



Social **Farms**
& **Gardens**



Valuing your impact

Cost Benefit Analysis
Excel model user guide



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Aim of this guide

The aim of this guide is to provide an overview of how to use the Greater Manchester Combined Authority (GMCA) Cost Benefit Analysis (CBA) Excel tool to calculate the return on investment (ROI) your activities delivered for your local partners and the local community.

You can download the Excel tool free of charge [here](#).¹ Screenshots of the tool are included throughout the guide.

The guide is intended for senior management within an organisation. Calculating return on investment requires access to a range of datasets and engagement with other organisations; senior managers are often best placed to pull together these range of inputs. The outputs from a CBA/ROI are often used by senior management to engage funders and statutory bodies.

Throughout the guide reference is made to a Beech Tree Community Farm & Garden, an imagined Community Farm & Garden. The worked example has been included to make tangible the concepts and processes described in the guide.

Links to further sources of information and support and a glossary explaining the terms used are included at the end of this guide.

Worked Example – Beech Tree Community Farm & Garden

Beech Tree Community Farm & Garden (BTCFG) in inner London was established 1990 and is run as a charity. It has 4 acres, with a mix of animal pasture, vegetable and fruit gardens, plus a classroom and other buildings (basic kitchen, toilets, office). A range of events are run year-round including plant and produce sales, school visits, support and training for adults and young people with learning difficulties and mental health issues, corporate volunteering and events, and the provision of planting boxes for local businesses and the local community. The site is open Tuesday – Sunday, 9am-5pm.

BTCFG has an annual income of £100,000; £60,000 of this comes from two grants – one from the local council and one from a charitable trust. BTCFG generates further income through its commercial activities. BTCFG aims to balance income and expenditure. BTCFG does not charge an entrance fee, visitor donations are encouraged.

¹ <https://www.greatermanchester-ca.gov.uk/what-we-do/research/research-cost-benefit-analysis/>

What you need to do before you do CBA

Before using the CBA tool, you should have asked and answered the five questions needed to undertake social return on investment work. Starting Out on Social Return on Investment² provides a short and easy-to-follow guide to how to do this. In summary, it requires you to:

1. Identify who changes as a result of your organisation's activity
2. Understand how they change
3. Prove that they change through evidence
4. Judge how much of that change is due to your organisation as opposed to the efforts of others
5. Understand the value of the change your organisation delivers

A checklist is provided at the end of this guide that will help you to confirm that you have all the data you need to begin cost benefit analysis.

Identifying and describing change

Your activities will change the people and organisations you work with and alongside in several ways. The CBA model calls these changes 'outcomes' which deliver 'benefits'. Outcomes may be simple or complex to describe and measure. Outcomes may have clear costs or savings attached to them, or their financial impact may be hard to quantify. Outcomes may result in a need for less or more state intervention in future.

As a further step to identifying the changes you create, you should identify whether these changes are fiscal, economic or social.

The CBA tool categorises the results of outcomes

(i.e. benefits) as being either:

- **Fiscal benefits** – savings to the taxpayer due to an activity, such as reduced NHS or police costs
- **Public value benefits** – the overall value of an activity to society, which includes:
 - a. Fiscal benefits
 - b. Economic benefits – any growth created within the local economy
 - c. Social benefits - gains to society such as improvements to health; educational attainment; access to transport or public services; safety; or reduced crime.

² <http://www.socialvalueuk.org/resource/guidance-on-starting-out-on-sroi-2/>

Worked Example – identifying the outcomes and impacts of your work

BTCFG works with stakeholders to produce a list of the beneficial outcomes from their work. They agree to model the following outcomes:

- Reduction in truancy amongst young people who attended courses at BTCFG
- Reduction in exclusion from schools amongst same group
- Reduction in contact time needed between social workers and these young people
- Pleasure that visitors feel when visiting the community farm and garden
- Pleasure that volunteers get from volunteering
- Respite for carers of adults and young people who attend courses
- Improved wellbeing of adult beneficiaries
- Improved wellbeing of child beneficiaries

Ways of valuing benefits

The CBA tool provides a simple, verified way of placing a value on the fiscal benefits that your activity generates. In the Benefits tab (see section below for more detailed description of the Benefits tab) 39 of the most commonly modelled fiscal outcomes are pre-populated, with the unit cost of each outcome drawn from previous research or government figures stated in column R of each row. These values are automatically updated to take account of inflation; you do not need to change them.

If your activity generates outcomes that are not pre-populated in the Benefits tab, you can use the Spare rows (rows 44-58) to add outcomes to your model. More detail on adding outcomes is provided later in this guide. In terms of valuing these additional outcomes, free to use resources such as the Unit Cost Database and the HACT database (links provided at the end of this guide) list 700+ fiscal outcomes and the monetary value of each. You can enter these values using the Spare rows in the Benefits tab.

These databases are not able to place a value on the public value benefits you deliver. This is because people will place a different value on outcomes such as improved wellbeing or feeling like they live in a nicer neighbourhood; there is no single value that can be used when carrying out a CBA or SROI exercise.

To work out what monetary value to place on your public value outcomes you will need to undertake valuation exercises/games with your staff, your clients, your partners etc. Valuation games include surveying people to find out what value they place on specific outcomes, identifying proxies with known monetary values which correspond to the public value outcome you are modelling, and reviewing the monetary values used in other SROI and CBA analyses. Links to valuation tools and advice are given at the end of the guide.

Worked Example – valuing Public Value outcomes

BTCFG works with stakeholders to identify the value that people put on the outcomes they deliver. Through a combination of SROI valuation games they agree:

- £12 in visitor amenity for each visitor to BTCFG
- £42 in volunteer benefit from each volunteer session
- £62 per week carer respite value

When to do a CBA

CBA offers valuable information at different stages in the project cycle:

- **Ex-ante CBA**, undertaken at the pre-delivery stage, sets out what return in terms of public value and taxpayer savings can be expected from investment in a specific organisation, option or proposal. Based on this information, commissioners may choose which proposal to adopt or alternatively to allocate public funds towards other proposals that are expected to deliver greater public value.
- **Regular, repeat CBAs**, based on up-to-date project management data, can show whether an organisation or project is achieving, or is likely to achieve, its forecast return on investment. If a project is found to be failing to meet expectations, project managers can redesign delivery or, in some cases, stop delivery and reallocate funds to better performing projects.
- **Ex-post CBA**, undertaken after a project has been delivered, is one way of judging whether an activity has been worth undertaking. It also gives us information with which to update and improve the estimates that are used in ex-ante CBAs of projects in the future.

Setting up the CBA model

When you open the CBA Excel model you will be presented with the CBA Tool details tab of the spreadsheet.

If prompted, enable active content and macros; these are shortcuts and workings within the model which help the model to run and make it easier to navigate the spreadsheet. The CBA tool will still work if your IT system does not allow active content and macros.

Frontpage

The CBA Tool details tab tells you:

- The version of the Tool you are working with – v4.2 is the latest at the time this guide was written
- Release notes and a list of supporting documents
- An explanation of the spreadsheet structure – blue tabs where you need to enter information, orange tabs which set out the results of your CBA, and purple tabs where you can edit how the model works
- An email address to contact if you need help using the tool

Proposition Summary

The first tab where you should enter information is titled Proposition Summary. Here you should:

- Give a title to your CBA model – this title will repeat at the top of each tab of the spreadsheet. This means if you print the whole spreadsheet you will know which printouts relate to your modelling.
- At row 17, tell the model the financial year (FY, e.g. 2019-20) in which your modelling begins. This is nearly always the current FY. If you are undertaking retrospective analysis of your work, you will need to set the FY in the past. If you are carrying out an ex-ante CBA and will not be spending money on your project in the current FY, you will need to set the FY to whichever FY marks the point in the future when you will begin spending money.

- At row 19, tell the model for how many years you want to model the costs and benefits of your organisation’s work. For simplicity, it is suggested you model 1 year of costs resulting in 1 year of benefits. However, if you deliver benefits that last for several years and have evidence to prove this you may want to set the modelling period to 3 or 5 years. It is rare for more than 5 years of benefits to be modelled. Use the comments, caveats and next steps boxes to keep a log of your CBA modelling. Here you should note how you have developed the model to date, further research you plan to undertake to improve the modelling, and any caveats reviewers should be aware of when considering the results of your modelling.

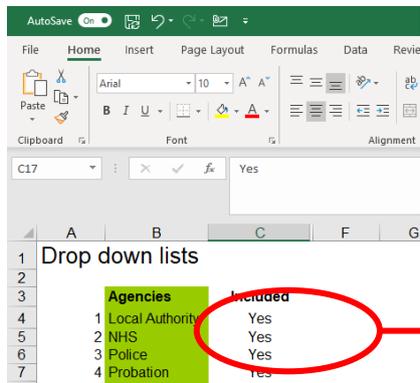
Title and describe your proposition here

Set your financial year and modelling timeframe here

Agency list

Once you have finished entering information into the Proposition Summary tab you should move to the Agency list tab. As per the instruction box on the page, use the Spare1 to Spare9 cells to list all those groups who see a change as a result of your work. Such groups might include: visitors to your community farm/garden; the local community; local businesses; volunteers. You should also list your own organisation here.

As you list each group, in the adjacent cell toggle the text from 'No' to 'Yes'. Doing this means that you can now assign costs and benefits to the groups you have listed (assigning costs is explained in more detail in the next section).



On the Agency list tab, use the toggle to include or exclude agencies from your modelling

Do not make any changes to the agencies already listed in cells B4 – B14.

Worked Example – identify who benefits from your work

BTCFG adds the following agencies to its agency list:

- General public
- Volunteers
- Carers
- Charitable trust
- Local businesses
- Themselves! (BTCFG)

As a final step in setting up the spreadsheet, you may wish to hide tabs which you will not need to use. If you right click on the title of a tab, you will open a menu which gives you the option to hide that tab. It is recommended that you hide the following tabs:

- Cohort Impact Calculator
- Costs Pie Chart
- Benefits Pie Chart
- Column Chart
- Column Chart with Cashability
- Agency Cashability

The CBA tool will still work if you choose not to hide these tabs. To unhide tabs, right click the tab row, select unhide and choose the hidden tab you want to unhide.

The Costs tab

Different types of costs

The Excel model aims to capture all the costs associated with delivering a specific service, intervention or activity. The model sums three different types of costs:

1. Capital costs: one off investments, such as new or refurbished buildings and facilities
2. Revenue costs: costs which tend to fluctuate in relation to the amount of project activity being undertaken, such as staff salaries
3. In-kind costs: those inputs that are needed in order to make a project a success but which the public purse will not have to pay for, such as a charity providing their facilities for free. These are counted because there will be an opportunity cost associated with using these resources for project activities.

Before you begin to enter data into the costs tab, you will need to list all the different costs incurred in delivering your activity in a typical 12-month period, grouping them under the three types of costs listed above. If certain types of costs fluctuate year on year, either take the latest year's figure or, if the fluctuation is relatively small year-on-year, take an average of the last 3-5 years' cost.

Remember to include in-kind costs. These are most likely to relate to any volunteer support you receive when delivering activities (which is considered in more detail in the next section) but could also include any equipment that is donated to you or any space you have access to rent-free.

For each cost you list, assign that cost to whoever incurs the cost. In most cases this will be your organisation directly, i.e. the cost is paid from your bank account. In some instances, a partner organisation may pay a cost directly on your behalf.

Entering costs data

Once you have finalised your list of costs, by type and their amount, you are ready to begin entering data into the costs tab. From row 5 downwards, enter each cost on a separate line, enter its predicted amount (in column C), an explanation of how that amount was calculated (column D), and whether the cost is capital, revenue or in-kind (column H).

At column G you need to tell the model who incurs each cost. If you have entered all groups who see changes as a result of your work in the Agency list tab, you should be able to use the drop-down boxes in column G to select which of these groups incurs which costs. As stated, in most instances it will be your organisation which incurs the cost.

If one of your cost categories is paid by two or more agencies, e.g. you have two staff, one salary is paid by you and one salary is paid directly by a partner agency, then you need to enter that cost category across two rows, i.e. only one agency can be selected in the *Who pays?* column.

Describe the cost here

Set out the lifetime value of each cost

Ref	Cost category	Predicted costs (£)	Predicted costs notes/ assumptions	Offset costs/ efficiencies (£)	Offset costs/ efficiencies notes/ assumptions	Who pays?	Capital/ Revenue/ In-kind
C1	Staffing	£ 70,000	3 members of staff - 2FTEs - Manager and two others who run sessions (PT)			BTCFG	Revenue
C2	Utilities - gas/electricity/diesel	£ 10,000	gas, electricity, desel, phonline			BTCFG	Revenue
C3	vehicles and machinery	£ 10,000	maintenance costs			BTCFG	Capital
C4	Insurance	£ 5,000	Public and employers liability			BTCFG	Revenue
C5	Vets bills	£ 2,000	A few call outs per year plus general visits			BTCFG	Revenue
C6	Other overheads	£ 750	comestibles, cleaning products			BTCFG	Revenue

Explain how the lifetime value has been worked out here

Identify who pays the cost here

Offset cost

Columns E&F on the Costs tab are only to be used if, by spending money on your activity, you generate an income that can be reinvested in your activity. An example would be produce and plant sales which generate money which is used to pay for equipment and materials. You should enter such income on a separate row, leave the predicted cost in column C as zero, and enter the predicted income and an explanation of that prediction at columns E&F. This amount is automatically netted off your total delivery cost.

Worked Example - calculating the cost of your activity

BTCFG identifies the following annual delivery costs:

- Staff salaries = £70,000
- Utilities = £10,000
- Vehicles and machinery = £10,000
- Insurance = £5,000
- Vet's bills = £2,000
- Other overheads = £750
- Rent = £1 (peppercorn)
- Business rates = £0 (rates relief)
- Volunteer time contribution = £18,990 (see Accounting for Volunteers section)
- **Total = £116,741**

Supported volunteers and co-workers will also achieve these Public Value benefits. In addition, they may achieve more direct Fiscal benefits, e.g. reduced need for physical or mental health service provision. These outcomes can be captured through the Fiscal benefits rows in the Benefits tab.

On the Costs tab, the time that volunteers give to you is an in-kind contribution towards your total running costs. It should be accounted for in one of the following ways:

- For general volunteer input (e.g. unsupervised or with some occasional supervision), sum the total number of hours of volunteer support you receive in a year and multiply this figure by the living wage (at the time of writing, this was £10.55 per hour).
- For supervised volunteers/co-workers, you may wish to reduce the hourly value you receive from their volunteering. There is no hard rule for this. You should consider how big a time demand is placed upon employed staff in supporting these volunteers and how much you would need to pay/how many people you would employ to deliver the activity undertaken by supervised volunteers/co-workers in the time they have with you.
- Where a volunteer is providing specific technical skills (e.g. compiling your annual accounts, offering legal advice, veterinary or skilled horticultural activity) you should value those volunteers' input based on what you would have had to pay them in a professional context.

NCVO provides guidance on how to value the input of volunteers.³

Worked Example – valuing volunteer time inputs

BTCFG calculates the value of volunteer support they receive as follows: 30 volunteers, each giving 3 hours X 20 sessions, at £10.55 per hour:

- 30 volunteers
- Each giving, on average, 3hrs x 20 session per year
- At £10.55 per hour (London living wage at time of writing)
- **30 x 60 x £10.55 = £18,990**

The Benefits tab

In order to calculate the benefits of your activity, an understanding of the change in outcomes produced by your activity is required. The Benefits tab is where you set out the changes in outcomes your activity helps to deliver.

Setting up the Benefits list

The Benefits tab is prepopulated with the most commonly modelled outcomes of public sector activity such as supporting people back into work and reducing demands placed upon the health

³ <https://www.ncvo.org.uk/ncvo-volunteering>

service. These outcomes are listed in column B and run from B1 to B18, with a more detailed description of each outcome given in column D. If your activity results in any of these outcomes, you should leave the *Include outcome?* cell in column C toggled to Yes. For all irrelevant outcomes change the toggle to No. The Excel tool will ignore any data entered in rows which are toggled to No.

Ref.	Outcomes	Included outcome?	Benefits	Who does benefit accrue to?
B1	Increased employment (reduced benefits payments and health impact)	Yes	1) Fiscal benefit of moving people off benefits and into work	2) DH 3) Individuals
B2		Yes	2) Improved health outcomes	
B3		Yes	3) Increased income	
B4a	Improved skill levels	Yes	Increase in earnings amongst residents achieving Level 2 NVQ	Population without Level 2 qualifications
B4b		Yes	Increase in earnings amongst residents achieving Level 3 NVQ progressing from Level 2	Population qualified to Level 2 but not qualified to Level 3+

On the Benefits tab, use the toggle at column c to tell the model which outcomes you will be including in your modelling

Rows 59-69 of the Benefits tab provides a range of wellbeing outcomes, colour coded blue. Again, if your activity results in evidenced changes to these outcomes, such as reductions in the isolation of people who participate in programmes you run, you should leave the *Include outcome?* cell in column C toggled to Yes. For irrelevant outcomes change the toggle to No.

Entering additional outcomes

From the preparatory work you have undertaken before beginning your CBA, it is likely that you have identified some outcomes of your work which are not prepopulated in the model, e.g. the benefits that individuals receive from volunteering with you. You can model these additional outcomes using the spare rows provided from rows 44-58.

	A	B	C	D
43	B18	Residential Care Admissions (weeks)	Yes	Cost through use of
44	B19	Spare 1		
45	B20	Spare 2		
46	B21	Spare 3		
47	B22	Spare 4	No	
48	B23	Spare 5	No	
49	B24	Spare 6	No	
50	B25	Spare 7	No	
51	B26	Spare 8	No	
52	B27	Spare 9	No	
53	B28	Spare 10	No	
54	B29	Spare 11	No	
55	B30	Spare 12	No	

Use these orange highlighted rows to add outcomes which you want to model that are not included in the default list

Turn on as many Spare outcome rows as you need by toggling the cell from No to Yes. The toggled rows will be bolded, indicating that you can now enter data on these rows. In column B give a name to each outcome (e.g. benefit of volunteering). In column D provide more detail of that outcome (e.g. by volunteering people make new social contacts, learn new skills and report increased wellbeing) and in column E tell the model who benefits (e.g. Volunteers). Repeat these steps for each additional outcome.

Assigning a value to additional outcomes

For each additional outcome you have entered you need to tell the model the value of that outcome. Refer to your pre-modelling work, where you should have reached agreement on what these outcomes are worth to your clients, visitors, volunteers and local community. Scroll across to column U of the Benefit tab, titled 'Unit public value (social) benefit' and enter the agreed figure. In column W, 'Monetisation evidence financial year', select the current FY. This second step removes any need to account for inflation in your modelling. In column V provide more detail on how you agreed the value of the outcome, e.g. the average from a sample of clients.

It may be necessary to multiply the value you enter at column U so that it corresponds to the unit of measurement you are using for that outcome. For instance, if you have decided that each volunteer receives £50 of benefit from each volunteering session but your unit of measurement is total volunteers rather than total volunteering sessions, then you need to multiply the £50 figure by the number of times on average a person volunteers each year to give an annual volunteer benefit. To give an example where this extra step is not needed, if you have decided that each visitor receives £2 of amenity every time they visit and your data records total visits in a year then you can use the £2 figure with no further calculation.

Assigning additional outcomes

There is one final step you must complete before you begin to enter data relating to your activity. Go to the Agency percentages tab (the penultimate tab, colour coded purple). This tab replicates the list of benefits you have chosen to model on the Benefits tab. Scroll down and find the 'Spare' benefits you added. You then need to scroll right and assign these benefits to

whichever group receives them, e.g. if a benefit falls to volunteers you need to place 100% in the relevant cell.

Ref	Description	Sub-type	Local Authority	NHS	Pol
B17	Reduced hospital admissions				100%
B18	Residential Care Admissions (weeks)			100%	
B19	Reduced demand placed on social workers	Fewer social worker contact hours per year		100%	

Here the extra outcome added (reduced demand placed on social workers) has been 100% assigned as a saving to the Local Authority

Running macros

At the top of the benefits sheet click the button 'Hide unused rows'. A macro will run which concertinas the sheet, hiding the unused rows and making it easier to navigate and print the Benefits tab. If you decide to add another outcome to your model, click 'Unhide all rows', add the new outcome and re-click the 'Hide unused rows' button. The CBA tool will still work if you choose not to run this macro.

Entering data into the Benefits tab

For each of the outcomes you have decided to model, you need to tell the Excel tool the following⁴:

- **Target population (column F)** – who could receive this benefit? Examples would be your total number of visitors, total number of volunteers, or the number of corporate partners you work with.
- **Affected population/Predicted incidents (column H)** – in most instances this figure will be the same as your target population, e.g. all visitors receive a benefit from visiting. In instances where you are modelling an outcome that is linked to the size of your target population (e.g. the number of hours respite carers of vulnerable adults receive from courses you run), you may need to make further calculations based on your target population (e.g. 2 hours per carer, per week, per client).
- **Level of Engagement and Retention rates (columns J&L)** – these columns are included in recognition of the fact that on longer-term programmes people will choose not to attend, drop out etc. If what you are modelling is largely single event activity (e.g. 1 visit or event) then you can enter 100% engagement and retention rates. Alternatively, you may want to enter a 100% engagement rate and 95% retention rate in recognition that not all clients attend all the time.
- **Impact (column N)** – enter a percentage which reflects the average improvement in/achievement of this outcome. For outcomes such as volunteer benefits from volunteering this percentage is likely to be close to 100%. For outcomes such as helping people back into work or to learn a new skill, the percentage may be lower to reflect the fact that these outcomes are more difficult to achieve.

⁴ Hovering the cursor over the following cells will provide you with prompts on what types of data to enter

- **Deadweight (column P)** – a traditional SROI approach requires modellers to acknowledge that outcomes are subject to *deadweight* (benefits that would have happened anyway), *displacement* (some benefits are simply displaced from other projects/areas) and *leakage* (some benefits are taken by unintended groups) factors. The GMCA CBA model combines these three concepts into a single Deadweight percentage. Refer to your pre-work. You should have attempted to answer the question; *how much change is due to your organisation?* Use the answer to this question to generate a Deadweight percentage, e.g. *'there are very few green spaces nearby, so our presence is key in helping people feel good about their local environment, meaning deadweight is <10%'*. Alternatively, *'lots of local charities support our clients, so deadweight is quite high'*. **Note: whatever Deadweight percentage you choose, it must be smaller than the Impact percentage entered at column N. If Deadweight >Impact, you are in effect saying it would be more effective to do nothing, and the model will report an error.**

Worked Example – entering data into the Benefits tab

BTCFG uses the following types of information to identify the retention, impact and deadweight associated with their work

- Session registers show that 95% of beneficiaries regularly attended support sessions
- Teachers and social workers report that half of the young people who attend sessions have since shown an improvement in school attendance
- Nearly 100% of visitor feedback forms show that people enjoyed their visit to BTCFG
- Regular surveys of the adult and young people beneficiary groups show a 20% increase in self-esteem
- Between a third and half of the adults and young people who attend sessions at BTCFG say that they attend other support sessions/services

When entering numbers and percentages remember to explain the reason behind those figures in the adjacent 'Assumptions' cells. This will help anybody who reviews or adds to your CBA modelling.

Profiling benefits

From column AE rightwards, you need to profile out your benefits over the period which you have chosen to model. If you are only modelling one year of benefits, simply record 100% impact in year 1. If you are modelling several years of benefits, either record 100% impact against each year or profile benefits building up over time and/or falling away in future years. For simple CBA models it is usual practice to assume 100% of impacts in year.

	AA	AB	AC	AD	AE	AF	AG	AH	AI	BD	BE
	Fiscal benefit	Public value benefit	Assumptions on impact lag and drop-off		% Impact year 1	% Impact year 2	% Impact year 3	% Impact year 4	% Impact year 5		Impact year 1
4											

Checking that benefits are being summed

Scrolling right from column AE you should be able to see whether you have set up the Benefits tab correctly based on whether it is summing the total value of each outcome:

- Column CD should sum the overall gross fiscal benefit of each outcome
- Column DE should sum the overall public value benefit of each outcome (this figure is usually larger than the overall gross fiscal value)

If you scroll down the Benefits tab, at row 70 the model should set out the total fiscal and public value generated across all the outcomes being modelled.

D	AE	BD	BE	CD	CE	CF	DE
---	----	----	----	----	----	----	----

% Impact year 1	Fiscal		Public Value	
	Impact year 1	Overall gross fiscal benefit	Impact year 1	Overall public value benefit
	£ 67,790	£ 67,790.00	£ 416,419	£ 416,419.32

These boxes tell you the total fiscal and public value savings generated by the activity you are modelling

If you scroll down and right from row 70, the model should set out how these total benefits values are shared out across your partner organisations. There may be few figures in this table if you have largely modelled outcomes using the 'spare' rows.

Error messages

The most common reasons why the Benefits tab may not be summing outcomes are:

- Text has been entered in a column that can only record numeric data - #VALUE will appear in the overall gross fiscal and overall public value columns
- The Ref. in column A has been overwritten by mistake. This means that the purple reference tabs stop working and the model records #N/A instead of assigning benefits to specific groups.
- Agencies have been toggled off, or not entered in the Agency list tab, meaning that benefits or the totality of benefits are not recorded from column DG of the Benefit tab rightwards

If after checking you are unable to find the source of your error, share your model with the GMCA team, who should be able to correct the error for you.

The Output metrics tab

The Output metrics tab provides you with several different measures of the impact of your organisation and its activities.

The Output metrics tab has 3 tables:

1. **A Financial Case (Fiscal CBA)** - this sets out the direct financial impact of your activity in terms of delivery costs and the savings to the taxpayer that result from your activity
2. **An Economic Case (Public Value CBA)** – this presents a broad view of the benefits of your activity, in terms of your net present value to society
3. A table showing the costs and benefits to each agency. You can use the dropdown arrow next to cell B30 to toggle between costs and benefits for specific agencies. Unless you have a very complicated profile of delivery costs and agency benefits, this table will not be relevant.

Financial Case results

The Financial Case (Fiscal CBA) table profiles your activity's costs and fiscal benefits for the lifetime of your model (e.g. 1, 3, 5 years). It discounts future costs and fiscal savings to current values and then calculates:

Net Present Budget Impact = the cost of delivering the project minus the resultant cashable fiscal benefits. If your activity does not deliver cashable fiscal savings (e.g. it only delivers public value benefits such as client wellbeing and visitor amenity) your organisation's net present budget impact will be your operational costs for the period modelled.

	A	B	C	AB	AC	AD	AE
1	Beech Tree Community Farm and Garden						
2							
3	Cashability Assumption		Gross benefits				
4	Price base		FY 2018-19				
5							
6	Financial Case (Fiscal CBA)		Financial Year	Net Present Value (NPV)			
7			2018-19				
8	Actual costs	Costs	£ 116,741.00				
9		Benefits	£ 67,790.00				
10	Discounted costs	Costs	£ 116,741.00	£ 116,741.00			
11		Benefits	£ 67,790.00	£ 67,790.00			
12				£ 48,951.00	Net Present Budget Impact		
13				0.58	Overall Financial Return on Investment	This part of the Outputs tab tells you the fiscal return on investment you deliver	
14				- years	Payback period		
15							
16	Economic Case (Public Value CBA)		Financial Year	Net Present Value (NPV)			
17			2018-19				
18	Actual costs	Costs	£ 116,741.00				
19		Benefits	£ 416,419.32				
20	Discounted costs	Costs	£ 116,741.00	£ 116,741.00			
21		Benefits	£ 416,419.32	£ 416,419.32			
22				£ 299,678.32	Net Present Public Value	This part of the Outputs tab tells you the public value return on investment you deliver	
23				6.12	Public Value for Money Benefit		
24				3.57	Public Value Return on Investment		
25							
26							
27							
28							
29							
30	BTCFG		Financial Year	Net Present Value (NPV)			
31			2018-19				

Overall Financial Return on Investment = the ratio obtained by dividing the fiscal savings of an activity by the cost of delivering that activity. An ROI figure >1 indicates that an activity creates more fiscal savings than it costs to deliver; an ROI <1 indicates that an activity costs more to deliver than it offers in subsequent fiscal savings. This is the ratio you should use when making the statement, 'for every £1 invested in our activity, we save the taxpayer £x'.

Payback Period = the year in which the cumulative present value of the budgetary savings becomes greater than cumulative present value of the budgetary costs (sometimes referred to as the break-even point). If your activity delivers no fiscal benefits the model will not be able to calculate a payback period. You are unlikely to use this metric.

Economic Case results

The Economic Case (Public Value CBA) table considers the value of all the benefits you have modelled, not just the Fiscal benefits. This means that in nearly all instances, the Public Value CBA will provide a more positive picture of an activity's/organisation's impact.

Again, the Economic Case (Public Value CBA) table gives you three metrics:

- **Net Present Public Value** = the difference between total benefits to society and total costs. This figure can be positive or negative.
- **Public Value for Money Benefit Cost Ratio** = Net Present Public Value divided by Net Present Budget Impact. Anything >1 indicates a project that delivers more in overall benefits to the public than it costs to deliver. Such ratios can be used by commissioners who may be faced with a choice between investing in one service/activity/project or another and want to know which would be most efficient.
- **Public Value Return on Investment** = present value of future savings divided by budgetary impacts. Anything >1 represents an activity where savings are greater than costs. This is the ratio you should use when making the statement, *'for every £1 invested in our activity, we create £x of additional Public Value'*.

Worked Example – BTCFG return on investment

BTCFG's analysis shows that they deliver the following return on investment:

- A Financial Return on Investment of 0.58, meaning they save the taxpayer 58 pence for every £1 in running costs and deliver nearly £68,000 in Fiscal savings in total. As BTCFG only receives £30,000 as a direct grant from the local council, the council is saving about £2 for every £1 in grant money.
- A Public Value Benefit Cost Ratio of 6.12, meaning that they generate £6.12 in Public Value for every £1 in net running costs
- A Public Value Return on Investment of 3.57, meaning that for every £1 invested in BTCFG, they create £3.57 of additional Public Value

Checking and presenting your findings

CBA is not an exact science and its outputs can guide to decision-making but not replace the need for detailed thinking. This is especially true when modelling 'social' outcomes whose value is subjective. In recognition of this, it is recommended that all outputs from the CBA model are subjected to a range of risk and sensitivity tests in order to understand more about the degree of confidence with which the outputs from the model should be treated.

Optimism Bias

The first check you should undertake is the application of 'optimism bias'. Evidence shows that commissioners and practitioners are often overly optimistic about the outcomes that will be achieved by a project or programme and the amount of money that will be needed to deliver these outcomes. It is reasonable to assume that the degree of over-optimism will be greater when the data and evidence upon which CBA is based are old or incomplete. The CBA model applies optimism bias correction factors in response to the level of uncertainty in the data or assumptions used.

Return to the data you have entered in the costs and benefits tabs. For each piece of data, ask yourself how confident you are that the data is correct. Refer to the Confidence Grade – Benefits and Confidence Grade – Costs tabs. Work out where in each table the data under review would sit; is it high quality, recent data or low quality, out of date data? Once you have decided which row your data sits on, go across to column G/H and note the optimism bias correction percentage given. Then go back to the Costs or Benefits tab (whichever you are working on) and find the optimism bias column (column I on the Costs tab, column Z on the Benefits tab). Enter the optimism bias correction percentage you chose, making sure to put a minus in front of the percentage when on the Benefits tab.

The model will automatically deduct a percentage of total benefits and/or increase the total costs figure. Your Benefit Cost Ratio and Return on Investment figures will change as a result.

Sensitivity testing

The second check you should undertake is sensitivity testing. The data you have entered should be adjusted to more pessimistic or optimistic values to understand the impact on your ROI. Several different scenarios can be run. For example, you can work out by how much your costs need to increase for your project to have an ROI of 1:1; or you could test what happens to your ROI if your visitor or client numbers doubled. It would be prudent to consider how likely it is that each scenario would occur and hence how much confidence to place in your original modelling.

Applying optimism bias corrections and undertaking sensitivity testing is optional. The CBA tool will still work if you choose not to do these things.

Further sources of advice and support

The Social Value UK website has a range of guides, tools and examples of how to carry out SROI and CBA. They also validate SROI findings.

A more detailed description of how the GMCA CBA tool operates and should be used is provided in the Technical Specification available [here](#).⁵

The GMCA [website](#)⁶ provides further documentation relating to the CBA Excel model and the workings which underpin it. The website also gives links to CBA training sessions run by the GMCA.

A contact email address for the GMCA team who oversee the tool is provided on the CBA Tool details tab of the spreadsheet. Alternatively, you should contact your Social Farms & Gardens contact or the author of this guide.

Further useful information may be found via the following links:

Social Farms & Gardens:

- <https://www.farmgarden.org.uk/>

Guidance on Social Return on Investment methods:

- <http://www.socialvalueuk.org/> provide a range of SROI resources and examples

General good practice in appraisal and evaluation:

- HM Treasury Green Book - <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>
- <http://betterevaluation.org/> - explains and provides further resources on a wide range of research techniques, including SROI
- <https://www.gov.uk/guidance/what-works-network>

GMCA Cost Benefit Analysis model:

- Blank versions of the CBA Excel model can be downloaded here: <https://www.greatermanchester-ca.gov.uk/what-we-do/research/research-cost-benefit-analysis/>
- The Technical Specification, which provides more detail on how the model operates, is also available to download at that address

Literature on the impact of gardening and horticulture on wellbeing:

- Sustain: <https://www.sustainweb.org/growinghealth/evidence/>

Tools for placing a value on the outcomes you deliver for your partners:

- Unit cost database: <https://www.greatermanchester-ca.gov.uk/what-we-do/research/research-cost-benefit-analysis/> - brings together more than 700 cost

⁵ https://www.greatermanchester-ca.gov.uk/media/1583/cba_guidance_020414_1312_final.pdf

⁶ <https://www.greatermanchester-ca.gov.uk/what-we-do/research/research-cost-benefit-analysis/>

estimates in a single spreadsheet. You can use the Unit Cost Database to identify the value of Fiscal outcomes you deliver which are not pre-populated in the GMCA CBA model.

- HACT: <https://www.hact.org.uk/social-value-bank> - you will need a licence to access the Social Value Bank but licences are free of charge to 3rd sector organisations
- Global Value Exchange: www.globalvaluexchange.org – combines Unit Cost Database, HACT and other resources in a single database
- <https://www.leep.exeter.ac.uk/orval/> - ORVal models values and provides visitor number estimates for existing and new greenspaces in England and Wales

Data and indicators on local areas:

- <http://www.ons.gov.uk/ons/index.html>
- <https://www.nomisweb.co.uk/Default.asp> - for local labour market statistics
- <https://data.gov.uk/> - one stop shop for data published by all government departments and agencies

Annex A: CBA preparation checklist

Before beginning your CBA modelling you must have:

	Clarity on why you are producing a CBA – e.g. is it for funder who needs to know about your value for money, or for yourselves to understand your wider societal impact?
	Confirmed which area of your activity(ies) you will be modelling
	Agreed the outcomes of your organisation’s activities that you plan to model
	Finalised the list of partners who are impacted positively or negatively by this activity(ies)
	Clear and up to date financial/cost information relating to the area of activity(ies) you are modelling
	Identified any in-kind contributions you benefit from in undertaking the activity(ies)
	Confirmed the time period over which you will be modelling costs and benefits – they may be different if you are looking to model benefits in future years
	Detail on the numbers of clients/beneficiaries you work with through the activity(ies) you are modelling
	Data on how many clients remain with you throughout and how many clients achieve the outcomes you are modelling
	Confirmed what value you will be placing on the outcome(s) achieved by your clients

And ideally you have:

	Read this guide!
	Worked with your clients and other stakeholders to identify the impact you make
	Discounted those outcomes where you cannot be certain that it is your activity(ies) that causes the outcome
	Worked with your clients and other stakeholders to place values on each outcome
	An understanding of how your activity(ies) influence the work of partners – i.e. do they see more referrals, or do they experience less demand from the local community as a result of your work?
	Looked for secondary evidence regarding the impact of the same/similar activity(ies) in other settings
	Identified a control group of individuals whose outcomes you can track and compare to those of you clients
	Assessed the quality of evidence upon which you are basing your modelling
	Identified somebody external to your organisation who can support/review/challenge your modelling and its findings – Social Value UK can help you with this
	Reviewed CBA and SROI reports produced by organisations like yours
	Read the CBA guidance for local partnerships

Annex B: Glossary of CBA terms

Additionality	An output or outcome arising from an intervention is additional if it would not have occurred in the absence of the intervention. It is the extent to which activity is undertaken on a larger scale, takes place at all, or earlier, or within a specific designated area, as a result of public sector intervention.
Appraisal	Term used for an evaluation which is undertaken before a project or programme commences and which is based upon assumptions and forecasts relating to the likely impact of that project/programme.
Attribution	An assessment of how much of the outcome was caused by the contribution of other organisations or people
Baseline	A description or statistical analysis of local conditions and recent trends at a point in time, against which subsequent change can be monitored and reported.
Benchmark	A comparative value used in setting targets for appraisal and evaluation. Useful in comparing the impact or success of a project or programme against a similar intervention.
Beneficiaries	An individual person who benefits directly from a project, programme or other intervention – that is, a person who is benefiting (or will benefit) from activities carried out, through the outputs, outcomes or impacts generated.
Blinding	Refers to the concealment of group allocation from one or more individuals involved in a clinical research study, most commonly a randomized controlled trial. Beneficiaries, researchers or both can be blinded to prevent subconscious bias when analysing outcomes.
Comparison area	An area like the area in which a programme is operating, which is monitored by the evaluator in order to estimate what might have happened anyway within the programme area (c.f. additionality).
Contamination	In randomised studies, where an individual/organisation(s) in the treatment group encounter an individual/organisation(s) in the non/alternative treatment group, potentially influencing outcomes for that group

Control group	A group of individuals/companies etc who are identical/highly similar in profile to those individuals/companies etc being supported by the project but who are not receiving any support. The outcomes of the control group are monitored in order to estimate what might have happened anyway within the programme area (c.f. additionality).
Cost benefit analysis (CBA)	A method of analysis which quantifies in monetary terms as many of the costs and benefits of a proposal as feasible, including items for which the market does not provide a satisfactory measure of economic value, and compares the total value of benefits to the total value of costs, presenting the comparison as a benefit cost ratio. Having a single ratio figure allows for the comparison of different projects and programmes.
Deadweight	Activity and outputs associated with a project that would have occurred without the project's efforts and therefore without the public expenditure.
Discounting	A method used to convert future costs or benefits into present values using a discount rate, which is the annual percentage rate at which the present value of a future pound, or other unit of account, is assumed to fall away through time (3.5% is most commonly used discount rate).
Displacement	The degree to which publicly-funded activity is offset by reductions in activity elsewhere – this may occur when a successful regeneration programme results in problems shifting into a neighbouring area instead. In terms of outputs, displacement represents the proportion of project outputs accounted for by reduced outputs elsewhere in the target area.
Drop-off	The process by which outcomes are 'lost' over time as individuals/business/society etc reverts to their original state.
Economic benefits	The benefits of a project or programme which accrue to an individual (e.g. increased earnings) or a business/agency (e.g. increased turnover or productivity).
Economy	One of the measures of value for money, economy relates to the cost of the inputs being consumed – that is, the extent to which activities have been delivered at reasonable cost (in terms of funding and staffing).

Effectiveness	A measure of value for money, effectiveness refers to the extent to which achieved outputs result in the desired outcomes being achieved.
Efficiency	A measure of value for money, efficiency represents the relationship between outputs and inputs – the ratio of output to input, expressed in terms of cost per output.
Ethnographic	A research method where the researchers becomes embedded within the client group/organisation/issue being researched, taking field notes and attempting to identify cultural norms, daily practices, barriers etc.
Evaluation	Evaluation refers to the process of measuring or assessing the performance, effectiveness and value of an intervention. The methods used to evaluate an intervention, when they will be applied, to whom/what etc are described in an evaluation framework document.
Ex-ante	When an evaluation is carried out before a project or programme begins –commonly termed an appraisal.
Ex-post	When an evaluation is carried out after a project or programme completes its activities, with the evaluation drawing upon observed/primary data and information.
Fiscal benefits	The benefits of a project or programme which accrue to a government agency (e.g. local authority, health service, central government department) and which reduce the demand upon the public purse (e.g. a reduction in worklessness benefits payments).
Formative evaluation	An evaluation whose primary purpose is to inform the further/future design and delivery of a project or programme.
Impacts	Impacts represent the final consequence of a project or programme in terms of the effect that activities have on the wider conditions that the intervention originally set out to change. Impacts are usually identified through change in secondary data.
Indicator	An indicator is a measure that is used to assess the condition of something of interest, thereby helping to articulate performance (usually over time).

Inputs	The resources that contribute to delivering activities and producing outputs, in terms of financial, physical and human (time and skills) resources.
Lag	The time between an intervention taking place and the desired positive outcomes being observed within the target cohort.
Leakage	The proportion of outputs or outcomes that benefit those outside of the project or programme's target area or group – for example, jobs taken by residents from outside an area.
Logic Chain	A way of conceptualising the links between what a project aims to achieve, the resources it devotes to these aims, the activities these resources are used to deliver, and the outputs, outcomes and impacts that subsequently flow from these activities. Having a logic chain in place helps an evaluator to design an evaluation framework that tests key links in the chain.
Longitudinal research	A research process that is repeated on several occasions over a period, as far as possible replicating the chosen methodology each time. The key aim of such research is to measure long-term effects and changes over time. Longitudinal studies may be <i>cross-sectional</i> (different respondents) or <i>cohort</i> (same respondents).
Margin of error/confidence interval	The <i>margin of error</i> is the number of units (most often percentage points) in either direction that an given figure could vary by – margins of error are most commonly written as +/- X%. The <i>confidence interval</i> expresses how likely it is that the true answer for the whole population falls within the margin of error identified for the sample – e.g. a 95% confidence interval means that 19 times out of 20 the whole population results will fall within the margin of error given for the sample.
Market failure	Anything that prevents markets from operating freely or adjusting quickly, or that restricts the information available to producers, consumers or suppliers of resources.
Maryland Scale of scientific methods	A well-known scale for assessing and scoring (from 1-5, 5 being the best) the robustness of the findings from a piece of research or evaluation

Monitoring	The ongoing review of data relating to project outputs and income/ expenditure patterns.
Multiplier effects	Further economic activity (jobs, expenditure or income associated with additional local income, local supplier purchases and longer-term development effects) as a result of increased investment. In terms of outputs, multiplier effects represent the supplementary impact of an intervention over and above the 'hard' outputs achieved. The size of the multiplier depends on the period over which it is measured, and the geographical area considered.
Objectives	An objective is a succinct statement of the key goal(s) being pursued by an intervention over the medium to long run.
Observational techniques	Social research which involves direct observation of an activity – observational techniques can be covert (CCTV, credit card records, website visit records etc) or overt (secret shoppers, participation in training etc).
Opportunity cost	The value of the most valuable of alternative uses of the resources needed to deliver a project or programme.
Optimism bias	The demonstrated systematic tendency for appraisers to be over-optimistic about key project parameters, including capital costs, operating costs, works duration and benefits delivery.
Outcomes	Outcomes represent the wider consequences of activities and outputs. They reflect the intended results of an intervention, and should be closely linked to its objectives and underlying rationale. A distinction is sometimes made between intermediate outcomes and final outcomes – intermediate outcomes are the more short term, easily measurable outcomes that result from an activity, whereas final outcomes are the longer term outcomes that may be harder to capture.
Outputs	The measurable or quantifiable results of an intervention, expressed in terms of the goods and services produced in the short-term as a consequence of activities.

Primary and secondary sources/ data	A primary source provides the initial basic data set under discussion, while a secondary source is one that offers further analysis or commentary on pre-existing data. Primary sources will include information or evidence produced directly through the research process, such as new documentation, speech, interview notes, and so on. Secondary data have already been collected by other people, including (for example) pre-existing reports and analyses, and readily available data such as information from the Census and surveys such as the Annual Population Survey.
Process evaluation	See formative evaluation.
Qualitative research	Qualitative research methods produce information on the views and perceptions of individuals or communities. They are concerned with the quality rather than quantity of information, and in gaining an understanding and insight into the underlying reasons and motivations for actions and establishing how people interpret their experiences and the world around them. Qualitative data are normally presented discursively, although quantitative measures can also be applied.
Quantitative research	Quantitative research methods look to quantify information. They tend to be based upon statistical data and produce numerical results. Quantitative data can be stored in reasonably well-defined categories, and in enough volume (in terms of the number of responses) to permit a range of different statistical analyses.
Randomised Control Trial (RCT)	A research technique whereby all those who are eligible for a project or programme are randomly assigned to an intervention group (who receive the specific support/activity etc) or a control group (who do not receive the specific support/activity but do still receive all other services). Identical outcomes are tracked for both groups, with any difference in outcomes observed being regarded as the added value of the project or programme.
Rationale	The justification of a policy intervention in terms of the market failures it aims to correct, and how it is designed to correct them. The rationale should be demonstrated in a robust evidence base.
Sampling	Sampling is the process by which the total number of possible respondents for a research project (the research population) is reduced to a number that is practically feasible and theoretically acceptable (the sample).

Sensitivity testing	Analysis of the effects on an appraisal of varying the projected values of important variables – e.g. would a project still delivery value for money if user numbers fell by 50%?
Social benefits/social return	The benefits of a project or programme which accrue to society (e.g. more cohesive communities, increased happiness) and which can often be hard to place a financial value upon.
Strategic added value	Strategic added value represents the more intangible, strategic outputs and outcomes of an intervention, such as the provision of strategic leadership and influence, the leverage of additional resources, the dissemination of information and intelligence, the encouragement of more co-ordinated responses, and the effective engagement of a wider range of stakeholders in the design and delivery of activities.
Substitution	When an individual, organisation or business substitutes one activity for a similar activity (for example, choosing not to invest private funds due to the forthcoming availability of public assistance, or recruiting a job applicant over another as doing so will meet the criteria for grant support).
Summative evaluation	An evaluation whose primary purpose is to understand whether a project or programme has achieved the objectives it was set at the outset.
Theory of change	A comprehensive description and illustration of how and why a desired change is expected to happen in a context – note, a Logic Model can be considered the illustrated part of a theory of change
Unit cost	The per incident/person/client cost to the economy/society associated with a specific outcome, e.g. the cost of 1 course of therapy for a person with a mental health condition, or the cost of 1 GP visit.
Weighting and scoring	A technique that involves assigning weights to criteria, and then scoring options in terms of how well they perform against those weighted criteria. Weighted scores are then summed and can then be used to rank options.



Social Farms
& Gardens



About the organisations

Social Farms & Gardens is a UK wide charity supporting communities to farm, garden and grow together

W: farmgarden.org.uk **E:** admin@farmgarden.org.uk **T:** 0117 9231800

City Bridge Trust is the funding arm of Bridge House Estates. It was established to make use of funds surplus to bridge requirements and provides grants totalling around £25m per year towards charitable activity benefiting Greater London.

W: citybridgetrust.org.uk

