.2 Project Aims and target population	19
3.2.3.3 Implementation	19
3.2.4 Key findings from 'Cook' Volunteer Survey	20
3.2.4.1 Reasons for volunteering	20
3.2.4.2 Project aims and target population	20
3.2.4.3 Implementation	20
3.2.4.4 Project Improvements	20
3.2.5 Key findings from 'Focus Group'	21
3.2.5.1 Key aims of project	21
3.2.5.2 Implementation	21
3.2.5.3 Suggested project improvements by families	23
3.3 OBJECTIVE THREE – OBSERVATIONS OF GSC ACTIVITIES	23
3.3.1 Grow and share	23
3.3.2 Cook	23
3.3.3 Metrics for cooking demonstrations	23
3.3.4 Recruitment procedures and barriers to recruitment	24
4.0 Discussion	25
4.1 GSC as a complex intervention	25
4.2 Leadership and collaboration (steering group)	25
4.3 Mobilization of volunteers	26
4.4 Family food engagement	26
4.5 The 'Spirit' of Grow Share Cook	28
4.6 Methodological limitations	30
4.7 What the future holds?	31
4.8 Conclusions	32
5.0. References	33
6.0 Appendices	37

Executive summary

With food poverty and hunger current topics of national debate, local recommendations have been made in Plymouth for 'improved nutrition across the city' including enhanced access to affordable, healthy food (Fairness Commission, 2014). In response to the above, the Plymouth Cities of Service 'Grow, Share, Cook' (GSC) project was set up with the aim of improving the food network required to help tackle food inequalities by encouraging a volunteer network to link the growing (and cooking) of food to the people who need it most.

Plymouth University was brought in as an independent consultation partner to support the process evaluation of the GSC project. This report outlines a comprehensive process evaluation which aimed to: i. identify what GSC was delivering; ii. critically assess how GSC was implemented and iii. explore the acceptability of GSC to stakeholders. The objectives for this evaluation were achieved via intervention mapping, stakeholder consultations and observations.

In summary, GSC was a pilot complex intervention, made up of three discrete arms – Grow, Share and Cook. It reached 83 volunteers and over 100 disadvantaged families in Plymouth. The ultimate aim of GSC, to increase the number of households that regularly cook and eat (fruit and) vegetables was met: 2336 vegetable bags were delivered in total, creating 80 new distribution locations, one new 12 acre growing plot was leased, sub-divided into 12 x 1 acre plots. Eighty-nine individuals attended two cooking sessions, 80 (90%) of these reporting improved cooking skills as a result of GSC; 77 (87%) reporting eating more healthily than at the start of the project, and 70 (79%) reporting having a healthier diet.

The findings indicate that all three stakeholder groups (steering group, volunteers and families) who participated in the process evaluation, agreed on their understanding of the aim of the GSC project and what it intended to deliver. Furthermore, there was overall agreement and many positive comments made about the success of the project, its implementation, and how it might be improved and sustained in the longer term. Given the complex nature of this project, detailed discussion of all of the factors influencing its effectiveness is not possible. We do, however, bring light to some of these, through offering insight into the 'spirit of the GSC intervention' (section 4.5)

Suggestions are made for how GSC (or elements of it) might be embedded and aligned with strategic city-wide planning/delivery, to maximize its impact and efficiency in the longer term. Recommendations (section 4.0) made include 'strengthening collaboration' (section 4.2); 'improving recruitment strategies' (section 4.3); 'building on social aspect' (section 4.4); 'participatory approaches (section 4.5) 'investing in evaluation' (section 4.6) and 'optimizing next steps' (4.7)

Through a systematic process evaluation, we have shown that participants in a complex (pilot) food intervention have improved their food behaviours and built stronger social connections. Furthermore, the project elucidated a strong and powerful 'spirit', by effectively harnessing energy, vision and skill development to develop and build capacity with local communities which could conclude that stronger community cohesion has begun to be realized, but this now needs to be substantiated and driven forward.

This work presents an opportunity - in light of marked changes in public sector services (budget and resources constraints), this food project adds to the compelling case being developed for how more community centred empowerment approaches can be used to engage individuals and improve their (mental and physical) health and wellbeing. We need to think (and act) differently. By creating a 'social norm' for food that is positive, one that fosters more creative and connective food activities that can be transformative, food becomes a powerful catalyst to re-connect people, culturally and socially. This provides the potential to enhance health, wellbeing and social justice.

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Introduction

With food poverty and hunger currently topics of national debate (APPI, 2014; Fabian Commission, 2015) it is accepted that urgent attention needs to be given to tackle some of the many issues involved.

1.1 Background

Our current food system is unsustainable and 'distorted by inequalities of access' (Lang, 2015). We generate more than enough food for our 7 billion world population, yet half the global population is malnourished (FAO, 2011). The consequent 'double burden' of disease (obesity vs malnutrition), driven by 'the nutrition transition' (Popkin, 2002) leads to pandemic ill-health, which in the UK cost the NHS £6 billion in 2009 (Scarborough et al., 2011). The complexities of the food chain are highlighted in current food hunger debates (Fabian Commission, 2015), where rising use of food banks in the UK are paralleled with an estimated 15 million tonnes of food waste per annum (Downing et al, 2015).

Public health nutrition (PHN) is 'the promotion and maintenance of nutrition-related health and wellbeing of populations through the organised efforts informed choices of society' (Hughes, 2008). This speciality identifies the need to include 'the inter-relationship of man with his/her environment' (The Giessen Declaration, 2005), thus placing nutrition in a broader 'ecological' setting, including political, sociocultural and economic environments that influence both individual and community behaviours and health. Social justice issues around food are at the heart of recognised environmental and health challenges (Dowler, 2010). To address food justice issues, all sectors (government, business and civil society) have responsibilities for taking action (Food Ethics Council, 2010).

There is increasing evidence to show personal benefits from gardening and community and food growing (Genter, 2015) such as reduced stress levels, improved mental health and wellbeing and increase in fruit and vegetable consumption (Orme et al, 2011). Furthermore, it is suggested that children who participate in food growing activities at school have improved attitudes towards healthy eating (Schmuzt et al 2014) as well as other positive wellbeing impacts, such as confidence and self-esteem (Ohly et al 2016).

Current trends suggest that some generations have been raised where no-one does any cooking (Dimpleby and Vincent, 2013), confirming the 'cooking skills transition' proposed by Caraher and Lang (1999). This demonstrates social divisions in cooking competence and confidence (Caraher and Lang, 1999) and lack of skill as being a barrier to widening inequalities (Marmot et al., 2010). Healthy eating seems to be advantaged by cooking skills (Hartmann et al, 2013) with recent studies showing that practical cooking sessions, where recipes are tailored to meet the needs of the participants, have led to healthier diets (Condasky and Helgler, 2010). It is well recognised that eating habits established in early childhood continue into adult life (Fisk et al, 2011) and in particular, parental food involvement has been shown to influence children's consumption of fruit and vegetables (Ohly et al 2013). The role of the family in public health nutrition interventions is, therefore, crucial.

1.2 The local context - Plymouth

In 2014, the Plymouth Fairness Commission recommended 'improved nutrition across the city' including improved access to affordable, healthy food. Plymouth has high levels of deprivation with 11 years' difference in life expectancy between neighbourhoods (Public Health England 2013). There is increasing local evidence to show that those on the lowest incomes are suffering disproportionately from poor nutrition (Fairness Commission, 2014). Poverty is a real issue for many people in Plymouth and children are particularly 'at risk': A total of 11,700 children live in poverty in Plymouth of which 10,380 are under 16 (HMRC 2009). In 2012, 5900 people visited the foodbank, in 2013 that grew to 7400 and their estimate for 2014 was 9000 (a rise of 153% in 2 years) (Fairness Commission, 2014). In response to the Fairness Commission's recommendation on access to 'healthy food for all', organisations in Plymouth has taken action by setting up a pilot intervention 'Grow, Share, Cook' to enable more people in need to have access to healthier food.

The Plymouth Cities of Service 'Grow, Share, Cook' (GSC) project is a National Endowment for Science Technology and the Arts (NESTA) funded intervention that has run for 18 months (Oct 2014 – April 2016). The project aimed to improve the food network required to help tackle food inequalities by encouraging a volunteer network to link the growing (and cooking) of food to the people who need it most.

The project commissioned services ('Grow' and 'Share' by Tamar Grow Local (TGL) CIC¹ and 'Cook' by 'Food is Fun' CIC²), and used Cities of Service 'Our Plymouth' portal as well as word of mouth to strengthen the already strong and active voluntary sector in Plymouth, by recruiting and co-ordinating via various sources (see Section 2), and offering free vegetables for a year. In return, those selected were required to attend two food preparation and cooking demonstration sessions.

1 Tamar Grow Local (TGL) is a 'not for profit' Community Interest Company (CIC) supporting the community by promoting sustainable local produce in the Tamar Valley. <http://www.tamargrowlocal.org/>

2 Food is Fun CIC is a local social enterprise that aims to encourage people of all ages to explore food in a fun way to promote healthy eating <http://www.foodisfun.org.uk/index.html>

Thus by definition 'Grow, Share, Cook' is a public health nutrition intervention because its ultimate aim is to increase the number of households that regularly cook and eat (fruit and) vegetables. Complex interventions such as this require special consideration, more than other projects, because of their cost and resource requirements and/or health outcomes to assess effectiveness and impact.

1.3 Importance of (process) evaluation

Evaluation is a crucial part of any public health nutrition intervention as it encourages an honest appraisal of progress, so that one can learn from what hasn't worked, as well as what has (Taylor et al, 2005). The Medical Research Council (Moore et al, 2014) highlighted process evaluation as an essential evaluative component to assess how an intervention is delivered and its acceptability to key stakeholders. Process evaluation measures characteristics that show why and how an intervention worked (or did not work) (McGlone et al, 2005) and for whom it worked (or did not work) (Moore et al, 2014). It also allows consideration to be given to the sustainability of the project in the longer term.

At the outset of a process evaluation, the identification of how an intervention is intended to work aids both the prioritisation of themes for investigation and the assessment of intervention plausibility (Moore et al 2015). In the case of 'Grow, Share, Cook' (GSC) the basic causal assumption was that increasing access (financial and physical) to fruit and vegetables and improving food preparation skills would help to improve the dietary intake of disadvantaged families in Plymouth by reducing barriers to healthy food.

Given the complex nature of the GSC intervention, and that basic outcome measures and metrics were already set out by Nesta, Plymouth University was brought in as an independent consultation partner to support the process evaluation of the GSC project. It was decided an evaluation based on processual parameters was suitable for this purpose.

1.4 Aim of process evaluation

The aim of the present study was to conduct a process evaluation of the Plymouth based (Nesta Funded) cities of service GSC project to:

- I. Identify what GSC was delivering
- II. Critically assess how GSC was implemented
- III. Explore the acceptability of GSC to stakeholders

The key objectives of the process evaluation were:

- 1. Mapping of intervention activity:** to create a detailed 'flow diagram' of intervention activities, to provide a visual summary of the GSC project. This was to enable key stakeholders to be identified for consultations on process and acceptability.
- 2. Consultations with key stakeholders:** covering the main themes of the process evaluation.
 - a) E-survey of steering group members
 - b) E-survey of GSC volunteers
 - c) Semi-structured group interview (focus group) with families to gain their views and experiences of the project.
- 3. Observations of GSC activities:** to observe the main points at which stakeholders interacted with the project. Record the 'spirit' of the intervention and to consider the consistency of delivery.

By completing the above objectives the process evaluation is able to provide recommendations for the future of the GSC project. It is hoped that through these recommendations, the GSC project can be optimised for maximum impact and efficiency contributing to its future sustainability. The GSC project will also add to the small but growing body of evidence evaluating the processes involved in complex community food projects.

Methodology

2.1 Design

The purpose of the process evaluation was to identify what GSC was delivering; critically assess how GSC was implemented and explore the acceptability of GSC to stakeholders

2.2 Participants

Steering group members were sampled purposively in that everyone included had a vested interest in the GSC project. Inclusion criteria were males/females on the steering group for the GSC project (Section 3.2, p.18).

Volunteers were purposefully selected from a total of 83 (48 grow, 20 share and 15 cook) who had volunteered in the GSC project. Inclusion criteria were males/females, 18 years or over who have volunteered at least once.

Families were recruited onto the GSC programme initially via Plymouth City Council's 'Families with a Future' (FWAF)³ cohort and/or families living in Plymouth Community Homes (PCH)⁴ social housing. Some were also referred, at a later stage via the local Trussel Trust food bank (<http://www.plymouthfoodbank.co.uk/>). Two researchers worked with steering group members and key workers from FWAF and PCH to identify and recruit participants for the process evaluation.

2.3 Methods

The methods of the process evaluation objectives were addressed systematically as follows:

Nesta created basic metrics for the project, which were used to fulfil quantitative targets:

- Number of teaching sessions delivered
- Number of participants attending teaching sessions
- Number of participants reporting improved cooking skills
- Number of participants reporting an increase in consumption of healthy food
- Number of participants reporting to have healthier diets
- Quantity of food grown and distributed

Objective 1 – Intervention Map

An intervention map was produced as a visual 'flow diagram' to provide key monitoring information of what was implemented in practice (and why). It allowed the Nesta metrics to be fully considered and illustrated. This included participant and volunteer numbers for different strands of the project. It also highlights new food distribution points the project has created, as well as how many families received the vegetable bags and have taken part in cooking sessions.

This part of the evaluation comprised the numerical data collected routinely by steering group members at the point of planning and implementation. It was collated by the project lead on a monthly basis and was available to the steering group and research team. This use of routine monitoring data has been highlighted as an important part of process evaluation that prevents duplication of efforts and reduces the resources required (Moore et al, 2014).

Objective 2 - Consultations with key stakeholders

Consultations with key stakeholders covered the main themes of the process evaluation. The key themes of investigation used for the process evaluation are illustrated in Table 1, mapping key aspects to page numbers of relevance to show where each aspect has been covered. The themes were evidence based and adapted to be suitable for the evaluation of the 'GSC' programme.

3 Families with a future (FWAF) supports families considered 'vulnerable' and 'troubled' if they reach 2 out of 3 specific thresholds covering school absenteeism, anti-social behaviour and worklessness. <http://plymouthnewsroom.co.uk/plymouth-achieves-100-per-cent-target-early-on-families-with-a-future/>

4 Plymouth Community Homes (PCH) is a social housing social enterprise. They believe everyone in the city deserves a good place to live, that thriving communities are important and best achieved by working with residents and partner organisations. <http://www.plymouthcommunityhomes.co.uk/>

Table 1: Themes of GSC process evaluation (adapted from Moore et al, 2014; Saunders et al, 2005) with a mapping to relevant sections of report

			Mapping to report sections
Implementation		What is implemented and how	Section 3.1 (Map and metrics)
	Implementation processes	How delivery is achieved: e.g. training and support for volunteers, communication and management structures	Section 3.7, 3.8, 3.9 (Volunteer responses) Section 1.2 (Background outlining GSC) Section 3.5 (Steering group members table 6)
	Fidelity and adaptations	Faithfulness to the original plan and consistency of delivery, adaptations that have taken place to aid implementation in context	Section 3.11
	Project delivery	What was delivered by those implementing the programme	Section 3.1
	Project implementation	What the families on the programme received/took part in	Section 3.12
	Reach	Proportion of invited families/ individuals that participate in the intervention: measured by attendance and including documentation of barriers to participation	Section 3.1 Nesta metrics
	Recruitment	Recruitment criteria and methods	Section 2.2, 3.14 (Methods)
Mechanism of Impact		How the intervention produces potential for change. Participant responses to intervention interactions	Section 3.6 (Stakeholder comments, volunteer survey, family focus group)
Acceptability		How acceptable is project to key stakeholders (steering group members, volunteers, families)	Section 3.6, 3.7, 3.8, 3.9, 3.10

A standardised framework of questions (Appendix 1) was developed to capture participant views on each of the GSC arms of the project. These questions were tailored slightly to fit with the needs and project activities of the particular sample group (Steering group - Appendix 2, Volunteer – Appendix 3, Families – Appendix 4). The questions were formed around the following aspects: understanding the aims of project (were these being met?), precise involvement in project, what is working well and what could be improved, how well stakeholders/participants were engaged, and thoughts on the future sustainability of the project. The responses to these questions were then grouped according to the process evaluation themes shown in Table 1 for interpretation purposes (and mapped to show relevant location within report).

2.3.1 Procedures for stakeholder consultations

2.3.1.1 Steering group

Twelve steering group members were contacted via email and requested to complete an e-survey (Appendix 2). The survey questions were open ended, covering the main themes of the process evaluation, providing qualitative data. The questions were agreed between the research team and the Cities of Service Chief Officer. Participants were randomly assigned a number so that anonymity of respondents was maintained to ensure there was no concern about the potential for damage to working relationships.

2.3.1.2 Volunteers

All volunteers, who had volunteered on at least one occasion for either the 'Grow, Share or Cook' parts of the project were invited to complete an e-survey (Appendix 3) to explore their experiences of the project within the context of their personal circumstances (Spencer et al, 2003). The aim was to identify factors that had contributed to successful project delivery. Some simple rating questions were used, with Likert scale responses, generating quantitative data.

The majority of questions were open-ended, generating qualitative data. E-surveys provided an opportunity to elicit a wider range of perspectives more quickly and with fewer resources than was possible using interview techniques (Moore et al, 2014). Again, participants were randomly assigned a number so that anonymity of respondents was maintained to ensure there was no concern about the potential for damage to working relationships.

2.3.1.3 Families

A semi-structured group interview ('focus group') was conducted with families to identify factors that had contributed to a successful (or unsuccessful) project delivery. This technique was selected as being most appropriate for exploring opinions and experiences of the families (Spencer et al, 2003) and can address literacy issues in lower socioeconomic groups (Department of Business, Innovation and Skills, 2013). See Appendix 4 for question template. Families were recruited using convenience sampling. They were invited by one of the community team who acted as a gate-keeper and assessed them for suitability (Namageyo-Funa et al, 2014). Inclusion criteria were: males/females aged 18 years or over who had been recruited to the GSC project, have attended two cooking sessions and were currently receiving fortnightly vegetable bags. Exclusion criteria were individuals receiving speciality mental health treatment that would make participation harmful or distressing, or insufficient English to communicate. On the day of the focus group, taxis were provided to reduce the likelihood of non-attendance. Similarly, on the day, three potential attendees had logistical issues, therefore they were telephoned and asked the same questions verbally. Participants were randomly assigned a number so that anonymity of respondents was protected.

Objective 3 – observing the GSC activities

Observations were conducted by the research team to record processual aspects (consistency of delivery) and also capture the 'spirit of the intervention'. The research lead and research assistant attended most of the monthly steering group meetings, where there was opportunity to learn about progress of the different arms of the project and assess how faithful the project was to its original plan. This part allowed further detail to be added to the basic Nesta metrics.

The cooking sessions became the main focus of observations, as these were the most specific and intensive project interactions with families. Two cooking sessions across two different days were observed by the research assistant. The method of non-participant observation was used as suggested by Moore et al (2014). These observations assessed consistency of delivery and group dynamics. Consideration was given to: who led the session, how many families attended, which recipes and cooking skills were demonstrated, examples of questions asked, description of the atmosphere of the session and any additional information that the researchers considered useful to record. It also included basic satisfaction surveys distributed at the end of each session by the facilitators. This was similar to the method used by Davis et al (2000) who incorporated observation of teaching sessions in their process evaluation of nutritional intervention where they assess project fidelity.

2.4 Data Analysis

Basic frequencies were used to report quantitative survey data, as this was exploratory work and participant numbers were small, further statistical testing was not deemed appropriate. Simple thematic analysis was undertaken for the qualitative data (surveys and focus group), developing themes and categories for interpretation alongside the process evaluation thematic descriptors (Table 1) and question template (Appendix 1) to ensure objectives were being addressed. The analysis aimed to be as faithful as possible to the respondents' accounts. The research team were reflective in their role in interpreting findings and endeavoured to act in a way that did not exaggerate any potential power imbalance (Liamputtong, 2007)

2.5 Ethics

The study protocol was reviewed and approved by the Faculty of Health and Human Science Ethics Committee at Plymouth University.



3.0 Results

3.1 OBJECTIVE ONE – MAPPING OF INTERVENTION ACTIVITY

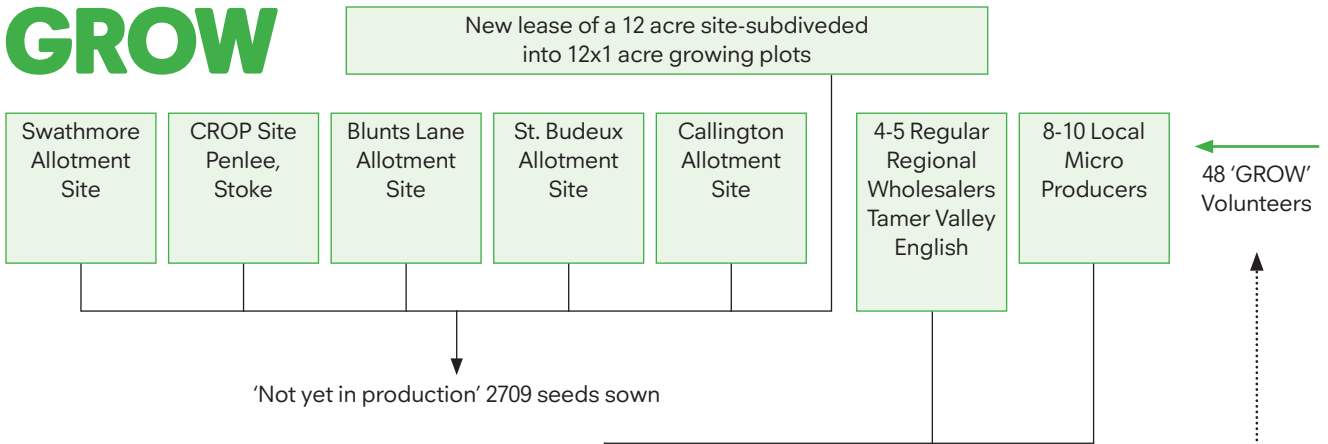
3.1.1. Grow Share Cook metrics

The quantitative Nesta metrics are outlined below, with a link to the Intervention Map (Figure 1) and/or further results (3.3.4 Observational findings from cooking sessions)

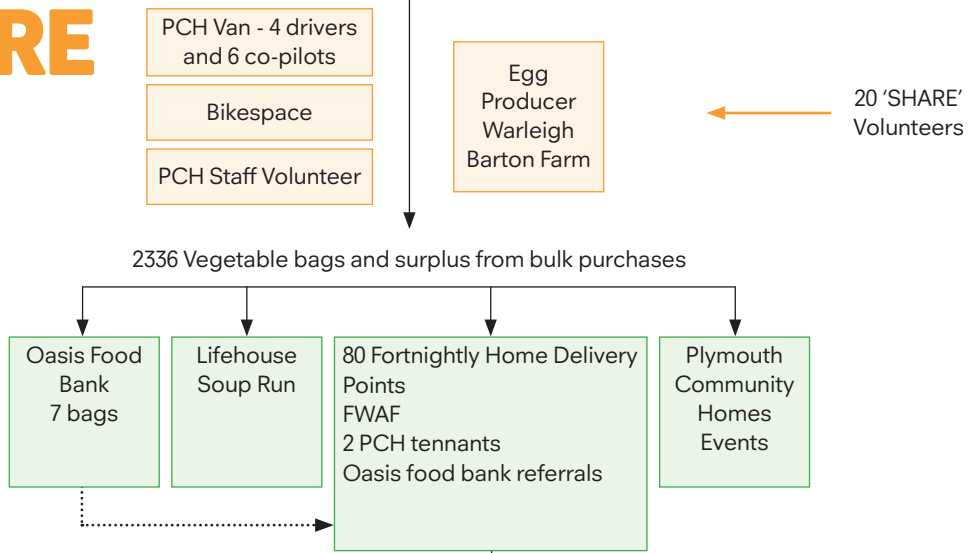
- Round 1, 15 cooking sessions. 100 families received vegetable bags and participated in 1 cooking session (Figure 1).
- Round 2, 11 cooking sessions. 89 families received vegetable bags and participated in 1 cooking session (Figure 1).
- 80 out of 89 participants (90%) reported improved cooking skills (Table 11).
- 77 out of 89 participants (87%) reported an increase in consumption of healthy food (Table 11).
- 70 out of 89 participants (79%) reported to have healthier diets (Table 11).
- 80 distribution points (Figure 1)
- 2709 seeds sown (not yet in production) (Figure 1).
- 2336 vegetable bags delivered (Figure 1).

Intervention Map of 'Grow, Share, Cook'

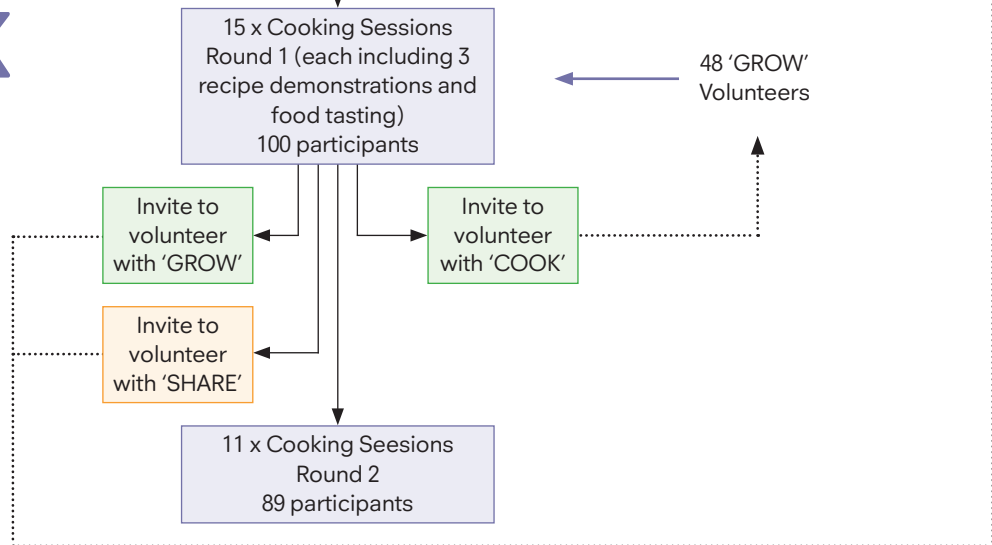
GROW



SHARE



COOK



3.1.1.1 Volunteers

Table 2 shows the numbers of volunteers engaged in the project, and their responses to process evaluation surveys.

	Number of volunteers	Surveys returned	% response
Grow	48	3	6%
Share	20	8	40%
Cook	15	5	33%

Grow

There have been 48 'Grow' volunteers since the project began (see Figure 1 and table 3). This has included student groups and regular volunteers. Grow volunteers attend at various sites across the city and the Tamar Valley including CROP (Community Rehabilitation Outdoor Project), Swarthmore, St Budeaux and Blunts Lane allotments in Plymouth and Tamar Grow Local allotment in Callington (figure 1). Some volunteers do both sharing and growing.

Gender	Ethnicity	Age Years	Employment	Location
3 female (6.25%) 45 male (94%)	1 Iranian 47 British	6 (13%) 15-24 41 (85%) 25-64 1 (2%) 65+	45 (94%) not employed 2 (4%) students 1 (2%) retired	41 Plymouth 4 Tamar Valley 3 Torpoint

Share

There have been 21 'Share' volunteers (see figure 1 and table 4). Sharing includes packing and preparing vegetables at the Callington Office. Sharing also includes travelling in the van to deliver vegetables bags to recipients' homes or appropriate drop off points. In addition, it includes one volunteer who cooks for the soup run using the vegetable bags that due to logistic reasons could not be delivered. Some volunteer on a regular basis. Others have only volunteered once.

Gender	Ethnicity	Age Years	Employment	Location
12 female (57%) 9 male (43%)	4 French 17 British	6 (29%)15- 24 2 (10%) 25-44 12(57%) 45-64 1 (4%) 65+	5 (24%) not employed 10 (48%) employed 1 (4%)retired 5 (24%) unknown	2 Plymouth 19 Tamar Valley

Cook

There have been 15 'Cook' volunteers since the project began (figure 1 and table 5), some of which have volunteered more than three times, others only once. The volunteers were asked to cook a dish or dishes of their choice focussing on the contents of the vegetable bags. Care was taken to consider the needs of the participants, i.e., whether they were vegetarian or had any special diets. The aim was to deliver a cooking demonstration with optional hands-on participation in a fun yet engaging way. It was important to show a variety of basic cooking skills and give tips along the way. The sessions were aimed to help in an informal manner giving all attendees the opportunity to engage with the volunteers, to ask questions and share knowledge.

Gender	Ethnicity	Age Years	Employment	Location
13 female (87%) 2 male (13%)	1 Polish 14 British	13 (87%)18 – 64 2 (2%) 65+	2 (13%) not employed 8 53%)employed 3 (20%) students 2 (13%) retired	11 Plymouth 1 Torpoint 1 Callington 2 Ivybridge

3.1.2. Food distribution points

Tamar Grow Local has delivered 2336 vegetable bags (figure 1) since the start of the project. The Oasis Project Food Bank was used as a collection point for 7 families because it was more convenient (proximity to their homes, they pass by every day for school runs and they were not always at home when the deliveries were taking place). The remaining 82 delivery points were directly to people's homes for FWAF and PCH residents either by volunteers, Bikespace⁵ or by TGL with a volunteer. Each family received 26 bags of vegetables in total over the 18 months of the project. Each vegetable bag contained a recipe that corresponded with the vegetables in the bag (Appendix 5). Any undelivered bags (and additional vegetables that arose from bulk ordering) went to the foodbank (delivered by Bikespace). The metrics are based on the assumption that a bag contains at least 10 portions of veg; in reality each bag weighs approx. 5kg, and portion sizes on online calculators range between 80g and 200g, so there are more individual portions in each bag (but probably about 10 meals in total). A delivery van (known as 'The Vegucator') was donated by Plymouth Community Homes, making longer distance deliveries possible. Shorter distance deliveries were done using the 'Bike Space' bikes.

3.1.3 Participants

One hundred families were recruited to receive vegetable bags and attended one cooking session (figure 1). Eleven families (11%) stopped receiving vegetable bags before Round 2 either because they lost interest or moved away from the area. Eighty-nine families (out of the original 100 families) continued to receive vegetable bags for Round 2 and attended a second cooking session.

3.2. OBJECTIVE TWO – CONSULTATIONS WITH KEY STAKEHOLDERS

The steering group was made up of a range of partners from different organisations, as highlighted in table 6.

Table 6: Steering group job title and 'GSC' role	
Steering Group - Job Title	GSC Role
Cities of Service, Chief Service Officer	Design, manage, commission GSC.
Public Health Consultant: Overview of project. Steer if necessary to groups most in need.	Overview GSC project
Timebank South West Co-ordinator	Recruit Volunteers
Low Carbon Officer, Plymouth County Council: Director of Food Plymouth.	Overview GSC project
Foodbank Project co-ordinator: Encourage recipients to join GSC programme	Recruit foodbank recipients to join GSC
Head of Communities, Plymouth Community Homes. Part-fund volunteer co-ordinator after families received veg	Manage vegucator van for share project. Recruit recipients to join GSC
PCH funded support worker (to recruit families and support cook sessions).	Co-deliver 'cook' arm of project
Families with a future (FWAF) co-ordinator	Co-ordinated families' access to veg box and cook sessions
Director Food is Fun CIC and Nutritionist: Cook co-ordinator	Co-ordinate cook sessions
Project Manager for Tamar Grow Local (TGL) - 'Grow and 'Share' parts of project.	TGL delivery partner for grow/share elements of GSC
Managing Director CATERed (School Meals cooperative	Overview GSC project
Natural Infrastructure Officer, Plymouth City Council	Overview GSC project
Assistant Chief Executive, Plymouth Guild	Support volunteering aspects of GSC
Lecturer Public Health Dietetics	Lead on process evaluation
Research assistant (Plymouth University)	Assist with evaluation

5: Bike Space is a not for profit social enterprise that was commissioned by 'Grow, Share, Cook' to deliver vegetable bags to families living in Plymouth City Centre <http://www.bikespace.org.uk/>

3.2.1. Key findings from steering group surveys

Of the 12 e-surveys sent out to steering group members 10 were completed and returned (83% response rate). These are presented below, according to thematic question topic, with quotes to illustrate points made.

3.2.1.1 Key Aims of Project at Outset

The steering group members shared similar perceptions of the overall aim of the GSC at the outset, these themed as follows:

1. Improve the healthiness of participants through food:

'increase the number of households that regularly cook and eat fruit and veg' (Respondent 7)

2. Increase skills and knowledge of participants.

'ensure that as many disadvantaged people as possible have access to a regular supply of fresh fruit and vegetables and that they have the knowledge and skills to know what to do with this produce' (Respondent 6)

3. Encourage volunteering.

'Encourage mass action of volunteers at certain times of the year to support the growing and harvesting of healthy food sources' (Respondent 1)

As expected, each respondent took a particular angle which correlated with their own specialist interest area or project involvement, e.g. more emphasis on volunteers, growing, PCH tenants, etc. Those involved in the growing aspect of the project mentioned secondary aims such as:

'Encourage more people to grow food both recreationally and as a source of income' (Respondent 9)

'Source the additional produce required from local producers to circulate money through the local economy' (Respondent 9)

Only one respondent commented on the wider issue of tackling food poverty as an overall aim. No one mentioned how 'GSC' may have contributed to wider strategies aimed at dealing with health inequalities, probably because they understood this to be an inherent part of the 'GSC' project.

'Those most in need are likely to be living in food poverty and so the aim is to alleviate this whilst promoting and enabling a healthy diet' (Respondent 1)

3.2.1.2 Target Population

Most responses indicated that the target population were 'those in need'. This was described by some as those experiencing deprivation relating to low income, isolation, low fruit and vegetable intake and restricted food access:

'those in need; where fruit and veg are eaten rarely through a combination of lack of funding and access, also... lack of knowledge ...and exposure' (Respondent 1)

Other respondents were more 'prescriptive' describing the target population as specific groups, such as:

'Families with a future...Foodbank users....' (Respondent 6)

'Plymouth Community Homes tenants, residents and communities' (Respondent 5)

3.2.1.3 Recruitment

'There is always a risk that the same people engage with every initiative while others are missed' (Respondent 3)

It was suggested that there would be difficulties with reaching the FWF cohort at the start of the project, and this was the case. When the target group was extended to more people (PCH and Foodbank users) recruitment became easier. Generally, it was felt that more could have been done to reach more people who needed support. Three main reasons were put forward by respondents as to why it was difficult to reach the target audience:

1. Target group too small and exclusive
2. Wrong approach used to meet the needs of the community
3. Budgetary constraints

3.2.1.4 Needs of Stakeholders

The respondents agreed in general that the needs of all the stakeholders had been met at all levels, yet emphasised:

- The project required more resources than initially expected
- That the project could have provided more voluntary opportunities and suggestions were made how recruitment of volunteers could be improved:

'The Our Plymouth website search engine does not help people who are new to volunteering look for opportunities' (Respondent 2)

- More 'bottom up' to avoid being 'agency-led':

'I would like to see volunteers on the steering group as it is quite agency led' (Respondent 2)

3.2.1.5 Project Implementation

Most respondents felt that the range of expertise in the steering group and its effective collaboration had been a positive element of the project's implementation. However, it was suggested that more feedback on implementation from stakeholders at all levels would be of benefit:

'There is lots of enthusiasm from the steering group but feedback on how the project is doing is not widely known or shared, e.g. user feedback' (Respondent 7)

The steering group members highlighted some implementation limitations, the main issue being recruitment and engagement of the hard to reach target groups.

'The target audience is the right one but at the same time the most difficult to engage' (Respondent 6)

3.2.1.6 Suggested project improvements

The respondents mainly indicated improvements that related to difficulties in recruitment and engagement, including:

Grow:

a suggestion that more volunteer opportunities would be realised through a single larger growing site:

'A single field growing site of 2-3 acres would provide more volunteer opportunities and be easier to administer. It would grow a greater volume of produce which would mean less of the budget would need to be spent purchasing local vegetables from others' (Respondent 9)

Share:

Improvements in distribution of vegetable bags, particularly those with transport difficulties:

'Veg bags needed to make it easier for people to transport the 1st veg allocation home. They turned up in potato sacks – not manageable for someone who came on a bus or had a child with them'. (Respondent 7)

Better marketing (Information leaflets):

'No posters of information leaflets produced to pass to a family until the latter part of the project' (Respondent 7)

Cook:

- Improved engagement required - interest was lost by some due to a three-to-four-month delay between nominating families and actual cook session
- Location of cook session easier to get to for some.
- Greater consistency between vegetable bag contents and cooking demonstration:

'Recipes in vegetable bag did not always relate to the vegetables that were demonstrated on the cook session' (Respondent 7)

- Feedback from families via steering group for example:

'I think the participants would like more cooking sessions ...and the limited budget has constrained what we were able to provide' (Respondent 9)

3.1.1.7 Leadership steering Group Membership

There was very positive feedback from most respondents suggesting that the steering group was effective.

'It has been a very positive group and has felt very motivating to be a part of...Worked towards shared goals (with individual goals almost invisible)' (Respondent 5)

Common themes across most respondents included: positivity; shared goals; good communication and strong leadership. A few respondents commented that there were logistical issues in bringing everyone together at one time and that many problems were solved between members outside of meetings. A couple of members said they did not feel like they were considered 'key stakeholders' and one member questioned why they were on the steering group.

'What does being a partner mean if we are not included as a means for people to find volunteering opportunities' (Respondent 2)

BOX.1 Future of project (outlined by steering group members)

Most respondents acknowledged that future funding is a major issue and will be difficult to obtain in the current political climate. They also felt that a truer picture of what could be achieved would be seen if the project could continue for a longer time period (3-5 years).

Grow

One survey suggested that a single, larger growing space would increase vegetable yield, be easier to run (see project improvements).

Share

Many felt that to continue to provide vegetable bags would be desirable but possibly at a subsidised rate rather than free with funding being provided by other people: *'I'm interested in the idea of a heavily subsidised vegetable bag, paid for by selling full price bags to council and other workers'* (Respondent 3)

Cook

All respondents felt the cooking sessions are important but difficult to continue after funding has ended.

3.2.2. Key findings from 'Grow' volunteer survey

Of the 48 'Grow' volunteers only three e-surveys were returned (6% response rate) (table 7).

Gender	Ethnicity	Age years	Employment status	Location	Volunteer Role
3 male	3 White British	18–52	1 unemployed 2 students	1 Calstock 2 Torpoint	Grower

3.2.2.1 Reasons for volunteering:

The reasons respondents became grow volunteers were to be 'more active' or to 'complete a college course'. They had all volunteered at least four times.

3.2.2.2 Project aims and target population

Respondents all reported similar understanding of the aims and goals of the project:

'to grow and provide fresh vegetables' (Respondent 1)

'to be a community garden resource' (Respondent 2)

3.2.2.3 Improvements to project

Respondents felt the project could be improved by:

'Funding - would allow more people to know about the resources' (Respondent 2)

'more advertising' (Respondent 3)

All respondents felt well-supported in their voluntary 'Grow' role: *'Tamar Grow Local always enthusiastic, help provide seeds, and compost...'* (Respondent 1). They also reported now having greater participation in community and social events such as *'links with Devonport Live'* (Respondent 2). Responses were very positive in relation to personal benefits from volunteering, with *'improvements in self-confidence'* and *'making a useful contribution to society'* being the strongest self-reported responses from the likert scale. Additional improvements were reported in relation to physical and mental health and well-being. Comments included: *'reaching people who need fresh food'* (Respondent 1) and *'It [volunteering] helps me with my learning'* (Respondent 2).

BOX 2. Future of project (outlined by Grow volunteers)

The main thoughts on the future were that more funding was required to enable more people to know about the project and use it as a resource.

'It would be nice for project to continue to help the community' (Respondent 3)

3.2.3 Key findings from 'Share' volunteer survey

Of the 21 'Share' volunteers eight e-surveys were returned (40% response rate) (Table 8).

Gender	Ethnicity	Age years	Employment status	Location	Volunteer Role
4 female (50%) 4 male (50%)	All White/British	34 – 66	4 employed 4 not employed	2 Plymouth 6 Tamar Valley	4 vegetable bag packers 3 Delivery 1 Soup Run

3.2.3.1 Reasons for volunteering

The main reasons for volunteering were reported to be 'making new friends' and 'meeting people'.

3.2.3.2 Project Aims and target population

The respondents reported similarly when it came to their understanding of the aims of the project from the outset. These were:

'To help producers reach other markets' (Respondent 1)

'Supplying people with locally grown vegetables' (Respondent 2)

'Help save money by eating healthy and learning skills associated with growing and cooking own food' (Respondent 4)

Most respondents understood the target population to be:

'[Families in Plymouth] who are facing potential food poverty and issues with healthy eating' (Respondent 2)

They also felt that volunteering gave:

'stakeholders involved in the organization and running of the project the opportunity to link local suppliers with a wider clientele' (Respondent 1)

3.2.3.3 Implementation

Respondents reported similarly about elements of the project that were working well. They suggested that:

'the vegetable bag delivery system and cooking sessions are a great opportunity to improve people's lives' (Respondent 4)

'some needy people are getting healthy food and the recipes to cook it' (Respondent 1)

All respondents felt positively supported as 'share' volunteers and that they had established a strong social network, comments included: *'good contacts made, community spirit... have made friends and drawn the community together'* (Respondent 1). There were also self-reported improvements in 'self-confidence' and 'making a useful contribution to society', with comments including *'teaches new skills and allows people to learn about the project'*. In addition, improvements in physical and mental health and wellbeing were clearly stated by all share volunteers, corroborated by comments: *'Many return volunteers which shows those involved are happy'* (Respondent 5).

BOX 3. Future of project (outlined by share volunteers)

The main thought on the future of the project was that it needs more funding so it can continue (and expand nationally). One suggestion was to extend the work through schools:

'Working with children and schools could be a good way of getting food on the agenda more widely'
(Respondent 8)

3.2.4 Key findings from 'Cook' Volunteer Survey

Of the 15 'cook' volunteers, five e-surveys were returned (33% response rate) (table 9).

Gender	Ethnicity	Age years	Employment	Location	Volunteer Role
5 female	4 White/British	30 – 68	2 employed	2 Plymouth	Cook demonstrator
	1 Polish		3 not employed	1 Tamar Valley	
				2 Not known	

3.2.4.1 Reasons for volunteering

Respondents outlined their reasons for becoming a 'cook volunteer':

'to demonstrate practical cooking skills to families for recipes using the contents of the vegetable bag'
(Respondent 1)

'I enjoy teaching others to cook' (Respondent 3)

'I wanted to share my passion for healthy eating' (Respondent 5)

3.2.4.2 Project aims and target population

There were a number of commonly shared aims across most responses:

'to enthuse and encourage people to cook with fresh ingredients' (Respondent 4)

'promote healthy eating and knowledge of food and where it comes from' (Respondent 3).

'to make more of resources available locally'(Respondent 2)

Again most respondents considered and agreed the target population to be:

'hard to reach' families or those who are unaccustomed to cooking for themselves due to lack of knowledge or resources (Respondent 1)

'low income... high social need (Respondent 3)

'people who have not been taught to cook healthy food' (Respondent 8)

'life challenges that have seriously undermined their confidence' (Respondent 7)

3.2.4.3 Implementation

Cook volunteers responded similarly that elements of the project that were working particularly well were:

'enthusiasm about contents of veg bags ... what are we making' (Respondent 2)

'It seems to improve the self-confidence of the people I meet. They are happier to share the skills and knowledge they have gained' (Respondent 4)

3.2.4.4 Project Improvements

Participants felt the project could be improved by having greater variety in the vegetable bags including fruit. One volunteers suggested:

'A permanent cookery base would involve less physical hard work and time than pop up kitchen' (Respondent 5)

It could also facilitate:

'offering courses to a wide range of people - some free, some minimal cost and some at a premium cost with good quality chefs/expertise (occasional celebrity?)' (Respondent 4)

All respondents felt they had strong support and information network as 'cook' volunteers. This is substantiated by the volunteers: *'The cook coordinator supports me by working alongside me during the sessions which works really well'* (Respondent 1) and working together to *'Communicate/negotiate recipes to be used according to what was in the vegetable bag'* (Respondent 2). The cook volunteers all self-reported higher (likert) scales for 'improved self-confidence' and 'making a useful contribution'. Their comments included: *'I enjoy teaching others to cook and discover the pleasure of good food'* (Respondent 4). In addition all cook volunteers showed self-reported improvements in both physical and mental health and well-being, enjoying *'sharing [my] passion for healthy eating'* (Respondent 5).

BOX 4. Future of project (outlined by cook volunteers)

All respondents reported similarly on the future of the project. They felt that funding needs to be continued so that long term benefits of project can be realized.

'Funding could come perhaps through payment of vegetable bags, or from local businesses, grant, lottery, council or government' (Respondent 4)

3.2.5 Key findings from 'Family Focus Group'

There were seven participants engaged in the 'Focus Group', four in person and three over the phone (due to logistical issues). For the purposes of reporting, the participants were number coded 1 to 7 to protect their anonymity. The profile of the focus group participants is shown in table 10.

Gender	Age years	Employment status	Location	Number of children
5 Female (71%)	5 25-44 years	7 not in employment	3 Devonport	10
2 Male (29%)	2 45-64 years		1 Honickknowle	4 2 child
			1 City Centre	1 3 child
			1 Pennycross	1 5 child
			1 Ernesettle	

3.2.5.1 Key aims of project

All participants reached a consensus about their reasons for taking part in GSC. These were to 'learn about health' and 'healthy eating', 'get out of the house', 'cooking skills', 'swap and share recipes' and to 'get free vegetables':

'I think it was just for (a) for the vegetables and healthy lifestyle and (b) getting out of the house – simple for me' (Respondent 3)

'It was being able to swap and share recipes with other people who were learning about cooking, because not everyone that came along to it could cook' (Respondent 1)

There was a general feeling that participants were not sure what to expect at the start of the project. They thought it was a cooking course running over few weeks, so there was some concern and apprehension that:

'it was just watching someone else cooking'. At first I was a little bit apprehensive about it' (Respondent 3)

However, this apprehension was unfounded, as their engagement was apparent, 'you could still get involved with the session like the cutting up the different ingredients' being made during the demonstration' (Respondent 3)

3.2.5.2 Implementation

Participants felt that the way the cooking sessions had been delivered had benefited them. They liked the fact they were:

'compact and had everything in it they needed' (Respondent 3)

This worked better for them because of other commitments such as child care. They also felt more comfortable being part of the project than they had initially imagined. They felt the project has given them the chance to try new foods such as parsnips or 'cooking a massive marrow':

'trying something that potentially my kids or anybody else in the house would never have touched before' (Respondent 3)

It gave the opportunity to:

'Sort of... have fun with cooking and taste new flavours' (Respondent 4)

The recipes in the vegetable bags had been very helpful. They felt they had learnt new skills and gained confidence:

'the other big chance for me was learning how to cut leeks the proper way...I've gained more confidence doing that now, so it's something I've learnt' (Respondent 3)

Another benefit from the project was that their children are now much more interested in food. A lot of the participants felt the project has brought a lot of social connections between themselves and their children and they had started to cook more as a family.

'they [children] love collecting the bag every fortnight and guessing what might be inside it made a lot of sociable connections between me and my kids' (Respondent 6)

In addition one of the participants suggested the vegetable bags gave access to a lot of different tastes/textures during weaning:

'My younger one is in the weaning period as well, so again, it gave her access to a lot different tastes, textures and experiences that she would never have tried' (Respondent 3).

One respondent reported that she learnt how to cook food from scratch in the same amount of time than she used to prepare convenience foods - which is healthier:

'the majority of times now I cook more home-cooked meals, rather than just going to the freezer...I've also learnt to cook veg pretty quick' (Respondent 3)

Respondents said it has given them an appreciation of eating better quality food on a regular basis and has made them:

'more conscious about the ideas of buying local in season produce' (Respondent 7)

Social connections were highlighted as having been formed with other family members, friends and people at school. One respondent said:

'it brought us all closer to a couple of our neighbours who we would occasionally share the bags with if there was ever a surplus' (Respondent 7)

With another stating:

'When you have veg there all the time you can do stews, roasts etc. I take it to mums some weeks and we share it. I have met some lovely people and made some new social connections' (Respondent 5)

This quote consolidates earlier comments about closer family ties:

'For me it's broadened the horizons for what can be achieved in the kitchen as well as in your kids' bellies, it keeps them happy and keeps me quiet – happy days!' (Respondent 3)

All respondents agreed that there were clear cost implications of the project, and an important aspect was getting free vegetables for people on a low income:

'Free veg to be honest, it sounded like a good project and I like veg' (Respondent 5)

Everyone said the project offers a fantastic delivery service, always reliable:

'the guys that have always come to me have been brilliant... if I've not been in when they have knocked on the door, they have always put the bags near the front door where I can get it, where it's dry, it's not been left out in the rain or elements, so the food doesn't get ruined' (Respondent 3)

They agreed that the recruitment process through word of mouth seemed to work well through PCH or the local children centre. There was also good communication, with lots of phone calls reminding participants to come to sessions.

'I've had yourself phone me up at times when I didn't necessarily know there was another session on and you have reminded me and phoned again to say 'are you definitely coming?' (Respondent 3)

The importance of engagement was highlighted as being a positive way of keeping them involved with the project.

3.2.5.3 Suggested project improvements by families

Respondents suggested the following improvements for the future:

- Facebook site to share recipes
- Extra recipes would be useful as one recipe only can be limiting.
- Consultation at start of process to provide input as to what they would like from project such as foods for weaning.
- Larger vegetable bags for participants with larger families.

BOX 5. Future of project (outlined by family members)

All respondents reported similarly on the future of the project.

- They would like funding to continue and benefit more people such as improving the health and wellbeing for families and teenagers.
- Cooking demonstrations and vegetable bags complement each other and so should continue together.
- Disadvantaged (low income) families could subsidise (pay a nominal fee, £3-£4) to keep the vegetable bags going.
- Possible hubs for delivery bags.
- Develop programme so people can share what they are growing in their gardens.
- Get families involved in the actual growing of food so they can learn about where the food comes from, such as families digging up potatoes.

3.3 OBJECTIVE THREE – OBSERVATIONS OF GSC ACTIVITIES

The 'Grow' and 'Share' observational are outlined briefly below, but 'Cook' became the main focus of observations, as these were the most specific and intensive project interactions with families.

3.3.1 Grow and share

Through attendance at the steering group meetings and additional communication with the key steering group member in charge of the grow and share aspects, a picture of the processes involved was built (see figure 1). This part of the project progressed 'organically,' making it challenging to map with accuracy the precise objectives from the start of the project. The number of growing sites was reduced as the project progressed because it was found that trying to work so many plots around the city was spreading the 'grow' arm of the project too thin. By the end of the project there were only four growing sites: Swathmore, CROP, Blunts Lane and St Budeaux (figure 1). It was highlighted at the start of the project that a single large (1-6 acre) plot rather than four allotment plots that total less than one third of an acre would have been preferred.

3.3.2 Cook

Each cook session had one volunteer as well as the cook co-ordinator. Participants were asked to complete a survey and then an evaluation form at the end of the session (see 3.3.3). During the sessions photographs were taken (with consent) and organisers also spoke with the participants to help them feel comfortable. Topics discussed included: talking about the kind of foods they cook at home; what their families like to eat; what they would like to try; and different ways of cooking certain foods to encourage their children to try new foods.

Through attending the cook sessions, signposting to other services had taken place. Some participants were put in contact with Plymouth Energy Community to get some help with heating. Other participants were put in touch with different training opportunities available to them. Further observations of cook activities can be found in Appendix 6 and an example of a cook recipe in Appendix 7.

3.3.3 Metrics for cooking demonstrations

One hundred participants attended round 1 cooking (figure 1). Out of these 92% were fairly/very satisfied with the cooking session. 89 attended round 2 (figure 1) of which 89% were fairly/very satisfied with the session. The attendance rate for the cooking sessions varied from 3% to 100% in round 1 and from 57% to 100% in round 2. Furthermore the number of people attending the cooking sessions varied from 3 to 11 in round 1 and from 4 to 21 people in round 2.

Table 11 illustrates that of the 89 that attended both sessions, 80 (90%) reported improving their cooking skills as a result of GSC; 77 (87%) reported eating more healthily than at the start of the project, and 70 (79%) reported having a healthier diet.

Table 11: Reported change in cooking skills and eating habits by participants

Cooking skills and eating habits	Yes	No
Do you feel you have improved your cooking skills as part of the GSC Project?	80 (90%)	9 (10%)
Do you feel you are eating more healthy food than at the start of the project?	77 (87%)	12 (13%)
Would you say you have a healthier diet?	70 (79%)	19 (21%)

3.3.4 Recruitment procedures and barriers to recruitment

Anecdotally recruitment process was reported by the community lead and confirmed by other stakeholders to be a great challenge. The organisers of the cook session thought attending a cook session was slightly daunting for some recipients

Initially recruitment came from Families with A Future (FWAF). However, it was difficult to engage some of these families with no prior conversation around the project and its aims. A lot of the people who completed a customer survey for Plymouth Community Homes (PCH) on healthy eating and growing also met the criteria to become a participant for receiving a vegetable bag and so these families were also signed up. Along with some referrals from the Food Bank the target of 100 families was reached. This process took over 5 months. Even after that, people would not turn up for sessions and stopped communicating and more families had to be recruited.

In order to engage the participants numerous phone calls, letters of invitation newsletters and confirmation for sessions were required. This included sending reminding people of the importance of keeping their contact details up to date so that organisers could talk to them about the cooking sessions and contact TGL regarding their vegetable bag delivery. It was found that regular contact with recipients kept the project fresh in their minds, so they were more likely to attend a cooking session. In addition, taxis were ordered to support people who needed assistance to get to the cook session.



4.0 Discussion

The Plymouth Cities of Service 'Grow, Share, Cook' (GSC) project was a Nesta-funded intervention that aimed to improve the local partnerships required to help tackle food inequalities by encouraging a volunteer network to link the growing (and cooking) of food to the Plymouth people who need it most.

Given the project's exploratory nature, and focus on mobilization of volunteers to reach disadvantaged families, GSC was a pilot intervention. It aimed to identify what GSC was delivering, critically assess how it was implemented and explore its acceptability to stakeholders. Through intervention mapping, consultations with key stakeholders and observations, we achieved our objectives and have presented findings that add to the small but growing body of evidence evaluating the processes involved in complex community food projects.

In summary, GSC was a pilot complex intervention, made up of three discrete arms – Grow, Share and Cook. It reached 83 volunteers and over 100 disadvantaged families in Plymouth. The ultimate aim of GSC, to increase the number of households that regularly cook and eat (fruit and) vegetables was met: 2336 vegetable bags were delivered in total, creating 80 new distribution locations, one new 12 acre growing plot was leased, sub-divided into 12 x 1 acre plots. Eighty-nine individuals attended two cooking sessions, 80 (90%) of these reporting improved cooking skills as a result of GSC; 77 (87%) reporting eating more healthily than at the start of the project, and 70 (79%) reporting having a healthier diet.

The findings indicate that all three stakeholder groups (steering group, volunteers and families) who participated in the process evaluation, agreed on the aim of the project and what GSC was intended to deliver (acceptability). Furthermore, there was overall agreement and many positive comments made about the success of the project, its implementation, mechanism of impact (various engagement roles), and how it might be improved and sustained in the longer term (table 6). Findings are now discussed, in relation to the three stakeholder groups and objectives set for the process evaluation, to provide recommendations for the future of the project. These recommendations offer suggestions of how GSC (or elements of it) might be embedded and aligned with strategic city-wide planning/delivery, to maximize its impact and efficiency in the longer term.

4.1 GSC as a complex intervention

The intervention map (Figure 1) illustrates clearly the complex nature of the GSC pilot intervention. By their very nature, complex interventions present a number of special problems for evaluators (MRC, 2008), due to several, often inter-linking and interacting components. As indicated previously, public health nutrition requires an appreciation of broader 'ecological' factors, including

political, socio-cultural and economic environments that influence individual/community behaviours (Holdsworth, 2010). Detailed discussion of all of these factors, however, is not possible, but we bring light to some of these, through offering insight into the 'spirit of the GSC intervention' (section 4.5).

4.2 Leadership and collaboration (steering group)

It is agreed that all sectors (government, business and civil society) have responsibilities to address food justice issues (Food Ethics Council, 2010, p. 17-18). The GSC steering group comprised individuals from a range of sectors including social care, statutory, civic and social enterprise sectors (table 6). This meant that there was a requirement to work with a clear identifiable purpose across a broad diversity of organizational structures and cultures (Pettinger and Whitelaw, 2012). Successful interventions depend on healthy organizational partnerships (National Collaborating Centre for Methods and Tools, 2010). These should be synergistic, involving effective leadership, administration and management (of the efficiency of the partnership and the resources).

Our findings confirm the GSC steering group was effective, with shared values and goals (despite some apparent logistical issues). Given the importance of partnership development and maintenance as part of public health nutrition practice and capacity building strategies (Hughes and Margetts 2011), future work should perhaps consider using an effective partnership analysis tool (McLeod, 2003) to monitor progress and provide a focus for future partnerships between organizations.

The steering group agreed on aspects of collaboration and leadership and issues with recruitment were shared between all stakeholders. One key aspect of importance highlighted by the steering group related to GSC being 'agency led'. This is a commonly cited issue in complex public health and food interventions, but one that is crucial for critique, given the emerging evidence that by engaging disadvantaged community groups more effectively, inequalities can be tackled (O-Mara-Eves et al, 2015). The precise mechanism (and method) for 'effective engagement' remains in question, but there is a compelling case being developed for how empowerment driven person- and community-centred approaches, can improve (mental and physical) health outcomes and wellbeing (Wood et al, 2016). This encapsulates some of the principles behind the Asset-Based Community Development (ABCD) approach, which is a method of community and network building that starts by locating the assets, skills and capacities of citizens and local organizations, rather than focusing on their needs and deficits (Hopkins and Rippon, 2015).

Although such an approach is emergent and not yet systematized, it shows great potential, particularly in light of marked changes in public sector services (budget and resource constraints). This is backed up by several influential publications that have put forward a vision of positive health and wellbeing, including enhanced assets and stronger communities (DH, 2012; Buck and Gregory, 2013; NICE, 2014 and DH, 2014).

Recommendations:

- i **Collaboration** - wider representation on steering group (volunteers and beneficiaries to have more input on process, organization and steer)
- ii **Monitoring** of leadership (systematizing progress and collaboration).

4.3 Mobilization of volunteers

The GSC intervention set out to mobilize volunteers to meet its overall aims to improve food access for disadvantaged families. Volunteering is described as 'an act of free will that results in benefits to others' (United Nations, 2000) and has been shown to have a positive impact on health (Marmot et al, 2010). The act of volunteering can benefit the 'helped' and the 'helper' in terms of well-being (Wilson, 2000). Although a good number of volunteers engaged in the GSC project (n=83) overall, their input was highly variable depending on whether they were grow, share or cook volunteers. Firm conclusions were difficult to make, however, because demographic data (e.g. age) was not consistently collected across each group. Interestingly, 100% (n=3) of grow survey respondent volunteers were in paid employment, whereas 48% share and 53% cook volunteers were employed. Overall there was a low response rate of 19% (6% grow, 40% share and 33% cook) from those participating in the evaluation survey, thus affecting the robustness and transferability of our findings. There were varied reasons why our respondents chose to volunteer, including 'being more active', 'sharing knowledge', 'meeting people' and 'passion for healthy eating'. Most respondents understood the target population of their voluntary endeavors to be 'families facing food poverty' and that they were facilitating growing, supplying (and cooking) vegetables for disadvantaged families. This is supported by literature emphasizing that intention to volunteer might be driven by potential social justice improvements (Jiranek et al, 2013) or 'altruism' (Carpenter and Myers, 2007).

The promotion of volunteering within the UK 'Big Society policy' acknowledges its personal benefits (Nichols and Ralston, 2012). However being moderated by individual circumstances, it has also been said to 'accentuate social divisions if set within 'homo-philic' groups with narrowly defined interests' (MacMillan, 2011), although our findings did not support this latter point, as volunteers came from a range of socio-demographic groups. There is, however, a need to engage with and recruit from socially diverse communities in order to test the effectiveness of volunteering (Jenkinson et

al 2013). All GSC volunteer respondents reported that volunteering had a positive impact on their wellbeing, whether 'making a useful contribution to society' or reporting improved 'self-confidence' and 'mental/physical health'. Volunteering is known to benefit mental and physical health but the causal mechanisms are unclear. Social capital and social support are likely to play an important role (Kumar et al, 2012), but suggestions have also been made that the personality characteristics of volunteers, not the volunteering experience itself plays a role (King et al, 2015). There is clearly a need for deeper understanding of the delivery of volunteering required to yield optimal health benefits (Jenkinson et al 2013). From our findings, there is also a need to consider more effective and robust methods to recruit and monitor volunteers and measure the social impact of their volunteering.

Recommendations:

- i **Recruitment** - Utilise more 'participatory' approach that is less 'formalized', providing broader and more inclusive access for volunteers (the portal 'One Plymouth' was criticized by some steering group members as being inaccessible for volunteers). This would aid more effective (and consistent) recruitment strategy to optimize reach
- ii **Extend social impact measures** – to explore motivations of volunteers and formation of support networks and wellbeing effects.

4.4 Family food engagement

The potential end user beneficiaries of this intervention were disadvantaged families, confirmed already as having poor access to healthy food (Fairness Commission, 2014) and varied food experiences that are dependent on circumstance (Burnett et al, 2016). One hundred families were reached through GSC, with 89 family individuals attending two cooking sessions, which met the project's targets. The GSC project showed impact with improved reported rates of cooking skills, a healthier eating/diet after the project. This suggests that GSC had a positive 'mechanism of impact' as findings suggest potential for behaviour change (although this was not measured directly – see limitations section). Although the target of reaching 100 families for the intervention was met, there were clear recruitment and retention challenges confirmed by all stakeholders.

The important role of the family (and parents) is supported by Public Health England's priority of 'ensuring children have the best start in life' (PHE, 2015). Optimizing recruitment and retention rates is, therefore, essential to increase intervention 'reach' and thus maximize benefits to the health and well-being of the community (CPANR, 2012). The efforts, by the relevant GSC steering group members to recruit and retain participants, was exemplary (section 3.3.4) and families specifically commented on the good communications and reminder phone calls (to enhance engagement).

However, for this to be sustainable, there is a need for effective planning and design of a more robust, but realistic recruitment/retention plan at the project outset. If the beneficiaries themselves were more involved in the planning and design of the intervention (see section 4.2 and 4.6) there a chance that retention would be improved, supporting findings elsewhere that a sense of 'community ownership' is effective in optimizing retention (CPNR, 2012).

'Mechanism of impact' was further illustrated via participant responses to interactions with the intervention. The focus group (n=7) provides a good insight into the family views in relation to their engagement with GSC. There was general respondent agreement on perceptions of the aims of GSC. These were: healthy eating/cooking skills; getting out the house/meeting people, and getting free vegetables. These corroborate the ultimate aim of GSC which is to increase the number of households that regularly cook and eat (fruit and) vegetables. This is promising, given the fact that estimated levels of 'healthy eating' are worse in Plymouth than the England average (PHE, 2013). Learning new skills can increase confidence (Marmot et al, 2010) and healthy eating has been shown to be advantaged by cooking skills (Hartmann et al, 2013). Respondents agreed that GSC helped them with weaning and 'feeding their kids'. It is well recognized that eating habits established in early childhood may track into adult life (Fisk et al, 2011) and parental food involvement influences children's consumption of fruit and vegetables (Ohly et al 2013). Parents are important role models for early child development of eating behaviours (Natale et al, 2014) so this first step is crucial to longer term behaviour change strategies.

Several factors (other than skills) are also known to influence food choice preferences and food (in)security in disadvantaged communities, including low income (FSA, 2011), lack of motivation, cooking skills and facilities (FoPH, 2005), community and social norms (O'Neill et al, 2004), and housing (Kirkpatrick and Tarasuk, 2011). All focus group participants were unemployed. As one of the main known barriers to healthy eating is 'poor economic access' (McEntee, 2008), the provision of free vegetables was an attractive way to engage families. A simplistic focus on financial affordability, however, fails to recognize cultural needs and the importance of 'social agency which comes with employment and community security' (Kirwin et al 2013). Unemployment also affects mental health, social skills and can accentuate 'occupational deprivation'⁶ (Whiteford, 2000). Decent work is the best way of achieving sustainable food security for most households, but the social security system also has an important role to play for many both in and out of work (Fabian Commission 2015). Although free vegetables were clearly attractive to GSC participants (for obvious reasons), there was

an appreciation by the focus group participants that this free offering was un-sustainable, so their comment (when asked for suggested improvements to the project) to offer vegetable bags at a subsidized rate, is a very good one. This is supported by a research review stating that subsidizing healthier food tends to be effective in modifying dietary behaviours (An, 2013). Such subsidies can make healthier food more affordable and are referred to as being 'low agency' population interventions (meaning individuals need to use fewer personal resources) and thus more likely to succeed (Adams et al, 2016). Synonymous with household food insecurity, this highlights the need for future work of this type to be placed within a social justice framework (Dowler and O'Connor, 2011), one that is approached by putting the lived experience of poverty at its heart (Churches Together 2013). As part of its obligations under the recently agreed Sustainable Development Goals (SDGP, 2016), the UK will soon have to begin collecting data on national food insecurity. This presents an opportunity to introduce a robust UK measurement of food security (FRC, 2016). This will go some way to attempting to 'break the well-established links between low-income and diet-related ill health' (Fabian Commission, 2015) thus tackling inequalities more effectively.

In the UK, effective food skills interventions for improved confidence have been evidenced in low income communities (Wrieden et al 2007), yet their impact is often compromised by lack of validated assessment tools (Barton et al 2011). Our family respondents reported the short and compact cooking demo style sessions suited them well, particularly for childcare purposes. Trying new foods and testing new flavours are all important aspects of cooking skills developments (Condransky et al 2010). Of particular note, was the families reporting stronger family ties and the involvement of their children. Good cooking skills interventions are known to require experiential learning opportunities to promote self-confidence and encourage children to get involved in food preparation activities at home (Chenhall, 2010) and the idea that our families reported cooking more 'convenience' food from scratch (quickly) corroborates findings that food projects can improve food behaviours (Pettinger and Whitelaw, 2012). This highlights the need to provide more accessible educational opportunities for food 'up-skilling', and more consistent sustainable support for local food enterprises (such as Food Is Fun CIC) who have as their aim to encourage people of all ages to explore food in a fun way to promote healthy eating for their future.

The 'Grow' arm of GSC was not set up to provide direct access to growing sites for families. Interestingly, this was lamented by some of our focus group participants, who would like to see their children more involved in growing: *'imagine getting the kids into that [growing site/allotment] as well as in the classroom, saying we're going to go and dig up our food for this week's dinner'* (Respondent 3). Allotments have long been recognized to provide social and community opportunities and reduce social isolation especially for those not in paid

6 'Occupational Deprivation' a state in which a person or group of people are unable to do what is necessary and meaningful in their lives due to external restrictions' (in this case unemployment).

employment (Hope and Ellis, 2009). This aspiration is supported by evidence that promotes growing activities to improve food attitudes (Schmutz et al, 2014) and leading to positive wellbeing impacts (Ohly et al, 2016). Growing activities have been shown to increase preferences and improve dietary intake of fruit and vegetables (Robinson-O'Brien et al, 2009) although in children, improving fruit and vegetable intake remains a challenging task (Christian et al 2013). This interest in growing is also promising in terms of community resilience, as research has confirmed that growing food provides an aesthetic experience, which potentially affects the way communities think about food, the environment and health (Hale et al 2011). This leads us to the necessity for more 'upstream' approaches to tackle the inequalities of access in our food system (Lang, 2015) such as the need for a massive re-investment in and policy support for horticulture in the UK (Shoen and Lang, 2016). Evidence is growing that both allotments and the newer forms of urban food activities contribute to meeting national and city-level policy objectives, with the potential to enhance food justice and reduce inequalities (Miller, 2015). Such activities, however, are complex (using GSC as an example), and restrict the potential for impacting the mainstream, because "while local level food initiatives can address some problems faced by poorer communities and households, they are inadequate in practice to solve major inequalities because the problems are too great for piecemeal activity to cope or scale up"(Dowler and O'Connor, 2011). Food growing projects, however, can provide positive social outcomes (Schmutz, 2014).

As well as the importance of skills development and increased confidence, the GSC intervention promoted stronger social connections (agreed by all stakeholders). The families particularly highlighted this aspect, showing improved connections with their children and other family members, neighbours and/or friends. This is a powerful finding, which needs full consideration. One cook organizer anecdotally stated: *'The social inclusion side of this project is amazing, some of the ladies don't like to go out or try new things, and so getting them just talking about everyday things helps them relax and break down barriers'*. This corroborates previous local research, showing the impact of food projects bolstering self-esteem and social networks (Pettinger and Whitelaw, 2012) which can lead to improved mental health outcomes (Jepson et al 2014) and community resilience (Cabinet Office, 2011).

The diverse challenges to healthy eating in 'hard-to-reach' communities necessitate more creative and tailored strategies (Burnett et al, 2016). Despite being linked to many health concerns, food can also be used as a powerful 'lifestyle motivator' (Pettinger et al, 2016) and has the potential to act as a catalyst to connect people socially and culturally, creating a virtuous cycle, whereby food promotes engagement and engagement promotes interest in wellbeing. This reminds us of the need to identify and build on the strengths of individuals and communities, helping them to recognize how social contexts and relationships can affect their

behaviour (NICE, 2014). There is a strong emergent case that participatory, empowerment approaches to health and wellbeing show great potential (Wood et al 2016) and can lead to powerful gains in terms of return on social investment (RSOI) (Schmutz, 2014). Families' enthusiasm for the project gave rise to their suggested improvements, for example using social media to share (extra) recipes, better consultation at the start of the project and gauging bags according to family size. To reiterate, this quote seems to sum up the spirit of the project as far as the families were concerned: *'For me it's broadened the horizons for what can be achieved in the kitchen as well as in your kids' bellies, it keeps them happy and keeps me quiet – happy days'* (Respondent 3)

Recommendations:

- i Build on the project's **social aspect** and create family-centred tailored engagement using 'participatory' (community development) approach
- ii **Build on 'cook' aspect** and create more opportunities for **'grow/share' aspect** for families' (extending food education beyond cooking)
- iii **Participatory consultation** (empowerment approach) with families throughout project (including on steering group). Although this takes time, it is more inclusive, allows voices to be heard, and so likely to be more sustainable.

4.5 The 'Spirit' of Grow Share Cook

Anecdotally, this aspect to a pilot intervention is key and almost impossible to 'measure' using metrics. Given its exploratory pilot nature, there was no way of predicting the 'structure' of the GSC project, making certain processual aspects particularly challenging, for example 'Fidelity' (table 1). Ensuring strict fidelity to an intervention protocol may be inappropriate, however (MRC, 2008), supporting the requirement for adapting our process evaluation to the local setting. The project progressed in such an 'organic' manner, which is difficult to 'model' and replicate. This natural progression, however, added to its 'spirit', the value and belief in the project, and this was made possible via the passion of the various stakeholders involved (Food is Fun CIC) as well as the ethos of the organizations (Tamar Grow local) all of whom acted as phenomenal champions. This reliance on key individuals in food projects has been highlighted by Miller (2015) and the role of 'community champions' has been evidenced to show great value for lifestyle programmes which is particularly relevant with current 'stretched resources' (Aoun et al, 2013). There is great scope, therefore, for future work to consider extending participation and engagement of disadvantaged communities, to create a champion/ambassador scheme, which fits with Community Development philosophies already discussed (Hopkins and Rippon, 2015). This would serve to enhance community resilience, social capital and social sustainability.

In terms of 'Grow', volunteers and steering group had strong shared beliefs in what GSC was setting out to do. Some steering group members believed that to fully respond to the 'improve access to healthy food' recommendation by the Fairness Commission (2014), local food supply chains need to be improved to forge stronger links with local food producers. Similarly, for 'Share' there was a desire to facilitate producers to reach other markets, and link local suppliers. This is derived from Tamar Grow Local's philosophy of fostering resilience in local food systems by creating autonomous projects with multiple mutually supporting links between them. The application of this philosophy here seeks to address two main issues 1) that fresh vegetables are not readily accessible many areas of Plymouth 2) that existing supply chains do not incentivize small scale vegetable production to scale up and meet local demand. The steering group recognized that the level of production that could be achieved from the community growing sites would be insufficient to supply the fortnightly veg bags. By purchasing vegetables from local producers including community growing projects, they were able to circulate money through the local economy and support vegetable growers and associated employment opportunities in Plymouth's food producing hinterland, and provide much needed income for local community growing projects. This has strengthened the local small scale vegetable growing sector which is key to improving access to healthy affordable food in the longer term. This goes some way to underline the critical importance of promoting local food consumption (and making these accessible for disadvantaged communities) and creating markets for food being produced locally (Giombolini et al 2011).

When the project was originally set up, the 'Share' element was merely going to be distribution of food (i.e functional) but instead (and this is supported by the views of the stakeholders) the 'Share' became so much more than this - a real life connection, family ties, sharing recipes and cooking food with friends and neighbours. The share aspect also spilled over into 'cook' sessions where signposting to other services (eg energy, training) took place. Similarly, sharing was demonstrated via social interaction: for example one participant shared her experience of making 'bubble and squeak' from a cabbage and potatoes provided in the vegetable bags another person talked about how she had made chutney from the 'enormous marrow'. Similarly, some telling anecdotes that capture the spirit of GSC are given in Appendix 8. For example, one volunteer driving assistant made friends with one of the participants and they made plans to meet up to play chess; another participant had been doing some guerilla gardening opposite his house.

The spirit of 'Share' (social connection) has been discussed above, but this aspect is fundamental to future developments, and needs to be explored further (and measured if possible) in more depth. Thus a future project might consider the use of more robust Social Return on Investment (SROI) model for measuring social aspect (Schmutz, 2014). Similarly, there is a clear

need for future work to more effectively make links between the different segments of the food system and addressing the entire chain, to facilitate a shift in power and control (Tansey, 2014), so that we can attempt to change our 'fatally flawed' food system (Lang, 2016), which fails the people most in need due to it being 'distorted by inequalities of access' (Lang, 2015). Food chains are exceedingly complex, but current food hunger debates (Fabian Commission, 2015) point to the need for better understanding of the true costs of food waste (Downing et al, 2015) and generating stronger awareness of how to work within a circular economy (WRAP, 2104). Strengthening local food partnerships and collaborating more effectively with, for example, the well-established Devon and Cornwall Food Association DCFA⁷ and recently created Plymouth Food Waste Partnership⁸, both of whom have relationships with larger food retailers, can go some way to build such bridges. The now well-established Food Plymouth CIC partnership, with its successful Sustainable Food Cities (SFC) bronze award winner status, can facilitate further opportunities for joining forces to meet the aspirations of the Plymouth Plan in: economy, health, learning, community and environment (Food Plymouth, 2014).

Further enquiry could also investigate the possibility of creating a GSC social enterprise. The intrinsically 'social' aspect of social enterprise activity can help produce great health/wellbeing outcomes and it would be useful to explore to what extent the commissioning of group activities - as opposed to individual interventions - can further reduce costs (Pettinger and Whitelaw, 2012). This will not only enhance sustainability, but using mixed economy approaches ('stripped-down' business models), where overheads are reduced, provide lower cost alternatives to standard business models, which in the current economic climate, are attractive ways of attaining positive health and social gains. Community food enterprises can 'scale-up' their impact on the local food system by strengthening physical and social infrastructures, and by striving to alleviate other forms of social injustice (Moragues-Faus et al 2016). There is potential for GSC to operate as a social enterprise in the future, given appropriate support and direction.

Recommendation:

- i **Participatory approaches**, facilitating beneficiaries to become 'food champions' (and measuring using social return on investment)
- ii Supporting and **linking with local food enterprises** as champions (using Food Plymouth CIC as facilitator)
- iii Leaving a **lasting legacy** by considering creation of novel model of delivery (e.g. social enterprise, replicable franchise)

7 DCFA 'Where spare food is shared food' distributes surplus food to charitable organisations <http://www.devonandcornwallfoodassociation.org/>

8 Plymouth's Food Waste Partnership raises awareness of the city's huge food waste issue. See their facebook page for details

4.6 Methodological limitations

We went to great lengths to consider the best approach for our process evaluation, working as far as possible within published guidelines (MRC, 2008) and attempting a design that adhered to recommendations for process evaluations made by Saunders et al (2005) and Moore et al (2015). We used a systematic approach to design and conducted our process evaluation by drawing on clear descriptors for our key process questions (table 6). Despite this, like all research projects, there are inherent limitations in our methodological approach. This was partially due to the project's 'organic' nature.

The first main limitation was that GSC was never set up as a 'health intervention', let alone a 'health behaviour change intervention'. This meant there were no obvious health or behavioural theories underpinning the project, so there were minimal mechanisms on which to base any outcome measures for actual behaviour change in participants. Behaviour change is complex (NICE, 2014) requiring strong scientific understanding of current behaviours, their barriers and facilitators, followed by the expertise to then create strategies to achieve change based on this understanding. Interventions involving dietary behaviour change are particularly complex, and commonly poorly evaluated (NOO, 2012), making more rigorous evaluation approaches even more crucial to consider design aspects and stronger health outcome (alongside processual) measures, so that the impact of the intervention can be compared with others and cost effectiveness established. Future work should consider using validated questionnaires for measuring actual behavior change, e.g. self-efficacy and cooking confidence (Barton et al 2011). Future work should also focus on measuring wider educational aspects (Ternier, 2010) to support development of life skills to improve wellbeing. Future work might also consider the development of a conceptual logic model to explore the pathways that might impact on behaviour change in terms of cooking and food behaviours (Flego et al, 2013).

The MRC (2008), made clear the need to start with a series of pilot studies before moving onto more definitive evaluation, and our pilot work makes a valuable contribution. For example, our mechanism of impact' focus included a section on '*potential for change*'. Our findings clearly indicate all participants self-reporting positive outcomes (e.g. mental health, healthier eating) from participating in the project. Although not measuring behaviour per se, such positive reported outcomes, pave the way for behaviour change in the longer term, particularly if creative engagement principles are adopted (Pettinger and Whitelaw, 2012). This is very promising and warrants further and more robust follow-up in terms of enhanced method and design aspects to incorporate behavioural metrics.

A second limitation (and recommendation) relates to the urgent need for more investment in evaluation design from the start of project and to continue to the end stages. Research suggests this should include formative

evaluation using a systematic process at organizational and individual level (Huye et al 2014) Evaluation is a crucial part of any public health nutrition intervention as it encourages an honest appraisal of progress (Taylor et al, 2005). Good evaluation would include formative evaluation with the beneficiaries themselves, which could include 'participatory appraisal techniques' which have been used extensively in communities and can prove valuable in assessing longer term change (Brown et al, 2006). This would serve to enhance engagement, social investment and the sustainability of the project.

A further limitation relates to recruitment and there is a need to fully consider personalize and tailor strategies to engage (and retain) beneficiaries more effectively. Future evaluation research with volunteers and families should use a Participatory Action Research (PAR) approach, such as the participatory appraisal technique outlined above by Brown et al (2006) as these can be more effective than traditional methods. PAR is defined as a 'systematic investigation, with the collaboration of those affected by the issue being studied, for the purposes of education and taking action or effecting social change' (Minkler, 2010). Creative methods are useful for engaging 'harder to reach' audiences (Pettinger et al, 2016) and this is supported by O Kane and Pamphilon (2015) who promote methods such as narrative inquiry to understand people's relationship with food. Furthermore, community participatory approaches are known to facilitate capacity building and policy change (Israel et al, 2010), via empowerment and this can lead to prolonged engagement in research and action to build food security (Johnson et al 2015).

The final limitation, is the acknowledgement that 18 months is too short to expect to be able to measure any clear impact (see section 4.7). Given that recruitment took a minimum of 5 months, there is an urgent need for longer food project that runs, for example alongside Thrive Plymouth 10 year inequalities strategy. This will permit longer term behavioural outcomes to be captured as well as social justice parameters.

Recommendations:

- i More investment in **rigorous evaluation** approaches (from start of project) including health behaviour outcomes, so that the precise nature of the intervention and cost/social effectiveness established
- ii Planning and design of a more realistic **recruitment/retention** plan at the project outset - aim to engage larger audience. Broaden beneficiary access to project (use more inclusive recruitment methods). Using more participatory approach to recruitment.
- iii **Optimise project longevity** to fully capture behavioural and inequalities impact (align with local Public Health strategies)

4.7 What the future holds?

All stakeholders agreed that the future of the project is important but they acknowledged funding to be the major issue and likely to be difficult to obtain in the current political climate. They also felt that a truer picture of what could be achieved would be seen if the project could continue for a longer time period (3-5 years). Lack of financial support is common for food projects (Caraher and Dowler, 2007) and the difficulty of projects to survive 'beyond the grant' has also been reported (McGlone et al, 1999). GSC was funded for 18 months, which is a very short time in terms of public health (nutrition) promotion terms (Hughes and Margetts, 2011). Such short projects cannot address longer term changes needed in wider economic structures, or social justice, the realities of which are bypassed in favour of quick solutions (Caraher and Dowler, 2007). Yet GSC as a pilot has made a notably good start, and gleaned a range of positive outcomes and recommendations that will feed into city-wide wellbeing strategies. Given the current economic climate, it is essential for the next stage of the project to align better with other local food/health initiatives. For example, by using the Food Plymouth CIC SFC silver action plan framework as a platform for promotion (and delivery); and using more creative and participatory methods, to engage and empower communities (Pettinger et al 2016). Similarly, by stronger alignment with the public health inequalities strategy 'Thrive Plymouth', where food is one of four behaviours outlined for local targeted intervention (Nhoaham, 2015), this work has great potential to integrate the food/dietary aspect of disease prevention to improve health and wellbeing of Plymouth communities.

The GSC project has effectively harnessed energy, vision and skill development to develop and build capacity with local communities. All stakeholders agreed that a smaller subsidized 'spin off' version of GSC could feasibly be run: *'the idea of a heavily subsidized vegetable bag, paid for by selling full price bags to council and other workers' (steering group respondent)* might be an option. Another stated: *'Funding could come perhaps through payment of vegetable bags, or from local businesses, grant, lottery, council or government' (cook volunteer respondent)*. Final agreement from families *'... could pay a nominal fee £3-4 to keep the veg bags going' (family respondent)*. Such 'low agency' interventions are likely to be most effective and most equitable and sustainable (Adams et al, 2016).

It is important to 'share what you learn, particularly your mistakes' (Hughes and Margetts, 2011), and there now exists an urgent need to share the findings of this GSC process evaluation report. A cross-agency dissemination strategy will be used for this purpose, so that we can enhance the visibility of the project findings and create GSC as a 'blueprint' for sharing best practice. This strategy will occur locally (local inter-agency partnerships) and nationally (conferences and national food networks) with potential for international collaboration. The importance of research dissemination should not be under-estimated, and results should be

disseminated as widely and persuasively as possible (MRC 2008).

Recommendations for the future:

- i **Essential cross-agency dissemination strategy** to enhance the visibility of the project findings and create GSC as a 'blue-print' for sharing best practice
- i Ensure next step of **project aligns more effectively with other local food initiatives** (e.g Food Plymouth CIC, Food as a Lifestyle Motivator) and wider Public Health food poverty strategies (Thrive Plymouth inequalities strategy)
- i **Invest funding in continuation of project** (at least certain elements) – possibly using a subsidized model (eg paying £2.50 instead of £5 for a veg bag) over a longer time period

4.8 Conclusions

The Plymouth Cities of Service 'Grow, Share, Cook' (GSC) project was a Nesta funded intervention that aimed to improve the local partnerships required to help tackle food inequalities by encouraging a volunteer network to link the growing (and cooking) of food to the Plymouth people who need it most. We have shown, through a systematic process evaluation, that participants in a complex (pilot) food intervention have improved their food behaviours and built stronger social connections. Furthermore, the project elucidated a strong and powerful 'spirit', which could conclude that stronger community cohesion has begun to be realized, but this now needs to be substantiated and driven forward.

There is consensus in the literature that, as well as targeting individual eating behaviour by enhancing knowledge, attitudes and beliefs, we should simultaneously be focussing on more 'upstream' approaches that change the physical, socio-cultural, economic and political environment that individuals live in (Holdsworth, 2010, Lang and Raynor, 2012). Building a more just and sustainable food system requires change at different levels - from our day-to-day eating choices to global institutional arrangements and from food producers (Cox et al, 2008), and consumers to policy makers and academics. Using more 'bottom-up' approaches, involving PAR, are more capable of engaging local communities in ecologically sound

food production systems (Moragues-Faus et al 2016). Such creative approaches can lead to strengthened local partnerships and networks that can be used more strategically to 'contest the rules and institutions of the dominant food system' and 'to develop participatory and democratic practices that challenge the logics of neoliberalism' (Levkoe, 2014).

Shamefully, over 1 million individuals in the UK are categorized as being 'destitute' (Fitzpatrick et al, 2016), with more than 8 million struggling to put food on the table (Taylor and Loopstra, 2016). Food banks have become an ever more normalized and visible part of austerity Britain (Garthwaite, 2016), one of the major reasons for this being the impact of welfare reform. Yet we could 'turn this on its head'. We could work towards creating a social norm for food that is more positive, one that fosters more creative and connective food activities that can be transformative, where food is an expression of empowerment with the potential to enhance health, wellbeing and social justice (Pettinger et al, 2016)



5.0. References

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6.0 Appendices

Appendix 1: Standardised questions for stakeholders

Title: Process Evaluation of Cities of Service 'Grow, Share, Cook' project, Plymouth

Key	
Themes	I=Implementation, MOI=Mechanism of Impact, A= Acceptability, C=Context,
Data Collection Method	SI=Stakeholder information, ES=e-survey, OE=Outcome Evaluation Survey, AR=Audio Recording, SSI= Semi-Structured Interview, GI=Group Interview

Plan to ask stakeholders initial questions using an online survey, then follow up on key points using semi-structured interview (resources permitting)

Theme	DRAFT Stakeholders- Questions to be Answered	Collection Method
MOI	What from your perspective was the key aim for the project at the outset?	ES
MOI	Can you comment on whether you think the aim is being achieved/on its way to being achieved?	ES
I	Outline when (and how) you become involved in the project?	ES
I, MOI, A	Do you think the project has met the needs of the community (consider recruitment)? Volunteers? Stakeholders?	ES
A, C	Have there been any unexpected influences or consequences (this could relate to external factors or other factors of your involvement)	ES
I, A	Do you think there are elements of the project that could be improved? (challenges/ barriers)	ES
I	How effective do you think the steering group collaboration has been? e.g. Group working, shared goals, decision making, fairness, communication, problem solving, leadership etc... (challenges/barriers)	ES
I, A	How have you benefited from participation? (e.g. increased ability to address important issues, forming valuable relationships, acquisition of knowledge, greater impact than working alone)	ES
I	What are your thoughts on longevity and sustainability of the project	ES
	Any other comments?	ES
	Would you be prepared to be interviewed face to face?	ES

Theme	DRAFT Volunteers- Questions to be Answered	Collection Method
I	n=Recruited	SI
I	Selection Criteria	SI
I	Dropout rate	SI
MOI	Why did they take part? (motivation)	GI
I	How did they hear about the project? (Recruitment)	GI
MOI	Expectations of the project at the outset	GI
A	Satisfaction with the project	GI
A, I	Support available while implementing the project	GI
I	How many cooking sessions/ deliveries/ visits to growing sites have they taken part in?	GI/SI
A	Benefits of taking part	GI
A	Drawbacks or difficulties from taking part	GI
A	Improvements that could be made to the project	GI

Theme	DRAFT Families- Questions to be answered	Collection Method
I	Total n=invited (compare to plan at outset=Fidelity)	SI
I	Total n=recruited (compare to plan at outset=Fidelity)	SI
I	Selection criteria for invitations (compare to original plan=Fidelity)	SI
I	Barriers to participation	SI
I	n= at cooking sessions 1, 2, 3	OE
I	Dropout rate (i.e. attended session 1 but did not attend 2 or 3)	SI/OE
I	Reasons for taking part (motivation) and how did they hear about the project (recruitment)?	SSI
MOI	Expectations of the project at outset	SSI
A, MOI	Satisfaction with the project	SSI / AR
A, MOI	Did they attend all 3 cooking sessions? If not why not?	SSI
MOI	Was food access improved? (More vegetables in the home?)	SSI/OE
MOI	Has anything about their thoughts/feelings/relationship with food changed/been influenced during the project?	SSI/OE
A, MOI	Suggestions for project improvement (e.g. veg bag delivery service, veg bag contents, frequency of veg bags, recruitment process, communication about the project, aspects of the cooking sessions, etc.)	SSI
C	Has anything outside of GSC influenced their eating habits during the period of the project so far? (e.g. seasonal changes, financial or social changes, access to shops, additional support other than GSC, etc.)	SSI
MOI	Any unexpected consequences from taking part? (e.g. reactions from family members, new relationships formed)	SSI

Appendix 2: Steering Group Survey Process Evaluation for 'Grow, Share, Cook'

Please type your answers in the box below each question. Expand boxes as required. Please save as a word document, with your name, as the name of the document. Then return as an email attachment to:

Name:	
Job Title:	
Involvement	
1.	Please describe your role and involvement with the Cities of Service, 'Grow, Share, Cook' (GSC) project
2.	Outline when and how you became involved in GSC
Project Aims	
3.	From your perspective, what were the key aims of the project at the outset?
4.	Can you comment on whether you think the aim is being achieved/ is on its way to being achieved?
Target Population, Recruitment and Relevance	
5.	Who do you perceive to be the target population for this project and do you think they have been reached?
6.	How well do you think the project has met the needs of the: a) Community? B) Volunteers? C) Stakeholders?
Project Implementation	
7.	Do you think there are elements of the project that have worked particularly well?
	All elements have worked well
8.	Do you think there are elements of the project that could be improved? (consider areas of implementation or participation where you have faced barriers/challenges)
Steering Group Membership	
9.	How effective do you think the steering group collaboration has been? (consider factors such as: group working, shared goals, decision making, fairness, communication, problem solving, leadership)
10.	Have you benefited from participation? If so, how? (benefits might include: increased ability to address important issues, forming valuable relationships, acquisition of knowledge)
The Future	
11.	What are your thoughts on the future of the project? (sustainability and longevity of the project after the funding has finished)
Additional Information	
12.	Would you be prepared to be interviewed about the project face to face?
13.	Any other comments? (this can include anything about GSC that you feel would be useful for the researchers and may include feedback on the evaluation process)

Appendix 3: Volunteer Survey

Process Evaluation for 'Grow, Share, Cook'

Please type your answers in the box below each question for questions 1-11 and 15-17. For questions 12-14 please score with 0-5. Expand boxes as required.

	Name:
	Volunteer Role:
Involvement	
1.	Please describe your role and involvement with the Cities of Service, 'Grow, Share, Cook' (GSC) project
2.	Outline when and how you became involved in GSC
3.	Why did you want to volunteer?
4.	How many cooking sessions/deliveries/visits to growing sites have you taken part in so far?
Project Aims	
5.	From your perspective, what were the key aims of the project at the outset?
6.	Can you comment on whether you think the aim is being achieved/ is on its way to being achieved?

Target Population, Recruitment and Relevance	
7.	Who do you perceive to be the target population for this project and do you think they have been reached?
8.	How well do you think the project has met the needs of the:
a)	Community?
b)	Volunteers?
c)	Stakeholders (those involved in the organization and running of the project)?
Project Implementation	
9.	Do you think there are elements of the project that are working particularly well?
10.	Do you think there are elements of the project that could be improved? (consider areas of implementation or participation where you have faced barriers/challenges)
Volunteering	
11.	Do you feel you have been supported in your volunteering role? Please detail when the support available has been good and/or needs improving.
12.	To show if and how, you have benefited personally from volunteering, please indicate 0 – 5 for the following areas. With 0 meaning not at all and 5 meaning a lot
a)	Your self-confidence

b)	Your sense that you are making a useful contribution	
c)	Awareness of the effects of your actions on others	
d)	Willingness to try new things	
e)	Sense that you have things to look forward to	
f)	Confidence in your ability and values	
13.	To show if and how, you have developed skills through volunteering, please indicate 0 – 5 for the following areas. With 0 meaning not at all and 5 meaning a lot	
a)	Ability to communicate with others	
b)	Job related skills	
c)	Problem solving skills	
d)	Organisational skills	
e)	Literacy and numeracy skills	
14.	Below are ways that people may gain personally and socially from volunteering. Please score yourself 0 - 5. With 0 meaning not at all and 5 meaning a lot	
a)	Physical health and well-being	
b)	Mental health and well-being	
c)	Participation in community/social events	
d)	Support and information network	
e)	Activity in seeking employment (if relevant)	
f)	Activity in seeking other volunteering roles	
g)	Activity in seeking further training or qualifications	
15.	Have there been any draw backs to volunteering for this project? If so, what are these?	
The Future		
16.	What are your thoughts on the future of the project? (consider how, and if the project will be able to continue after the current funding has finished)	
Additional Information		
17.	Any other comments? (this can include anything about GSC that you feel would be useful for the researchers and may include feedback on the evaluation process)	

Appendix 4: Family focus group prompt questions

1	<p>What made you decide to take part in the project?</p> <p>Prompt:</p> <p>Did you have any fears or expectations of the project at outset?</p>
2	<p>Do you think the project has benefited you?</p> <p>Prompts:</p> <p>Confidence</p> <p>Cooking skills</p> <p>Food knowledge e.g. healthy eating</p> <p>Friends/social contacts</p> <p>Food habits/behaviours and access to food?</p>
3	<p>Were there any unexpected consequences from taking part?</p> <p>Prompts</p> <p>Eating more fruit and veg</p> <p>Enjoying food more</p> <p>Sharing recipes</p> <p>Reactions from family members</p> <p>New relationships formed?</p> <p>E.g. anything external to the project</p>
4	<p>Have you got any suggestions about how the project could be improved:</p> <p>Prompts:</p> <p>vegetable bag delivery service, veg bag contents, frequency of veg bags, recruitment process, aspects of the cooking sessions such as delivery, length, frequency, content, accessibility etc.).</p>
5	<p>Did you feel engaged in the process?</p> <p>Prompts:</p> <p>Communication about GSC project; Decision making about how the cooking sessions/delivery bags run; More involvement and consultation at the start of the project; More involvement at steering group level</p>
6	<p>What would you like the project to do in the future?</p> <p>Prompts:</p> <p>Vegetable bags, cooking sessions</p>

Appendix 5: Example of vegetable bag recipe

The contents of the bag this week are:

Cauliflower

Onions

Potatoes

Parsnips and

Carrots

This was the recipe:

Roasted Cauliflower with vegetable stir-fry

1 x Cauliflower chopped into florets

3 x Parsnips peeled and chopped into sticks

4 x Carrots peeled and chopped into long sticks

1 x Onion peeled and chopped chunky

Dash of Oil

Knob of butter

Zest and juice of a lemon

Herbs/Spices optional

Egg noodles

Method

Preheat your oven to 200°C/400°F/gas 6. Pop the cauliflower in salted boiling water for a couple of minutes then drain in a colander, allowing it to steam dry (you don't want any water left in your cauliflower or it won't roast properly). Toss it in a good lug of olive oil and the butter. Add spices or herbs if you like. Put in a hot, dry ovenproof pan to slowly roast them. When it gets a nice bit of colour on it, add the lemon zest and juice and mix around well. Turn up the oven for about 15 minutes to crisp up.

Serve as a side dish for fish or meat or as an accompaniment to a veg stir fry. Chop your remaining veg into thin sticks and chunky slice onions. Heat oil, put in veg and toss. Once cooked but still crisp serve with noodles and your roasted cauliflower.

Appendix 6 – further observations from cooking demos

Two cooking sessions were observed by the research assistant. They were similar in terms of: time allocation (1.5 hours); place of delivery (Plumer House); cooking skills (chopping and preparing vegetable). However, different recipes were demonstrated at each session. Furthermore, the atmosphere and group dynamics varied considerably. At the first session there was a demonstration of how to make 'onion and potato' soup and 'beetroot falafel' (appendix 6).

Two young children attended the first session which made it difficult for some participants to concentrate. It was suggested that child care provision would be helpful for future sessions. An interesting touch to the first session was that one participant brought some beetroot muffins as a recipe idea to 'taste and share'. The second session was quieter. 'Vegetable rosti cakes' were demonstrated for a way of using up left overs. A recipe for ratatouille was also demonstrated. There were different 'cook volunteers' at each session but both 'cook volunteers' had a similar delivery style which was clear, warm and un-patronising. At both sessions participants were invited to help with the cooking demonstrations but they declined. At both sessions there was a warm atmosphere chatting mainly about food. Sometimes the 'cooking volunteer' led the discussion and asked questions about dishes participants had cooked from the vegetable bags. This led to group discussion, for example one participant shared her experience of making 'bubble and squeak' from a cabbage and potatoes provided in the vegetable bags and another person talked about how she had made chutney from the 'enormous marrow'. The sessions ended with a tasting session and opportunity to take food home.

Appendix 7: Example of a 'cooking demonstration' recipe

Beetroot Falafels

Ingredients

- 1 tbsp olive oil
- 2 onions, chopped
- 2 tsp ground cumin
- 2 x 400g cans chickpeas, drained
- 500g raw beetroot, peeled, trimmed and coarsely grated
- 100g fresh breadcrumbs
- 1 egg
- 1 tbsp tahini paste
- Vegetable oil, for brushing or frying
- To serve
- 1 tbsp tahini paste
- 2 x 150ml pots natural yogurt
- Pinch of sugar
- 3 handfuls beetroot leaves or salad

Method:

1. Heat the olive oil in a frying pan and fry the onions until softened but not coloured. Add the cumin and cook for 1 min, then scrape the mixture into a food processor with the chickpeas, two-thirds of the grated beetroot, the breadcrumbs, egg and tahini. Whizz to a rough paste, then scrape into a bowl and stir in the remaining grated beetroot with plenty of seasoning.
2. With damp hands, shape into about 20 balls and space on lined baking sheets. Chill until ready to serve.
3. Heat oven to 200C/180C fan/gas 6. Brush the falafels with a little vegetable oil and bake for 20-25 mins until crisp and hot through. Alternatively, heat 2.5cm oil in a deep wok and fry in batches, turning, until crisp and hot.
4. To serve, mix the tahini with the yogurt, sugar and some seasoning, then dollop into pitta breads with the warm or room temperature falafels and beet leaves or salad.

Appendix 8 – GSC anecdotes – spirit of intervention

1. Everyone said the project offers a fantastic delivery service, always reliable: 'the [delivery guys] have been brilliant... if I've not been in when they have knocked on the door, they have always put the bags near the front door where I can get it, where it's dry, it's not been left out in the rain or elements, so the food doesn't get ruined' (respondent 3)
2. There was a great story about one of the participants in the Evening Herald about how she uses the veg - <http://www.plymouthherald.co.uk/Committed-Plymouth-volunteers-help-change-lives/story-28042126-detail/story.html>
3. We have had one participant starting to put in some raised beds in the her garden, one of the drivers has been advising and offering assistance on what might be good to grow.
4. We received some Christmas cards from a couple of veg bag recipients and a thank you card when a lady's bags finished up saying 'Thank you to ALL the lovely people who have grown, picked and delivered the veg that I have enjoyed eating!'
5. Early on we had a recipient at Morley Court who said she never ate potatoes as they're too heavy to carry for her and so the veg bags were great as the potatoes are delivered to her.
6. There was a bit of shock when one week we had giant marrows in the bags! But great to be able to include them as it solved a glut problem for one of our local growers!
7. One of the participants said that she had to loose weight and that the veg bags encouraged her to eat more healthily.
8. We were told by one recipient that the recipe leaflet in the bag were essential for her to know and identify what the veggies were.
9. One of our volunteer assistants really enjoyed the trip out delivering the veg bags and that it really lifted his spirits and even given him a bit more confidence in himself. The assistant really enjoyed chatting with participants, being aware that some of them don't have visitors very often and always made an effort to chat with them at the door.
10. The Vegucator driver really enjoyed encouraging helping people to try new things and to pass on ideas from other participants for both cooking and growing. She said it was great to be able to pass on knowledge in the hope that tips might be used. She said: "What is nice is that you only invest a tiny bit of your time but it has the potential to make a big difference to the recipients

