

# CONTRIBUTION ANALYSIS

Contribution analysis is a methodology used to identify the contribution a development intervention has made to a change or set of changes. The aim is to produce a credible, evidence-based narrative of contribution that a reasonable person would be likely to agree with, rather than to produce conclusive proof. Contribution analysis can be used during a development intervention, at the end, or afterwards.

Contribution analysis was developed by John Mayne in the early 2000s. It is a methodology used to identify the contribution a development intervention – such as a project or programme – has made to a change or set of changes. Contribution analysis is based on a recognition that it is difficult to prove attribution for many development interventions. This is because (see Mayne 2012a):

- there are usually many different steps between activities and eventual desired changes;
- external factors often influence the changes brought about through development interventions; and
- many different development interventions can contribute to a single change.

Contribution analysis is designed to be used alongside theories of change that explicitly set out how change is, or was, supposed to happen. Normally, these theories of change are developed as pathways showing how change at one level contributes to change at further levels (i.e. how activities lead to outputs, intermediate outcomes, higher outcomes and eventually impact). In contribution analysis, changes are assessed at all these different levels in order to compare reality with the theory.

Contribution analysis does not seek to conclusively prove whether, or how far, a development intervention has contributed to a change or set of changes. Instead it seeks to reduce uncertainty. The aim is to produce a plausible, evidence-based narrative that a reasonable person would be likely to agree with. Contribution analysis can also be used to help explain how and why changes occurred (Mayne 2008).

Within contribution analysis, a plausible narrative is considered to have been developed when four different conditions are met (ibid, p1).

1. The development intervention is based on a sound theory of change, accompanied by agreed and plausible assumptions, that explains how the intervention sought to bring about any desired changes.
2. The activities of the development intervention were implemented properly.

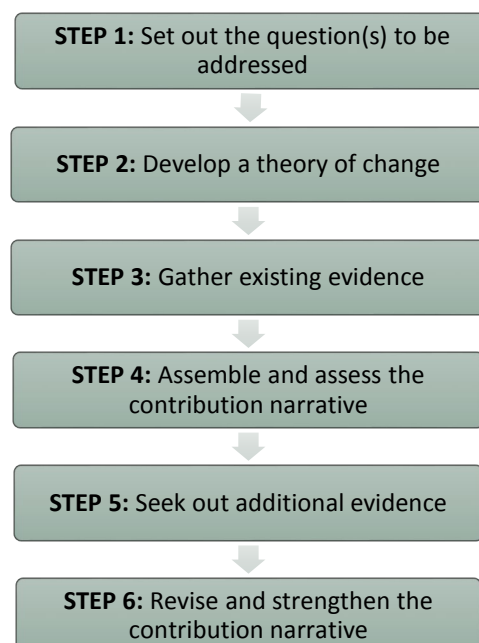
3. There is adequate evidence showing that change occurred at each level of the theory of change.
4. The relative contribution of external factors or other development interventions can be dismissed or demonstrated.

Contribution analysis can be planned from the start of a development intervention. However, it is normally only used in a project or programme once enough time has elapsed for significant change to occur.

Contribution analysis can be used during a development intervention, or it can be applied at the end, or afterwards. It can be used both for learning, in order to improve performance, and accountability, as well as several other monitoring and evaluation (M&E) purposes. Contribution analysis is particularly useful in fields of work such as research, policy influencing, capacity development and mobilisation, where there are often many different contributors to change.

## How it works

Contribution analysis is based around a defined series of steps, explained in Mayne (2001, pp8-15). These are as follows.





STEP ONE

The first step is to set out the specific **question(s) to be addressed** through the contribution analysis. Contribution analysis is more appropriate for some questions than for others. For example, contribution analysis can help answer questions such as the following.

- Did the development intervention influence a change, or did the intervention make an important contribution to a change?
- How and why did a change occur?
- What role did an intervention play in bringing the change about?
- What conditions are needed to make this kind of intervention succeed in the future?

By contrast, contribution analysis should not be used to answer questions such as *“did the project / programme cause the outcome?”* This is because contribution analysis is based on the assumption that there are usually multiple contributory factors to change.



STEP TWO

The next step is to **develop a theory of change**. As contribution analysis is often carried out during or after a project or programme, a theory of change may already exist. However, it might need to be expanded or adapted.

A theory of change used for contribution analysis should include a results chain showing the logic of the project or programme (activities to outputs to outcomes to impact), along with risks and assumptions. It should also identify other potential factors influencing change, such as other development interventions or wider socio-economic changes. It is often useful at this stage to identify and explore alternative, rival explanations of how change might have come about.

Wherever possible, the theory of change should be developed with key stakeholders and beneficiaries, as well as being informed by relevant research. It is normally accepted that some of the links in the theory of change will be well understood or accepted, whilst others may be less well understood or contested.



STEP THREE

The next step is to **gather existing evidence**. This is done in three areas in order to assess: the change or changes under consideration; each of the different links in the results chain; and alternative explanations for how

change might have happened.

At first, existing evidence can be used to test the theory of change. This evidence may have been previously identified through ongoing monitoring, previous evaluations or research studies. Or it may be based on the informal knowledge or opinions of project and programme staff, or other stakeholders. After existing evidence has been gathered the quality of this evidence then needs to be assessed. In some parts of the theory of change there may

be strong evidence that is widely accepted. In other parts evidence may be weak or contested.

It is also important at this stage of the process to assess the evidence regarding the possible influence of other development interventions or external factors. Sometimes this evidence may lead to rival, alternative explanations of change being discarded.



STEP FOUR

Based on the previous step, the next task is to **develop a contribution narrative**. This should describe how the development intervention was implemented, and how it contributed to any change. It should also show the role of other interventions and external factors. The contribution narrative should then be assessed. This involves asking how credible the narrative is, and how much of it is supported by good evidence. If there are weaknesses in the narrative then these need to be identified.

At this stage there are three possibilities. The first is to conclude there is already a valid narrative than can be used to show the contribution of the development intervention to the change or changes. The second is to conclude that the narrative is weak in some areas, but that it is not possible to gather further evidence, in which case the uncertainties will remain. The third possibility is to conclude that more information is needed to increase confidence in the findings, in which case the next step should be carried out.



STEP FIVE

Step five involves **gathering further evidence** to strengthen the narrative in areas where it is weak. Contribution analysis does not suggest any particular tool or methodology for data collection – this is left up to the evaluator or practitioner to decide. Gathering further evidence may involve collecting primary data, or it may mean acquiring more evidence from secondary sources. It might also involve re-visiting or adjusting the theory of change.

A lot will depend on the resources that are available. It is possible to assess virtually any development intervention given sufficient time and money. But in reality these may be in short supply. It may therefore be necessary to prioritise which parts of the contribution narrative need to be enhanced, and which can be left as they are.



STEP SIX

The final step is to **revise and strengthen the contribution narrative**. Once any new evidence has been assembled a more credible narrative can be developed. This should be more plausible than the previous one. Again, the question needs to be asked – is the narrative now good enough to answer the question set out in step one? If it is, the narrative can be formally written up. If not then it may be necessary to go back to earlier steps in order to gather and analyse further evidence.

## Different levels of contribution analysis

Not all development interventions require the same level of investigation. Therefore, three different levels of contribution analysis have been developed, each leading to different levels of robustness (see Mayne 2008).

- **Minimalist contribution analysis** involves developing a theory of change and confirming that the expected activities were carried out. Contribution narratives are based purely on the strength of the theory of change, and on the evidence that the activities were carried out properly, and the outputs delivered. This can be used in circumstances where there is an acknowledged and accepted link between outputs and resulting changes, such as in a vaccination programme or a project delivering mosquito nets.
- **Contribution analysis of direct influence** involves establishing that any expected change(s) within the direct influence of a development intervention were realised, and that the intervention was influential in bringing about those changes. In this type of contribution analysis it is not considered necessary to establish whether the changes resulted in further, indirect change.
- **Contribution analysis of indirect influence** goes further and seeks to establish a contribution narrative that shows how a development intervention also contributed to wider changes.

Essentially, the three different levels are designed to take an intervention further down a theory of change. The first finds evidence for outputs; the second for changes within the direct influence of a development intervention; and the third for wider, indirect changes.

## Contribution Analysis and Process Tracing

Contribution analysis shares many features with another methodology called process tracing (see M&E Universe paper on process tracing). Both seek to develop a theory of change showing how change might have come about. Both look for evidence to support the theory. And both involve developing alternative or supplementary explanations for how change might have come about.

The key differences appear to be as follows.

- Process tracing involves the application of a series of formal tests, which are used to assess the strengths and weaknesses of different explanations. Contribution analysis does not.
- In theory, process tracing is more concerned with deciding which of a series of alternative explanations is correct, whilst contribution analysis is more concerned

with looking at relative importance, recognising that there are often many contributions to change.

- Contribution analysis is portrayed as a step-by-step approach, whilst process tracing is designed to be applied in different ways in different contexts. This is probably because process tracing was originally designed as a research methodology used to examine historical events.

In reality, most CSOs using methodologies such as contribution analysis and process tracing adapt them to suit the situation. Once the methodologies have been adapted there is probably not that much difference between them. Perhaps the key difference lies in the adoption (or not) of the formal tests that lie at the heart of process tracing.

## Strengths and weaknesses

Contribution analysis is a relatively new methodology, and has not been used that much by CSOs to-date. However, some of the theoretical strengths are as follows:

- Contribution analysis encourages a rigorous and transparent approach to assessing contribution to change. It is particularly useful for organisations working in complex areas where assessment of sole attribution is difficult.
- Contribution analysis can explain how and why a change or set of changes occurred, which is particularly useful when looking at how to expand or replicate work that has led to positive changes.
- Contribution analysis does not need a baseline or control group to have been established at the start of a development intervention. Theories of change can be established after the event.

One potential challenge is that contribution analysis is meant to be done in an iterative manner. This means that evidence should be repeatedly collected and analysed, and narratives gradually refined. But most evaluations are carried out with a limited budget and fixed timescales, which makes repeated iterations difficult.

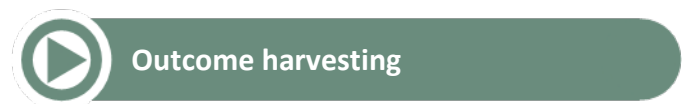
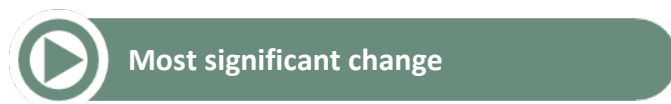
As with process tracing, if contribution analysis is done in a participatory way it may require a large amount of project or programme staff time. CSOs therefore need to weigh up the potential costs and benefits of carrying out contribution analysis within a project or programme, depending on how useful the findings are likely to be.

Finally, the author of the methodology argues that contribution analysis is likely to be most useful in situations where an intervention has been funded based on a relatively clear theory of change, and where there is little or no scope for varying how the program is implemented. It is less useful in experimental projects and programmes, and is not intended to be used to explore or develop alternative theories of change (Mayne 2008).

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## Further reading and resources

Other qualitative methodologies designed to assess contribution to change include the most significant change (MSC) technique, outcome harvesting, process tracing and qualitative comparative analysis (QCA).



The policy brief by Mayne (2008) referenced below is probably the best resource to use as a starting point. It can be found at <https://cgspace.cgiar.org/handle/10568/70124>. There is also a good introduction to contribution analysis on the Better Evaluation website at [http://betterevaluation.org/en/plan/approach/contribution\\_analysis](http://betterevaluation.org/en/plan/approach/contribution_analysis).

John Mayne has further developed contribution analysis to deal with more complex settings. This development is described in a journal article (see Mayne (2012b) below). This article is not freely available at present and requires a subscription to the journal.

## References

- Mayne, J (2001). 'Addressing Attribution through Contribution Analysis: Using Performance Measures Sensibly', *Canadian Journal of Program Evaluation* 16.1: 1–24
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- Mayne, J (2012b). 'Special Issue: Contribution Analysis', *Evaluation* 18.3

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