

Growing for health and happiness: The Social Return on Investment (SROI) of the Master Gardener Programme

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Growing for health and happiness

The Social Return on Investment (SROI) of the Master Gardener Programme



The Social Return on Investment (SROI) of the Master Gardener Programme

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Executive Summary

Background

Garden Organic's volunteer mentor network team coordinates and manages a number of programmes each designed to promote the core principles of organic horticulture and the benefits that composting and growing your own produce can bring. The two main strands are the national volunteer schemes 'Master Composter' and 'Master Gardener' programme.

During the period 2009-2014 the Master Gardener programme has implemented mentor network schemes in eight areas of the UK. Both programmes are ongoing and their activities can be followed online (www.mastergardeners.org.uk and www.homecomposting.org.uk) or through social media.

This Social Return on Investment (SROI) evaluation focuses on the Master Gardener Programme funded through the Local Food Fund from September 2009 to August 2013 and the Lincolnshire local authorities and Public Health from March 2011 to August 2013. The Local Food grant covers the areas of Coventry & Warwickshire, Norfolk, North London and South London while Lincolnshire is included through its own funds. The Master Gardener Programme is currently also active in Medway (see Bos and Kneafsey, 2014b), Somerset and HMP Rye Hill (see Brown et al., 2014), Warwickshire, with plans to expand it to other areas. However, those areas were not included in the SROI.

Methods

For this SROI we employed the same framework as used for the Local Food SROI evaluation, incorporating a secondary review of the financial proxies used in both studies. This evaluation has also benefited from previous non-monetary evaluations that have taken place during the course of the Master Gardener Programme. Using this 'distance travelled' data to populate the majority of the indicators of change has greatly reduced the time and resources required for this SROI. It has also helped to make the findings more relevant and useful to project managers, commissioners and evaluators alike.

Results

The results of the SROI show that, based on current estimates, the £0.98 million investment in the Master Gardener Programme has resulted in a social return of £10.5 million.

This is equivalent to a social return ratio of 10.7 : 1, or £10.70 of social return for every pound invested. These benefits to society are in the form of social, economic and environmental outcomes including health and wellbeing, community participation, training and carbon sequestration.

A detailed analysis of the benefit values reveal that over a third of the societal return from Master Gardeners is in the areas of 'Health and wellbeing', followed closely by 'Community and life satisfaction' and 'Food eating and buying'. As in the case of the wider Local Food programme, this illustrates the power of programmes such as Master Gardeners in producing benefits in terms of

subjective wellbeing for all stakeholder groups, but equally in community and life satisfaction and food security and sovereignty. Compared to these major three outcomes the social value derived through ‘Skill base and employability’ and ‘Food recycling and composting’ outcomes was smaller.

Outcome group	Percentage outcome value
Health and Wellbeing	38%
Community life and life satisfaction	30%
Food eating and buying	28%
Skills base and employability	4%
Food recycling and composting	< 1%

Conclusions

The SROI has reinforced the findings of the previous evaluations which have shown the Master Gardener programme to be improving the quality of life of individuals and communities across the UK in terms of health, wellbeing, education, and employability. The process of mentoring combined with the practical skills developed through training and hands-on experience, and the culture of volunteering engendered through the process, have together yielded clear benefits, to those directly involved and the wider community.

Whilst the Master Gardeners themselves have become more skilled and employable, households and wider communities have at the same time become more vibrant and participatory. Perhaps most significantly, the programme has provided structure to people’s lives and instilled confidence in individuals who have made new friends, learnt new skills and enjoyed the pleasures of growing and eating healthier, locally grown food.

In conclusion, the Master Gardener programme has benefited its stakeholders in three main ways: through making food more affordable and containing income in local food economies; through improving physical health, mental health and wellbeing; and through increasing community participation and engendering a greater sense of trust, belonging and life satisfaction. This supports the findings of the Local Food programme SROI, which also found subjective wellbeing to be an important outcome of food growing and training activities.

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1 The Social Return on Investment (SROI) methodology

General introduction

A 'social return' can be defined as a positive outcome of a project intervention, or policy, for people - individuals, communities and society. Some of the social outcomes can be difficult to assess in monetary terms, and yet they often have to be compared with financial returns. Tools to measure social and environmental outcomes have therefore been developed and the social return on investment (SROI) method is one of these (NEF, 2009, SROI Network, 2012).

SROI is a rigorous measurement framework that helps organisations to understand and manage the social, environmental, and economic value that they are creating. Rather than focusing on revenue or cost savings for one stakeholder, the methodology takes into account and values the full range of benefits to all stakeholders. SROI is an outcomes focussed methodology, in other words it seeks to understand and value the most important changes of a project or programme. SROI is also stakeholder driven, relying on consultation with those who are experiencing change and ensuring that recommendations are made to facilitate targeted and effective change for society.

The main stages of a SROI are:

1. Establishing scope and identifying stakeholders
2. Exploring and mapping the outcomes
3. Evidencing outcomes and giving them a value
4. Establishing impact and calculating the SROI

Once the stakeholders are identified (stage 1) and the outcomes mapped (stage 2) the SROI finds a financial proxy for the value (stage 3) of an outcome before taking into account factors such as additionality (additional benefits compared to a base-line) and inflation (stage 4).

For example, a stakeholder group comprised of a group of volunteers might have one of its mapped outcomes, as 'Improvements in confidence and self-esteem'. The cost of a training course to achieve a similar or comparable outcome would then serve as a useful financial proxy to assess the monetary value of this outcome. Expert assumptions are then made to estimate the duration of the effect (1 year or 5 years) and percentages of Deadweight, Attribution, Displacement and Drop-off.

These four factors are defined as:

- ‘Deadweight’ - What would have happened anyway?
- ‘Attribution’ - How much of the outcome can be attributed to the intervention or how much is due to external factors or other interventions in the area?
- ‘Displacement’ – Has any outcome been created at expense of others?
- ‘Drop-off’ - Percentage decrease of the outcome per year

Another assumption is the discount rate for multi-year effects, and this is usually set at 3.5%. All these assumptions can be tested in a sensitivity analysis showing what-if SROI results for other assumptions and percentages.

Benefits and Limitations of SROI

A SROI can deliver many benefits. Firstly it provides ‘hard figures’ (usually expressed in currency terms) which most of us, and especially funders, are familiar with. It forces projects to collect social and environmental data, engage stakeholders and monitor outcomes. It gives a standardised framework on how to evaluate outcomes, and a decision support tool for the governance of projects including planning and sensitivity analysis. For public health, monetary values can more easily be compared with alternative interventions or prescriptions. The main limitations are the cost and skills to perform the method, the assumptions, which can be arbitrary, and the temptation that outcomes are exclusively judged in terms of their financial return and thus over-interpreted. Further, sometimes it is not possible to accurately capture all important outcomes, and it may not always be appropriate to attach monetary values to certain outcomes.

The SROI for the Master Gardener Programme

For this SROI we employed broadly the same framework as that used for the Local Food Programme evaluation (Courtney, 2014). The Master Gardener Programme was already evaluated (Bos and Kneafsey, 2014a) albeit not for its monetary outputs, but with a focus on the environmental, social and health impacts of the programme on the households and volunteers involved. We therefore already had sufficient data available to measure the change in those outcomes identified through the SROI. In this way the SROI formed a useful addition to the existing evaluation and besides two storyboard meetings and several telephone interviews no additional primary data were collected making this “add-on SROI” a cost-effective additional evaluation.

Data collection

1.1.1 Identifying material stakeholders

One of the first tasks was to identify the material stakeholders of the Master Gardener Programme. Having drawn up a list of all stakeholders who were either involved in or affected by the programme in some way, it was decided if they were 'material' to the project and should be included into the SROI (Table 1a). Usually all material stakeholder are included in the SROI, however in some cases not enough data on the outcome those specific stakeholders experienced were available to include them in the SROI calculation. As indicated below this was the case for one stakeholder group: the 'Under 16 year olds' who were not included. Within the mentored people in households we also included only one person per household, again there was not enough data to include more than one per household although more or all household members may have benefited materially from the project. This assumption is more conservative and follows an SROI principle not to over-claim benefits and rather use the most conservative assumptions possible.

Stakeholders who were not considered material and are not included in the SROI are nevertheless likely to have benefited from the project in some way, thus excluding them further contributes to the conservative assumptions mentioned above which go into producing an SROI calculation, which errs on the side of caution.

Table 1a: Stakeholder groups and reasons for inclusion in the SROI

Stakeholder group	Material	Included in SROI	Why? (reasons for inclusion)
Master Gardener Project Coordinators	Yes	Yes	Involved in managing the project and paid through project
Master Gardener volunteers	Yes	Yes	Benefiting directly by training and sharing knowledge
Mentored people in households (adults)	Yes	Yes one person per household only	Benefiting in a wide variety of ways through direct contact with Master Gardeners but also attending events and learning from others and within household. Only one person per household was included in the SROI, this assumption is more conservative than assuming, all persons had the same benefit
Mentored children in households (under 16 years olds only)	Yes	No	Benefiting in a wide variety of ways through being part of a mentored household Material but not separate data for collected therefore not included in SROI
Local community groups	Yes	Yes	Participants in and recipients of project activities and events, benefiting in a variety of ways
People in the wider community	Yes	No	Benefiting through food growing conversations (one off or repeated) with Master Gardeners and through activities in local community groups

Website visitors to five domains	No	No	Benefiting indirectly from visiting the website in various but unspecific ways
Schools and teachers	No	No	Benefiting in indirectly through growing sites in schools
School children and under 5s	No	No	Benefiting indirectly having received education on food growing
Young adults 16-25 years old	No	No	Benefiting indirectly through active growing and social contacts
Over 60 year old men or women	No	No	Benefiting indirectly through active growing and social contacts
Garden Organic charity	No	No	Benefiting indirectly through delivery to charitable aims organic dissemination, research, use of the Ryton site
Other charities	No	No	Benefiting indirectly through delivery to charitable aims
Commercial farmers and growers	No	No	Benefiting indirectly through increased demand for local food and better horticultural skills basis
Local Councils	No	No	Indirect benefits for Public Health related outcomes promoting healthy lifestyle behaviours and indirect benefits through advice on using public space and making use of council and urban resources
Housing estates	No	No	Involved in some cases, insufficient evidence to suggest material benefits
Tenants and Residents Associations	No	No	Involved in some cases, insufficient evidence to suggest material benefits
Research community	No	No	Indirect benefits through research insights and personal development

Based on Table 1a the next table (Table 1b) shows the numbers included into the SROI calculation. This numbers are stakeholders reached by 30th August 2013, the cut-off used for the calculation of the SROI (all stakeholder numbers were recorded by the project coordinators and the volunteers and then added together, website visits were tracked online).

Table 1b: Stakeholder groups and numbers included in the SROI

Stakeholder group	Numbers used	Numbers not used
Master Gardener Programme – Local Food		
Project Coordinators	4	
Master Gardener volunteers	474	
Mentored households	2,092	
Mentored people in households (adults and under 16 years olds)		4,809
Mentored children in households (under 16 years olds only)		1,697
People in the wider community		58,222
Community groups	812	
Website visitors (five domains)		70,073
Master Gardener Programme – Lincolnshire		
Project Coordinators	1	
Master Gardener volunteers	83	
Mentored households	237	
Mentored people in households (adults and under 16 years olds)		565
Mentored children in households (under 16 years olds only)		234
People in the wider community		8,666
Community groups	40	
Website visitors (one domain)		4,116
Master Gardener Programme – Combined		
Project Coordinators	5	
Master Gardener volunteers	557	
Mentored households	2,329	
Mentored people in households (adults and under 16 years olds)		5,374
Mentored children in households (under 16 years olds only)		1,931
People in the wider community		66,888
Community groups	852	
Website visitors (six domains)		74,189

1.1.2 ‘Storyboard workshops’

Two storyboard workshops, one ‘rural’ and one ‘urban’, were held in December 2013. The ‘rural’ one captured Warwickshire Master Gardeners and householders and was held at Ryton Gardens, Coventry in December 2013. In total 13 people attended: 8 Master Gardeners, 4 Householders and 1 Co-ordinator. The ‘urban’ workshop was held at Sustain’s offices in Development House in central London later the same month. This captured North and South London Master Gardeners and was attended by 10 people: 6 Master Gardeners, 2 Householders and 2 Co-ordinators.

The storyboard workshops were used as a basis for developing a unique Theory of Change (ToC) for the Master Gardeners Programme. The ToC comprises of an outcomes map, which illustrates

how project activities lead to intermediate outcomes, and how medium-longer term outcomes are revealed through a chain of events. The nef-consulting 'Prove – it!' toolkit 'Journey of Change' diagrams were used to explore the ways in which intermediate outcomes lead to longer-term outcomes. Factors that acted as a catalyst to change ('enablers') and barriers to change ('preventers') were also recorded. We followed a standard protocol for a 1.5-hour workshop with 0.5-hour warm up and refreshments before and after the session.

The first 10 minutes were used to introduce the purpose of the SROI and some background to the methodology. This was followed by a warm-up discussion planned for 15 minutes. Because this was very disciplined and everybody in the group had an equally valid contribution, we ran it for 30 minutes. This was followed by a 30 minute exercise in pairs working on the 'Journey of Change' diagram to reveal the outcomes and their relationship to one another. In the final session (20 minutes) everybody fed back from the Journey of Change exercise, were prompted to think of any negative outcomes and asked questions around deadweight and attribution.

In London we followed the same pattern, albeit with a longer discussion (45 min) and a shorter final session (5 min). The whole session including the 'Journey of change' pair exercises was recorded and later transcribed by a professional transcription service (see acknowledgements).

Theory of Change

1.1.3 Short-term outcomes & medium-longer-term outcomes

Stakeholders identified short-term outcomes as occurring between 6 and 12 months of project inception. Medium term outcomes were defined as occurring within 1-3 years and longer-term 2-30 years. We therefore combined medium and longer-term outcomes in the analysis. The trajectory of outcomes as they relate to the various material stakeholders are presented below, distinguishing between short-term and medium-longer term outcomes, and identifying those outcomes for which evidence was sourced.

Outcomes were grouped in the following way:

- 1. Food eating and buying**
- 2. Training, education and personal skills**
- 3. Social and commercial enterprise**
- 4. Community life**
- 5. Health and wellbeing**
- 6. Environment and sustainability**

A summary of the Theory of Change, illustrating the trajectory of outcomes from short to longer term, is given below.

Short-term outcomes	→→	Medium-longer term outcomes
1.1.3.1 Food eating and buying		
Improved knowledge to grow own food and food provenance		Leading to increased confidence to grow food and source healthier, more affordable food.
Increased access to healthy food and seasonal diet		Leading to improved physical health and connection to seasons
Increased food affordability		Leading to improved financial position of household
1.1.3.2 Training, education and personal skills		
Structure for day to day activities help with depression following redundancy		Improved ability to consider new life and work options, leading more control over life, resilience and self-esteem
Improved professional, life and practical skills		Leading to increased competence, engagement and purpose
Improved knowledge and skills in food growing, horticulture, but also social skills		Leading to increased employability and financial security
1.1.3.3 Social and commercial enterprise		
Increase in number of people gaining access to food through home growing, food sharing and reduced spending in supermarkets		Reduced income leakage through food expenditure
Change in buying behaviour and increased demand in more local food		Income growth and containment through more local food supply chains
1.1.3.4 Community life		
New friendships and increased connection to people and local area		Leading to an increased sense of trust and belonging
Community – Improved links between organisations and Increased physical infrastructure and resources to run community events		Leading to a more efficient and vibrant voluntary and community sector and increased community membership and participation
Schools- Increased knowledge of food and food provenance, combined with facilities for food growing on-site And developing links between other food projects in schools and the wider community Better schools and education		Leading to Improved quality of school dinners Closer integration of schools with the wider community Increased job satisfaction for teachers Inspiration for teachers, parents and local families to grow their own food
School children- Increased knowledge about food growing and prevalence, combined with Increased physical activity and a more enjoyable and varied school life, and an improved sense of community and self		Leading to the potential of improved physical health through activity and healthy eating and an increased sense of trust and belonging and Improved competence and engagement

Short-term outcomes	→→	Medium-longer term outcomes
1.1.3.5 Health and wellbeing		
New friends and connections and integration into a community		Improved ability to consider new life and work options, leading more control over life, resilience and self-esteem
Leading to a reduced social isolation and sense of belonging, and improved self-expression for those with specific issues		And a greater sense of confidence to initiate life change, security and self-worth,
An improved knowledge and skills in food growing and horticulture		leading to improved mental health and wellbeing including increased competence, engagement and purpose, and increased sense of trust and belonging and further out a reduced dependence on the state for benefits and health services
Increased access to healthy food, leading to an improved and more knowledgeable attitude towards food and diet		Leading to increased physical health and vitality
Increased physical activity through growing, horticultural and related community activities		
1.1.3.6 Environment and sustainability		
Increased area of cultivated and managed land and increase in sustainable behaviours like food sourcing and waste minimisation		Leading to carbon reduction benefits through sustainable behaviours (like composting recycling, renewable energy use, home improvements) and sustainable transport and increase in green space
Improvement in soil nutrients and organic matter leading to improved habitats and biodiversity		Improved soil and water quality
Provision of ecosystem services including flood management, soil quality and recreation		Improved flood management and increased aesthetic, cultural and financial (e.g. house prices) value of the physical environment

1.1.4 Differences between urban and rural (London and Warwickshire)

There were, in general, few differences between the rural and urban storyboards during the discussion and final sessions. The importance of community growing amongst ethnic communities was mentioned more in London, although this also featured quite strongly in Warwickshire. Economic gains and subsistence were more mentioned in Warwickshire but again were also mentioned in London depending on how affluent a borough was. In more affluent boroughs, food quality, fitness and health benefits of gardening were emphasised more strongly than food growing as an indirect provider of additional income. Connecting across different ethnic communities in multi-ethnic boroughs was also important, especially in London.

As part of the theory of change exercise we also recorded the enablers, preventers and future needs of the project. These are shown in Appendix 2.

1.1.5 Investment table

Total investment in the Master Gardener programme (both financial and in-kind, see Table 2) was calculated in December 2013 and includes all investment in the Local Food-funded Master Gardener Programme in different parts of England (North London, South London, Norfolk, Warwickshire) until the 30th August 2013. This cut-off date is an internal project benchmark as the main Local Food Beacon grant started in September 2009 and the cut-off date is 4 years after the initial funding started. The numbers of stakeholder beneficiaries were also recorded at the end of August 2013, which meant that additional stakeholders benefiting from the project since then were not included in the SROI. In other words the SROI calculates the social return for the projects with the cut-off date of 30 August 2013. Comparing the Local Food and Lincolnshire funded projects it is also important to note that the Local Food project ran for 4 years (September 2009 - August 2013) before the SROI cut-off date and the Lincolnshire project for 2.5 years (from March 2011 - August 2013).

Table 2: Stakeholders, inputs description, sources and £-values of investments in Master Gardener Programme by Local Food (top) and Lincolnshire (bottom).

**SROI MGP Investment table
Sept 2009 – Aug 2013**

Master Gardener Programme – Local Food

Stakeholder	Inputs description	Source / Calculation	Value (£)
RSWT / BIG lottery	Local Food Beacon grant (Sept 09- Feb 13)	Master Gardener Programme business plan	£459,711
RSWT / BIG lottery	Local Food grant Supporting Impact grant (Mar 13-Feb 14)	Application for funding. Value based on 50% of grant total, ie for Mar 13-Aug 13 rather than full year to tally with beneficiary numbers	£87,597
Sheepdrove Trust & Local Authorities	Match funding (Sept 09- Feb 13)	Master Gardener summary accounts	£120,010
Master Gardener volunteers	In-kind hours (Sept 09- Aug 13)	Actual figures from database of volunteer achievements from Sept 09* – Aug 13 – 20,531.81 hours at £6.25 each	£128,324
Additional			
RSWT / BIG lottery	Local Food Supporting Change grant (June 12- Feb 13)	Application for funding	£10,000
RSWT / BIG lottery	Local Food additional Beacon grant (Mar 13- Feb 14)	Application for funding	£29,352

Sum £834,994

Master Gardener Programme – Lincolnshire

Stakeholder	Inputs description	Source / Calculation	Value (£)
Local authorities x 6	Commission income (Mar 11 – Dec 12)	Master Gardener summary accounts	£86,355
Lincolnshire Health and Wellbeing Board	Commission income (Jan 13 – Mar 13)	Master Gardener summary accounts	£13,940
Lincolnshire Public Health	Commission income (Apr 13 – Mar 14)	Master Gardener summary accounts. Value based on 5 month of total, ie for April 13-Aug 13 rather than full year to tally with beneficiary numbers. £69,552 / 12 x 5 = £28,980	£28,980
Master Gardener volunteers	In-kind hours (Mar 11- Aug 13)	Actual figures from database of volunteer achievements from Mar 11 – Aug 13 - 2,336.93 at £6.25 each	£14,606

**Sum £143,881
Total £978,875**

2 Measuring impact and calculating the SROI

Indicators of change

The Indicators of change for the identified outcomes as a result of the Master Gardeners Programme were derived using data from survey evaluations of the programme undertaken between 2011 – 2013 by Coventry University (Bos and Kneafsey, 2014a). The surveys of households and Master Gardeners, asked about the impact that the programme was having on various aspects of life, including health and wellbeing, food eating and buying and food composting and waste. Suitable questions were identified to act as proxies for the outcomes identified through the storyboard workshops. For example, change in resilience and self-esteem was estimated using data on changes to life satisfaction and change in levels of physical health were approximated through reported changes to satisfaction with health and consumption of fruit and vegetables.

The survey data was utilised in two main ways:

Firstly, by drawing on data from the repeated evaluation surveys undertaken at three time points between 2011 and 2012 (evaluation rounds 1-3). A number of questions provided forms of 'internal' distance travelled by asking respondents directly how involvement in the programme had altered various aspects of their behaviour. In this case the indicator of change was either proportional change in the number of stakeholders reporting a substantial change in an attribute (such as life satisfaction, for example), or was derived from a Likert scale-type question whereby the respondent had estimated the degree of change on a 1-5 point scale¹.

Secondly, in some case it was possible to derive 'external' measures of distance travelled in the outcomes by comparing values of change for pre- and post-programme involvement. Thus, survey data collected from households and Master Gardener volunteers in 2013 (evaluation round 4) was compared directly to equivalent data collected from these respondents at one of the time points between 2011 and 2012. Although more reliable as a measure of change, this data was not available for all outcomes.

¹ Following SROI methodological convention, data derived from scaled questions in the survey were converted in order to allow computation of outcome incidence in the empirical impact map. The appropriate functional range was 0-1, whereby scaled variables were transformed in the form $(x - \min[x]) / (\max[x] - \min[x])$. This produced a transformation of the ordinal codes 1 through 5 (i.e. 'strongly agree' through 'strongly disagree'): 1=0; 2=0.25; 3=0.5; 4=0.75; 5=1.0. The final values were produced through computation of the mean for each variable.

Likert scale is a psychometric scale commonly involved in research that employs questionnaires. It is the most widely used approach to scaling responses in survey research [Likert (1932) A Technique for the Measurement of Attitudes. *Archives of Psychology* 140: 1–55]

To improve robustness it was possible to derive composite measures of change for a number of the outcomes, thus taking average values of change from more than one variable. One example is 'change in trust and belonging' where the measure is derived from a composite comprising change in time spent with friends and family with reported improvements in personal relationships as a result of programme involvement. Robustness was further improved by collecting further data on some outcomes (for example relating to food buying, health and wellbeing, skills and employability and community life) in telephone interviews and using this to moderate the evaluation survey data. A copy of the telephone survey is given in Appendix 1.

Indicators employed to estimate change in the identified outcomes, together with their corresponding values, are given in Table 3. Unique values were computed for Lincolnshire to enable a separate SROI impact estimation to be produced for this area.

Table 3: Indicator values for identified outcomes on Households, Master gardeners and for Lincolnshire (combined households and master gardeners, due to small sample size)

Outcome	Proxy Outcome / Composite	Indicator	Households	Master Gardeners	Lincolnshire (Combined)
Increased life satisfaction	Change in life satisfaction	Proportion of stakeholders reporting a change in life satisfaction to 'some extent' as a result of involvement in the programme	0.77	0.84	0.76
Increased trust and belonging	Improvement in personal relationships / Increase in time spent with friends and family	Proportion of 1) respondents reporting an increase in satisfaction relating to personal relationships / 2) an increase in time spent with friends and family	0.21	0.18	0.16
Improved physical health	Consumption of fruit and veg / Satisfaction relating to health	Self-reported change in 1) fruit and veg consumption / 2) satisfaction relating to health over the life of the programme	0.48	0.49	0.27
Improved mental health	Change in life satisfaction / time spent growing food	Proportion of stakeholders 1) reporting a change in life satisfaction to some extent / 2) an increase in weekly hours spent growing food	0.70	0.64	0.50
Increased community membership and participation	Change in feeling part of a community / satisfaction with where they live	Proportion of stakeholders 1) reporting an increase in satisfaction feeling part of a community / 2) an increase in satisfaction the area in which they live.	0.29	0.43	0.34
Increased food affordability	Reduction in food expenditure	Proportion of stakeholders reporting a reduction in weekly food expenditure	0.29	0.24	0.31
Increased competence engagement and purpose	Change in personal agency and achievement	Proportion of stakeholders reporting: 1) an increase in satisfaction in achieving goals / 2) an increases ability to influence what happens.	0.27	0.35	0.24
Increased employability / financial security	Improved standard of living and financial security	Proportion of stakeholders reporting: 1) an increase in standard of living / 2) an increase in future financial security.	0.16	0.13	0.10
Reduced income leakage through local food expenditure	Reduction in proportion of food expenditure in supermarkets	Reported change in % of food shop in supermarkets	0.15	0.15	0.15
Carbon reduction through sustainable behaviours	Carbon reduction through recycling, waste reduction and composting.	Reported change in % of food recycled at home / Proportion of stakeholders reporting an increase in amount of food composted as a result of the programme	0.18	0.22	0.20

Deadweight, attribution and displacement

Accounting for deadweight, attribution and displacement is an important element of the SROI methodology.

2.1.1 Deadweight and attribution

Deadweight relates to the extent to which outcomes would have happened anyway without the project. **Attribution** refers to the extent to which observed and anticipated outcomes can be attributed to the Master Gardener programme as opposed to other projects, activities or initiatives. Both measures are represented as proportions in the SROI model and were informed through the collection of data in three stages: the story board workshop; the on-line surveys, and in the case of deadweight, a cross check against equivalent social and environmental trends identified through secondary data sources.

Insights from the Storyboard workshops on deadweight and attribution

Workshop participants were asked to estimate the extent to which they felt outcome change would have happened anyway, and on the basis of the discussion deadweight can be deemed to fall into a wide range from little or no deadweight to medium (0%-40%). Some quotes to reflect this are given below:

“no deadweight”

“Most things would not have happened without the Master Gardener”

“The programme has only impact in 5 counties and to get nationwide acceptance and change a larger project in many more areas is required.”

Many Master Gardeners would have done gardening anyway but it was evident that most householders would not have had anywhere near the level of food growing engagement in their gardens and allotments.

“My garden was down to easy maintenance when I inherited it from my parents and I have not done any food growing for last 25 years...before getting involved in the project”

Primary survey data

Standard SROI survey techniques were employed to gather primary evidence of deadweight and attribution through the on-line surveys. Context and outcome specific information relating to deadweight was gathered through a series of open questions with responses used to moderate the proportional estimates produced through the analysis of secondary data. Respondents were asked to rank the extent to which observed changes occurring within the principle outcome groups could be attributed to the projects as opposed to other projects or activities, using a Likert scale similar to that used for evidencing the outcomes.

Analysis of secondary data

Whilst material changes may have occurred through the four evaluations of the project between 2009 and 2013 it was important to take account of similar changes or trends that

may have occurred for society as a whole over the same time period. The potential for over-estimating deadweight could therefore be greatly reduced and the impact estimations made more robust.

A range of national level secondary data was assembled to represent the main outcomes revealed through the Theory of Change (see Appendix 3), with proportional changes used to produce estimates of deadweight (by outcome group) in the model. These estimates were assessed against the qualitative information gathered through the storyboard exercises and online surveys and it was decided to take the safest assumption possible: adding the primary and secondary deadweight for the moderated deadweight figure (see Table 4). The effects of using different assumptions like the average between primary and secondary deadweight, and the moderation by subtraction of secondary from primary deadweight are shown in the sensitivity analysis.

Table 4: Deadweight and Attribution values derived from the telephone interviews and secondary data, by outcome group

Outcome group	Primary		Secondary	Moderated
	Deadweight	Attribution	Deadweight	Deadweight
Food eating and buying	0.19	0.40	0.04	0.23
Health and Wellbeing	0.40	0.77	0.07	0.47
Local Economy	0.19	0.40	0.05	0.24
Skills base and employability	0.37	0.49	0.15	0.52
Community life	0.70	0.86	0.11	0.81
Food recycling and composting	0.48	0.44	0.15	0.63

Taking health and wellbeing deadweight as an example, the telephone interview responses indicated that around 40% of observed health and wellbeing improvements would have happened anyway without the Master Gardener programme. However, secondary data indicates that around 7% of benefits would likely have occurred anyway, for example as part of the national drive towards wellbeing improvements and/or changes to the delivery of health services at a local level. Thus, the primary value could be moderated downward to 33% or alternatively it could be assumed both sources to be independent and measuring different aspects of deadweight. In the latter case the deadweight estimates are added together resulting in 47%; and this, more conservative, assumption was used.

A similar conservative assumption was made for attribution using the estimation of 40% for ‘food eating and buying’ for all outcomes although ‘health and wellbeing’ and ‘community life’ outcomes. In the SROI on the Local Food programme attribution levels of 61%-64% were used (Courtney, 2014), but because many people may be gardening already without the intervention of the Master Gardener programme and the current popular trend of grow-your-own we felt a more conservative and less favourable attribution rate was preferable.

2.1.2 Displacement

Displacement is another component of impact and it is an assessment of how much of the outcome is displaced by other outcomes. It was evident from the Theory of Change workshop (chapter 1.4) that the extent to which the project had displaced other activities or benefits in the local area was negligible. It is therefore unlikely that displacement was relevant in this case, but to adhere to the principle of not over claiming, and in the interests of producing a conservative estimate, displacement of impacts after deadweight and attribution were taken into account, was estimated to be 10% and this is in line with previous SROI studies, including the evaluation of the Local Food programme (Courtney, 2014).

Drop-off and discount rate

To estimate drop-off we again used the conservative assumption that many outcomes of the intervention last only one year (=1 or 100% drop-off, see Table 5). For the outcomes 'Increased trust and belonging' we used 70% and for 'Improved health (physical & mental)', and 'Reduced income leakage through food expenditure' we used 40%, whereby the change attributed to the Master Gardener programme reduces by 40% every year. 'Increased food affordability' and 'Carbon reduction through sustainable behaviours' were assigned a drop-off of 20% and 10%, respectively. This is because change in these outcomes is likely to decrease slower during the five-year period used in the SROI calculation.

The discount rate was set at 3.5% per annum and this is used as a standard in most SROI calculations within the UK economy. Since relatively high drop-off rates are employed in the model, changes in the discount rate (e.g. in a sensitivity range 0% - 7%) are likely to make very little impact on the final result anyway.

Table 5: Annual Drop-Off rates used for the different outcomes

Outcome	Annual Drop Off
Increased life satisfaction	1
Increased trust and belonging	0.7
Improved physical health	0.4
Improved mental health	0.4
Increased competence, engagement and purpose	1
Increased employability / financial security	1
Increased community participation	1
Increased food affordability	0.2
Reduced income leakage through food expenditure	0.4
Carbon reduction through sustainable behaviours	0.1

Monetisation of outcomes

The analysis identified ten different outcomes, listed above in Table 3 and Table 5. In accordance with SROI protocols, suitable financial proxies were then identified to monetise the outcomes. For this we used, where appropriate, the same values as in previous similar studies including the evaluation of the UK Local Food programme (Courtney, 2014).

All proxies and sources were, however, checked against the SROI Wiki VOIS database, managed by the international SROI network (The SROI Network, 2014). Wiki VOIS (Values, Outcomes and Indicators for Stakeholders) is open access and holds a large number of monetisation proxy values for different stakeholders, outcomes and countries. Making use of this resource helped to make the monetisation of outcomes transparent and traceable.

Table 6, below, repeats some of the information in Table 3 but also shows the financial proxies used in column three of the table. The full source and description with links to the source is given in Appendix 3, including financial proxies, corresponding monetary values, units, sources, release date and rationale.

Table 6: Outcomes, Indicator description to measure outcome and description of financial proxies used in the Master Gardener Evaluation (for additional details on value, units and source of information see Appendix 4)

Outcome	Indicator description	Financial proxy description
Increased life satisfaction (resilience and self-esteem)	% stakeholder reporting a change in life satisfaction 'to some extent' as a result of the programme	Cost of Cognitive behavioural therapy (CBT) to build psychological resilience and self esteem
Increased trust and belonging	% stakeholders reporting an increase in satisfaction relating to 1) personal relationships; 2) Increase in time spent with friends and family	Average of annual value attributed to talking to neighbours more frequently and annual value attributed to meeting friends and relatives more frequently
Improved physical health	Self-reported change in 1) Fruit and veg consumption; 2) Increase in weekly hours spent growing food	Economic benefits associated with preventing premature death due to physical inactivity
Improved mental health	% stakeholders 1) reporting a change in life satisfaction to some extent; 2) satisfaction relating to health over the life of the programme	Mental health service costs per individual (anxiety and depression)
Increased competence, engagement and purpose	% stakeholders reporting 1) increase in satisfaction achieving goals; 2) increased ability to influence what happens	Cost of personal development course on 'Delivering Beyond Yourself'
Increased employability / financial security	% stakeholder reporting an increase in standard of living; 2) increase in future financial security	Employment Incentive costs
Increased community participation	% stakeholders reporting an increase in satisfaction feeling part of a community; 2) Increase in satisfaction with the area in which they live	Value that frequent volunteers place on volunteering
Increased food affordability	% stakeholders reporting a reduction in weekly food expenditure	Average annual household spend on food and non-alcoholic drinks
Reduced income leakage through food expenditure	Reported change in % of food shop in supermarkets	Average annual income generated for the local economy from household food spend, assuming a multiplier of 1.47
Carbon reduction through sustainable behaviours	Reported change in % food recycled at home; an increase in the amount of food composted as a result of the programme	Value of carbon savings from growing vegetables on allotments

Impact calculation

Change in identified outcomes together with indicative monetary values of these outcomes derived through the proxies was then assimilated together to calculate the impact and produce an indicative SROI ratio for the Master Gardener Programmes. The calculation was undertaken for three different SROIs:

- 1. Master Gardener programme funded by Local Food Big Lottery
- 2. Master Gardener Project funded by Lincolnshire local authorities
- 3. The combined projects

In the third model all financial inputs and stakeholder numbers for both projects were added together. Change in outcomes using indicators derived from the main programme evaluation (Bos and Kneafsey, 2014a) were drawn from combined samples and therefore we show the full detail for the combined SROI (see Appendix 4) and only the final result for the ratio for the two funding streams. The sensitivity analysis in the following section was also carried out for the combined project only.

This calculation involved first calculating the Present Value (PV) of benefits, which involved multiplying the number of stakeholders for each outcome by the indicator value before reducing the outcome incidence to take account of deadweight, attribution and displacement. Annual total value figures were then calculated for outcomes lasting more than one year using compound drop-off estimates. Finally, total values were converted to Present Values by applying the UK’s HM Treasury’s annual discount rate of 3.5%.

This process was repeated for each outcome with the totals then summed to arrive at the Total PV. It was then possible to calculate an initial SROI ratio that would indicate the financial return to society for every pound invested in the Master Gardener programme. To calculate the SROI ratio the discounted value of benefits was divided by the total investment:

SROI ratio²	=	<u>Present Value of benefits</u>	
		Value of investment	

² An alternative calculation is the net SROI ratio, which divides the Net Present Value (NPV) by the value of the inputs. The NPV is the PV minus the total value of inputs. In this case it was deemed acceptable to only report the SROI ratio rather than the net SROI ratio.

The complete model to calculate the SROI is shown in Appendix 3. In Table 8 we show only the headline figures for the three SROI ratios calculated. We have used the weighted average of the combined indicators for householders and master gardeners (see Table 3). Although we show the indicator figures collected separately for Lincolnshire we have not used them for the Lincolnshire SROI because we felt the sample size of this sub-sample was too small to justify this.

Table 8: SROI ratios for the Master Gardener Programme

	Master Gardener (Local Food)	Master Gardener (Lincolnshire)	Master Gardener (Combined)
Present value of benefits	£9,320,330	£1,080,967	£10,474,288
Value of total investment	£834,994	£143,881	£978,875
SROI Ratio	£11.2 : £1	£7.5 : £1	£10.7 : £1

The SROI thus indicates that every £1 invested in the Master Gardener programme has returned between £7.50 and £11.20 to society in the form of social, economic and environmental outcomes including health and wellbeing, community participation, training and carbon sequestration. Subject to the stated limitations of project scope and data-related issues, this represents a minimum 750% return on investment for the Master Gardener programme.

Breaking down the magnitude of benefit (Table 9 and Table 10) according to the principle areas of change affected by *Master Gardeners* reveals that the programme is producing over a third of its social return in the areas of 'Health and Wellbeing, followed closely by 'Food eating and buying' and then 'Community and life satisfaction' . As in the case of the wider Local Food programme, this illustrates the power of programmes such as Master Gardeners in producing benefits in terms of subjective wellbeing for all stakeholder groups but also equally in community and life satisfaction and food security and sovereignty. Compared to this major outcomes the financial value of 'Skill base and employability' and 'Food recycling and composting' was smaller.

Table 9: Percentage (%) contribution of outcome groups to the social return of the Master Gardeners Programme

Outcome group	Outcomes in group	Master Gardener (Combined)
Health and wellbeing	<ul style="list-style-type: none"> Improved physical health Improved mental health 	38%
Community life and life satisfaction	<ul style="list-style-type: none"> Increased life satisfaction Increased trust and belonging Increased community participation 	30%
Food eating and buying	<ul style="list-style-type: none"> Increased food affordability Reduced income leakage through food expenditure 	28%
Skills base and employability	<ul style="list-style-type: none"> Increased employability / financial security Increased competence, engagement and purpose 	4%
Food recycling and composting	<ul style="list-style-type: none"> Carbon reduction through sustainable behaviours 	0.03%

It is also worth remembering that the value increased accessibility to healthy food, and knowledge of food and its provenance are likely to be partly accounted for through the valuation of health and wellbeing outcomes, as to do otherwise would represent double counting. In this case a number of educational outcomes for school children were left out of the impact calculation due to restrictions around data availability as outlined in the list of material stakeholders in Table 1.

Table 10: Detailed percentage (%) contribution of the specific groups to the social return of the Master Gardeners Programme

Improved physical health	30%
Increased trust and belonging	21%
Increased food affordability	19%
Reduced income leakage through food expenditure	10%
Improved mental health	7%
Increased life satisfaction	5%
Increased community participation	4%
Increased financial security	3%
Increased competence, engagement and purpose	1%
Carbon reduction through sustainable behaviours	0.03%

Sensitivity analysis

A comprehensive sensitivity analysis (Table 11) was carried out on the combined SROI model, whereby a number of assumptions made around deadweight, attribution, displacement, drop-off, discount rate and the value of all financial proxies were deliberately varied to examine the effect on the impact estimates. Following SROI convention, assumptions were varied for those outcomes producing the largest impact estimates (Value of outcome ‘Improved physical health’, Value of outcome ‘Increased trust and belonging’, Value of outcome ‘Increased life satisfaction’ Value of outcome ‘Increased food affordability’).

Table 11: Summary of change in assumption and its effect on the combined SROI ratio

Assumption	+10% change in assumption effects SROI by:	-10% change in assumption effects SROI by:
Deadweight	-8.5%	+8.5%
Attribution	+10%	-10%
Displacement	-1.1%	+1.1%
Drop-off	-5.6%	+7.6%
Discount rate	0.6%	+0.6%
Number of stakeholders	+10%	-10%
Value of all 10 outcomes	+10%	-10%
Value 'Improved physical health'	+3.1%	-3.1%
Value 'Increased trust and belonging'	+2.2%	-2.2%
Value 'Increased food affordability'	+1.9%	-1.9%
Value 'Increased life satisfaction'	+0.5%	-0.5%

The above table indicates that adjusting the salient assumptions by up to +/-10 % has no major effect on the magnitude of the SROI ratio. The benefit-investment ratio is most sensitive (by producing better return on investment) to a lower drop-off rate which assumes that the effect will last longer than 1 year.

A larger change of assumption, e.g. +/-50% has a proportional effect on attribution, number of stakeholders and value of all outcomes (+/-50%), while the effect is lower on others like deadweight (+/-43%) and drop-off (-22% and +29%, respectively).

By contrast, increasing drop-off would have a relatively smaller effect than decreasing it, as it already assumed to be nearer the maximum for many outputs. All other changes in assumptions have the same numerical effect on the negative or positive side. Varying attribution, stakeholder numbers and the financial value of all 10 outcomes has a direct effect on the SROI (+/-10%), while deadweight has slightly less +/-8.5%, displacement +/-1.1% and the discount rate only +/-0.6%.

The SROI ratio is more sensitive to the value of the outcome 'Improved physical health' +/-3.1%, but less to 'Increased trust and belonging' +/-2.2%, and 'Increased food affordability' +/-1.9%. The SROI ratio is even less sensitive to the remaining seven outcomes, because their contribution to the combined outcome is smaller.

3 Conclusions

Methodological considerations

This study has employed the Social Return on Investment (SROI) framework to evaluate the various Master Gardener Projects delivered by the charity Garden Organic. The SROI has benefited greatly from the previous rounds of evaluation that have taken place over the course of the Master Gardener programme (See Bos and Kneafsey, 2014a) existing evaluation data has provided data to populate the majority of indicators derived in the SROI, greatly reducing the time and resources required for the SROI methodology to be implemented.

The reliance on existing primary data has to an extent limited the scope of the SROI analyses. For example, it was not possible to include some 'material' stakeholder groups due to the lack of evaluation data relating to these particular groups. As such, additional members of mentored households and people under 16 years old (children), who were identified by the theory of change as being material, were subsequently excluded from the empirical analysis. In SROIs of similar programmes it would also be preferable to differentiate between some groups (such as young adults, senior citizens, and ethnic communities) on the basis that they are likely to experience additional outcomes over and above the average adult included in the present SROI of Master Gardeners.

This study has also benefited from the SROI approach taken to evaluate the *Local Food* programme, as well as the methodological recommendations made in this report (Courtney, 2014). Where relevant and appropriate, similar proxies were used which again helped make the study more resource efficient. A second review and scrutiny of these proxies also helped to reinforce the rationale for their use in both studies.

With four rounds of evaluation having previously been undertaken, a substantial amount of 'distance travelled' (= change over time) data was available to compute robust estimates of change experienced in the identified outcomes. The fact that we had this longitudinal data helped to make the SROI more robust, in that indicators of change were based on 'distance travelled' data measured as the change occurred, instead of relying on retrospective perceptions of change as a result of the programme, as can often be the case in social return studies.

With the SROI implemented at an earlier stage, perhaps alongside the main evaluation, a broader cross section of impact estimates could almost certainly have been captured, for example relating to outcomes for the under 16-year olds in the households, school children and people in the wider community addressed in on-off or repeated food growing conversations (see table 1a of material stakeholder not included in the SROI). Additional environmental benefits could also have been captured. Given that such benefits have not

been included here, the reported SROI ratio for both Master Gardener projects is likely to be of greater magnitude than those presented here.

The findings

The SROI has reinforced the findings of the on-going evaluation which has shown the Master Gardener programme to be improving the quality of life of individuals and communities across England in terms of health, wellbeing, education, and employability. The process of mentoring combined with the practical skills developed through training and hands-on experience, and the culture of volunteering engendered through the process, have together yielded clear benefits, to those directly involved and the wider community.

Whilst the Master Gardeners themselves have become more skilled and employable, households and wider communities have at the same time become more vibrant and participatory. Perhaps most significantly, the programme has provided structure to people's lives and instilled confidence in individuals who have made new friends, learnt new skills and enjoyed the pleasures of growing and eating healthier, locally grown food.

Disaggregating the benefit estimates across the various areas of impact shows the Master Gardener programme to have benefited its stakeholders in three main ways: through making food more affordable and containing income in local food economies; through improving physical and mental health; and through increasing community participation and engendering a greater sense of trust, belonging and life satisfaction. This supports the findings of the Local Food programme SROI, which also found subjective wellbeing to be a important outcome of food growing activities.

The benefit-investment ratios produced through the SROI indicate that every pound invested in the Master Gardener programme has generated between £7.50 and £11.20 in social, economic and environmental benefits. The Lincolnshire Master Gardener programme was at the lower end of this range, due principally to the lower number of stakeholders reached by this programme.

At the time of the analysis (August 2013), the Lincolnshire programme had 321 stakeholders (1 project coordinator, 83 Master Gardener volunteers and 237 mentored households). A projected increase in the number of mentored households to 387 would therefore produce an SROI of 10.9. This illustrates the effectiveness of SROI as a forward-looking planning tool, in this case to set targets for stakeholder numbers to be reached in order that desired social return objectives can be achieved.

In addition, the 'SROI model for one' included in the study illustrates the average benefit-to - investment produced for an individual stakeholder. Across the combined Master Gardener Programme an average investment of £339 per stakeholder is shown to have produced a unit social benefit of £3,624, a stark illustration of the societal returns and potential cost savings to the state being delivered through the Master Gardener programme.

Looking forward

Given the breadth and depth of the impacts revealed through the analysis, Garden Organic has subsequently decided to apply the SROI framework to all new commissioned Master Gardener projects. It will also be used to measure outcomes which have not yet come to fruition, but have potential to be achieved through programme activities. In this way it will be used as a forward-looking planning decision support tool as well as an evaluation tool at the end of projects.

The SROI findings have a number of implications for the management of the Master Gardener programme going forward, and for the design and delivery of comparable future programmes which aim to deliver a broad cross section of benefits through a targeted set of activities. Reaching out to a large stakeholder community is obviously one way in which impact can be maximised, but the SROI also provides an insight into the types of benefits delivered to the various stakeholder groups, and with it a greater understanding of these groups, both as participants in, and recipients of such a programme.

The SROI approach can also be used to provide a framework for on-going monitoring and evaluation of future programmes, which should assist in their management and delivery whilst providing confidence to funders that programme coordinators take impact seriously, and perhaps more importantly understand it fully. Ensuring that monitoring and evaluation is both driven by stakeholders and is focused on outcomes is integral to this, and to ensuring that future programmes continue to reach out to beneficiaries in the most effective way possible.

4 References

- Bos, E. and M. Kneafsey (2014a). Evaluation of the Master Gardener Programme, Coventry University, UK.
- Bos, E., and M. Kneafsey (2014b). Evaluation of the Master Gardener Programme in Medway, Coventry University, UK.
- Brown, G., E. Bos, G. Brady, M. Kneafsey and M. Glynn (2014). An Evaluation of the Master Gardener Programme at Rye Hill Prison Interim Report, Coventry University, UK.
- Courtney, P. (2014). The Local Food Programme: A social return on investment approach. Final Report. Local Food, UK www.localfoodgrants.org [accessed June 2014]
- Garden Organic (2014) Growing for health and happiness. The health, social and environmental impacts of Master Gardeners. Ryton Organic Gardens, Coventry, United Kingdom, CV8 3LG
- New Economics Foundation (2009). A Guide to social return on investment, Cabinet Office, London, UK www.neweconomics.org/publications/entry/a-guide-to-social-return-on-investment [accessed June 2014]
- SROI Network (2012). A guide to Social Return on Investment. Written by Jeremy Nicholls, Eilis Lawlor, Eva Neitzert and Tim Goodspeed, and edited by Sally Cupitt, SROI Network, Liverpool, UK, www.sroi-uk.org [accessed June 2014]
- SROI Network (2014). Trading name of The SROI Network Limited, Haddington, East Lothian, Scotland, UK www.thesroinetwork.org [accessed June 2014]
- SROI Wiki VOIS Database (2014). www.wikivois.org or www.globalvaluexchange.org [accessed June 2014]

5 Appendices

Appendix 1 – Telephone survey

The survey was undertaken by telephone and responses were inputted electronically in the survey created in Bristol Online Survey (BOS).

Master Gardener SROI telephone interviews

Coventry University The Higher Education Academy

Questions

3. 1. Imagine if you hadn't become involved with the Master Gardeners programme. What would your life be like? Do you think you would feel the same as you do now? Would you spend your time doing different things? Or do you think you would be doing similar things? Please briefly explain. (Optional)

Continue >

Survey testing only

Check Answers & Continue >

Full text of the telephone survey:

5.1.1 Participant data

1. Area (Optional)

- North London South London Warwickshire Norfolk Lincolnshire

2. Master Gardener volunteer or mentored household? (Optional)

- Master Gardener Volunteer Household

5.1.2 Questions

3. 1. Imagine if you hadn't become involved with the Master Gardeners programme. What would your life be like? Do you think you would feel the same as you do now? Would you spend your time doing different things? Or do you think you would be doing similar things? Please briefly explain. (Optional)

5.1.3 Benefits: Food Eating and Buying

There were five main groups of benefit that were revealed through our evaluation of the Master Gardener programme. These were:

- 1) Food eating and buying
- 2) Health and Wellbeing
- 3) Skills base and employability
- 4) Community life
- 5) Food recycling and composting

I am now going to ask you a few simple questions around each of these six themes.

5.1.4 Food Eating and Buying

2. One of these things that came out quite strongly in the evaluation was the impact of the Master Gardeners programme on the weekly food spend of the people involved, and where they buy their food. Could you estimate how your weekly food bill and food buying habits have changed since your involvement in Master Gardeners?

4. Approximate weekly food bill before your involvement in Master Gardeners? (Optional)

5. Approximate % of the weekly food shop that was in supermarkets *(Optional)*

6. Approximate weekly food bill since your involvement in Master Gardeners *(Optional)*

7. Approximate % of the weekly food shop that was in supermarkets *(Optional)*

8. Think about the way that Master Gardeners has affected change for you in respect of food eating and buying. If overall you saw an improvement, how much of this change is down to Master Gardeners as opposed to other programmes, activities and initiatives you have been involved with? *(Optional)*

- Not at all (0%)
- A little (25%)
- Some (50%)
- Quite a lot (75%)
- A great deal (100%)
- Don't know

9. How much of the change around food eating and buying would have happened anyway without Master Gardeners? *(Optional)*

- None would have happened (0%)
- A little would have happened (25%)
- Some would have happened (50%)
- Quite a lot would have happened (75%)
- A great deal would have happened (100%)
- Don't know

5.1.5 Benefits: Health and Wellbeing

The following questions ask about some of the impacts on your general wellbeing before and since your involvement in Master Gardeners

10. Before your involvement in Master Gardeners:

	Before your involvement in Master Gardeners					
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
a. My life involved a lot of physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. In general I felt very positive about myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Most days I felt a sense of accomplishment in what I did	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I got a chance to learn new things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I felt close to the people in my local area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Since your involvement in Master Gardeners

	Since your involvement with Master Gardeners					
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
a. My life involves a lot of physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. In general I feel very positive about myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Most days I feel a sense of accomplishment in what I did	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I get a chance to learn new things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I feel close to the people in my local area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Think about the way that Master Gardeners has affected change for you in respect of health and well-being

If overall you saw an improvement, how much of this change is down to Master Gardeners as opposed to other programmes, activities and initiatives you have been involved with? *(Optional)*

- Not at all (0%)
- A little (25%)
- Some (50%)
- Quite a lot (75%)
- A great deal (100%)
- Don't know

13. How much of the change around health and wellbeing would have happened anyway without Master Gardeners? *(Optional)*

- None would have happened (0%)
- A little would have happened (25%)
- Some would have happened (50%)
- Quite a lot would have happened (75%)
- A great deal would have happened (100%)
- Don't know

5.1.6 Benefits: Skills base and employability

14. What impact has Master Gardeners had on your overall skills base and employability?

	What impact has Master Gardeners had on your overall skills base and employability?					
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
a. I now have a wider range of skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I am now more employable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Think about the way that Master Gardeners has affected change for you in respect of skills base and employability

If overall you saw an improvement, how much of this change is down to Master Gardeners as opposed to other programmes, activities and initiatives you have been involved with?

(Optional)

- Not at all (0%)
- A little (25%)
- Some (50%)
- Quite a lot (75%)
- A great deal (100%)
- Don't know

16. How much of the change around skills base and employability would have happened anyway without Master Gardeners? (Optional)

- None would have happened (0%)
- A little would have happened (25%)
- Some would have happened (50%)
- Quite a lot would have happened (75%)
- A great deal would have happened (100%)
- Don't know

5.1.7 Benefits: Community Life

17. How has your involvement in the wider community changed since becoming involved with Master Gardeners?

	How has your involvement in the wider community changed since becoming involved with Master Gardeners?					
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
a. I get involved in local events more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I am a member of more clubs and /or associations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I volunteer in the community more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I participate in local community and charity events more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Think about the way that Master Gardeners has affected change for you in respect of community life
If overall you saw an improvement, how much of this change is down to Master Gardeners as opposed to other programmes, activities and initiatives you have been involved with? (Optional)

- Not at all (0%)
- A little (25%)
- Some (50%)
- Quite a lot (75%)
- A great deal (100%)
- Don't know

19. How much of the change around community life would have happened anyway without Master Gardeners? (Optional)

- None would have happened (0%)

- A little would have happened (25%)
- Some would have happened (50%)
- Quite a lot would have happened (75%)
- A great deal would have happened (100%)
- Don't know

5.1.8 Benefits: Food recycling and composting

20. Have your food recycling and composting habits changed in any way as a result of your involvement in Master Gardeners?

	Have your food recycling and composting habits changed in any way as a result of your involvement in Master Gardeners?					
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Don't know
a. I compost food more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I throw less fresh food away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I re-use or recycle food more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Think about the way that Master Gardeners has affected change for you in respect of food recycling and composting

If overall you saw an improvement, how much of this change is down to Master Gardeners as opposed to other programmes, activities and initiatives you have been involved with? *(Optional)*

- Not at all (0%)
- A little (25%)
- Some (50%)
- Quite a lot (75%)
- A great deal (100%)
- Don't know

22. How much of the change around food recycling and composting would have happened anyway without Master Gardeners? *(Optional)*

- None would have happened (0%)
- A little would have happened (25%)
- Some would have happened (50%)
- Quite a lot would have happened (75%)
- A great deal would have happened (100%)
- Don't know

5.1.9 Additional comments from participant

23. Any additional comments from participant *(Optional)*

Appendix 2 – Storyboard Workshop: Enablers, Preventers and future needs

5.1.10 Enablers

- *Funding of project*
- *Garden Organic*
- *Demonstration Gardens*
- *Potato day, Chilly Day, Apple Day*
- *Property developers including Gardens in new developments (private and community spaces)*
- *Council giving over unused land for food growing*
- *Schoolteachers*
- *Youth Groups*
- *Children with interest*
- *Legal support*
- *Engaged councillors and councils*
- *Skills of the older generation of gardeners which needs passing on to the next generation*
- *Visionary leaders*
- *Internal communication cascade*
- *Peer to peer learning*
- *Mentoring*
- *Web sources and social media*

5.1.11 Preventers

- *Health and safety culture*
- *Unwillingness to change and using Health and Safety as excuse*
- *Teenagers and their interest in technology only*
- *Bureaucracy*
- *Lack of food champions for the target group (schools, teenagers)*
- *Work commitments, lack of time*
- *Burnout*
- *Community structures and committee work*
- *Social chemistry, groups becoming vehicle for clashes*
- *Competition with other organisations and funding streams*
- *Access to technology and IT*
- *Dominating personalities (Bull in a china shop)*

5.1.12 Future needs

- *Need Master Cookers next as low skills how to store, prepare and eat vegetables and fruit in an exciting way.*
- *Difficult to get the teenagers and young adults on board, success can already be stopping them from doing bad things (stealing garden benches from community spaces)*
- *Busy families are also difficult to target especially when all parents are working*

Appendix 3 – SROI calculation for the combined Master Gardener Programme

Stakeholder sub-cat	No. stakeholders	Outcome	Indicator description	Indicator	Outcome incidence	Deadweight	Attribution	Displacement	Incidence after attribution, deadweight & displacement	Proxy	Total Annual Value Produced	Annual Drop Off	Value Year 1	Value Year 2	Value Year 3	Value Year 4	Value Year 5	Total Value	Present Value
Project coordinators; Volunteers; One mentored person per household	2,891	Increased life satisfaction	% stakeholder reporting a change in life satisfaction 'to some extent' as a result of the programme	0.78	2245	0.47	0.40	0.1	428	£1,240	£531,167	1	£531,167	£0	£0	£0	£0	£531,167	£514,946
Project coordinators; Volunteers; One mentored person per household	2,891	Increased trust and belonging	% stakeholders reporting an increase in satisfaction relating to 1) personal relationships; 2) Increase in time spent with friends and family	0.21	599	0.47	0.40	0.1	114	£14,500	£1,657,039	0.7	£1,657,039	£497,112	£149,134	£44,740	£13,422	£2,361,446	£2,249,862
Project coordinators; Volunteers; One mentored person per household	2,891	Improved physical health	Self-reported change in 1) Fruit and veg consumption; 2) Increase in weekly hours spent growing food	0.48	1390	0.47	0.40	0.1	265	£5,597	£1,484,813	0.4	£1,484,813	£890,888	£534,533	£320,720	£192,432	£3,423,386	£3,189,885
Project coordinators; Volunteers; One mentored person per household	2,891	Improved mental health	% stakeholders 1) reporting a change in life satisfaction to some extent; 2) satisfaction relating to health over the life of the programme	0.69	2007	0.47	0.40	0.1	383	£942	£360,753	0.4	£360,753	£216,452	£129,871	£77,923	£46,754	£831,752	£775,020
Project coordinators; Volunteers; One mentored person per household	2,891	Increased competence, engagement and purpose	% stakeholders reporting 1) increase in satisfaction achieving goals; 2) increased ability to influence what happens	0.28	802	0.52	0.40	0.1	139	£660	£91,500	1	£91,500	£0	£0	£0	£0	£91,500	£88,405
Project coordinators; Volunteers; One mentored person per household	2,891	Increased financial security	% stakeholder reporting an increase in standard of living; 2) increase in future financial security	0.16	454	0.52	0.40	0.1	79	£3,800	£298,387	1	£298,387	£0	£0	£0	£0	£298,387	£288,297
Community groups; Volunteers	1,409	Increased community participation	% stakeholders reporting an increase in satisfaction feeling part of a community; 2) Increase in satisfaction with the area in which they live	0.30	427	0.81	0.40	0.1	29	£13,500	£394,417	1	£394,417	£0	£0	£0	£0	£394,417	£381,079
Project coordinator households; Volunteers households; Mentored households;	2,891	Increased food affordability	% stakeholders reporting a reduction in weekly food expenditure	0.29	825	0.23	0.40	0.1	229	£2,766	£632,506	0.2	£632,506	£506,005	£404,804	£323,843	£259,074	£2,126,232	£1,948,932
Project coordinator households; Volunteers households; Mentored households;	2,891	Reduced income leakage through food expenditure	Reported change in % of food shop in supermarkets	0.15	434	0.24	0.40	0.1	119	£4,066	£482,417	0.4	£482,417	£289,450	£173,670	£104,202	£62,521	£1,112,261	£1,036,397
Area of cultivated land (m2)	537,726	Carbon reduction through sustainable behaviours	Reported change in % food recycled at home; an increase in the amount of food composted as a result of the programme	0.18	98811	0.63	0.40	0.1	13162	£0.07	£861	0.1	£861	£775	£697	£627	£565	£3,525	£3,206

Total benefits	£10,476,029
Total inputs	£978,875
SROI Ratio	10.7

Appendix 4 – Outcomes, financial proxies, £-values, units, sources and year of source

Outcome	Proxy	Value (£)	Unit per annum	Source	Year
Increased life satisfaction (Increased resilience and self esteem)	Cost of Cognitive behavioural therapy (CBT) to build psychological resilience and self esteem	£1,240	per person	Personal Social Services Research Unit (PSSRU)	2010
Increased sense of trust and belonging	Average of annual value attributed to talking to neighbours more frequently and meeting friends and relatives more frequently	£14,500	per person	BHPS Data 1997-2003, from Powdthavee (2008) Putting a Price tag on friends, relatives and neighbours, Journal of Socio-Economics 37(4), 1459-1580	2008
Improved physical health of volunteers	value to volunteers of experiencing improved physical health.	£5,597	per person	SROI Wiki VOIS Database Report for The Sage Gateshead when doing an SROI analysis for their project Silver Lining. Members section of the SROI Network website: www.thesroinetwork.org/component/users	2012
Improved mental health	Mental health service costs per individual (anxiety and depression)	£942	per person	SROI Wiki Vois Database - The Troubled Families Cost Database http://neweconomymanchester.com/stories/1336-evaluation_and_costbenefit_analysis	2010
Improved competence, engagement and purpose	Cost of personal development course on 'Delivering Beyond Yourself'	£660	per person	REED Learning http://www.reedlearning.com/training-courses/personal-development/delivering-beyond-yourself	2013
Increased employability	Employment Incentive costs	£3,800	per person	SROI Wiki Vois Database - The Work programme, DWP. www.dwp.gov.uk/docs/the-work-programme.pdf	2012
Increased community membership and participation	Value that frequent volunteers place on volunteering	£13,500	per person	SROI Network VOIS Database - Fujiwara and Campbell (2011)	2011
Increased food affordability	Average annual household spend on food and non-alcoholic drinks	£2,766	per household	ONS Family Spending, Edition 2011. www.ons.gov.uk/ons/rel/family-spending/family-spending/family-spending-2011-edition/index.html	2010
Reduced income leakage through increased local food expenditure	Average annual income generated for the local economy from household food spend, assuming a multiplier of 1.47	£4,066	per household	ONS Family Spending, Edition 2011 and Courtney, P, Hill, G and Roberts, D. (2006) The role of natural heritage in rural development: An analysis of economic linages in Scotland	2010
Carbon reduction through sustainable behaviours and increase in green space	Value of carbon savings from growing vegetables on allotments	£0.0654	per sqm	SROI Network VOIS Database - Climate Challenge Fund Food Route Map 2009 www.sd-commission.org.uk/publications.php?id=994	2009