

Methodology Guide to Process Tracing for Christian Aid



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Background

Process Tracing was first trialled as a new approach within a series of theory-based evaluations of Christian Aid's governance portfolio in 2015. The aim was specifically to understand and evidence how Christian Aid's and its partners' accountability practices were contributing to building more (downwardly) accountable relationships more broadly in the context of Bangladesh. The evaluation team added elements of Realist Evaluation to their evaluation design, in order to allow for greater flexibility of the methodology and 'user-friendliness' of the findings. 'Flexibility' because selection of methodology in this case preceded the final agreement on evaluation questions, and combining the two different methodologies would provide more room for the evaluators to adapt and tailor the approach based on the eventually defined questions; Greater 'user-friendliness' due to Realist Evaluations that would complement the more theoretical 'tracing' of competing explanations through Process Tracing.

This guide focusses primarily on the steps necessary to conduct Process Tracing but includes a brief section on how and where to combine this with Realist Evaluation. There is a list of selected references at the end of the document for those interested in further reading.

Description of the methodology

Process Tracing at a glance

- → Process Tracing establishes causal linkages (e.g. intervention A leads to outcome B) based on detailed description of the causal mechanism at work. It builds a casebased understanding of what most likely brought about an observed change in a specific context.
- → A causal mechanism is the "interaction between what the programme provides and the reasoning of its intended target population that causes the outcomes." (Westhorp 2014, 5)
- $\rightarrow~$ It is a question-led as opposed to a 'tool'-led approach as it easily accommodates any kind of data collection and analysis methods.
- → Its primary purpose is to learn about the causal mechanisms that bring about an outcome even if these do not evidence the contribution of the intervention rather than 'proving' that an intervention has worked.
- Definition. Process Tracing "attempts to identify the intervening causal processes the causal chain and causal mechanism between an independent variable (or variables) and the outcome of the dependent variable" (Barnett and Munslow 2014). The independent variable is a factor that causes a dependent variable. In other words, Process Tracing includes a consideration of different causal 'stories' or 'pathways' that all have the potential to explain a specific outcome. It weighs the evidence for these different pathways to arrive at conclusions about which causal chains can be confirmed or where several factors played a role, how much weight each of these carry.

- Current debates. While currently there is significant interest in adapting Process Tracing traditionally used in the social sciences to explain historical events - for impact evaluation (see Barnett and Munslow 2014), there are still few practical examples of how this has been attempted.
- 3. *The central role of description.* The practice of Process Tracing has occasionally been likened to the work of a detective rather than the work of an experimental scientist (using control groups) or econometrist (using frequencies of association of factors to establish cause and effect). Essentially, Process Tracing, by focussing on one case only, builds up different causal stories that might explain a given outcome, collects evidence on these different pathways and applies strengths testing to the evidence to decide which stories are best supported by evidence and which can be disconfirmed. Careful description has been identified as the key feature of Process Tracing (Collier 2011).
- 4. *Theory-testing Process Tracing.* The potential of Process Tracing for impact evaluation is considered to be most linked to theory-testing. Ideally, applying it for impact-focussed inquiry should both build up a descriptive sequence of small changes leading to an outcome, as well as help to test assumptions (articulated beforehand) of *how* the intervention contributed to producing the outcome (i.e. what was the 'causal mechanism' at work).

When to use it - when not to use it

When to use it	When to think twice about using it
 Where sufficient time and human and financial resources are available for an evaluation that uses participatory iterations of analysis and discussion with stakeholders. 	• Where there are significant time and resource constraints for an evaluation that involves stakeholders in participatory and iterative ways.
 Where the evaluation outputs are intended for internal learning and understanding rather than primarily for donor accountability. 	• Where the evaluation is primarily expected to demonstrate the success of an intervention, i.e. where there is overriding pressure to report on results to donors.
• Where the level of complexity involved is relatively high – for instance, for advocacy and campaigning interventions aiming for high-level policy and practice changes.	• Where the level of complexity involved is relatively low – for instance, for WASH programming, where there are already many examples of interventions that have been shown to work across different contexts with some variation.
• Where there is strong motivation and space internally to deepen an understanding of how and why changes played out the way they did, for instance where a more quantitative effectiveness review has already taken place.	• Where there is little motivation or capacity among internal staff to reflect deeply on alternative explanations and to articulate assumptions about how an intervention was supposed to work in detail.
• Where the intervention is at a relatively mature stage and at least some level of meaningful change has materialised.	• Where the intervention to be evaluated is at early stages of producing tangible changes – i.e. where only low-level outcomes have been observed to date.

Complexity in a nutshell

Complex interventions have been likened to the task of raising a child: there is no 'recipe' or easy formula to maximise the likelihood of success; experience gained from one case is not easily applicable to other situations; every child is different and needs to be understood as a unique case; outcomes of raising a child are difficult to predict and there is disagreement between those involved about what desired and expected outcomes should even be.

No intervention is likely to be complex throughout and in all of its aspects – as such, it is more useful to think about complex *aspects* of any given intervention.

Risks or potential challenges	Implication for evaluation if not managed	Risk management
Unreliable measures and bias to favour one hypothesis over others	Incorrect conclusions drawn about what best explains a given outcome	Triangulation (using multiple sources of information), complemented by good understanding and documentation of respective biases involved Involvement of external key informants at validation stage who have less of a personal stake in the effectiveness of a given intervention.
Time and practical constraints resulting in insufficient quantity and quality of data collected	Missing information would mean some causal stories might remain incomplete	Careful planning with internal team, including prioritising of stakeholders, questions and evidence. Going narrow and deep instead of shallow and broad.
Lack of evidence on prioritised outcomes or prioritised outcomes turn out not to have materialised to the extent initially presumed.	Weak or irrelevant causal stories emerging that offer little useful learning	More modest milestones could be agreed as a priority to investigate further, instead of longer-term outcomes It might be opportune to conduct Process Tracing as a follow up to a more traditional effectiveness evaluation.

Potential Challenges with Process Tracing

Realist evaluation

- 1. *Features shared with Process Tracing.* Some elements of Process Tracing (iterative 'detective' logic, case-based and context-specific inquiry, focus on causal mechanisms) align closely with Realist Evaluation thinking. As mentioned before, while Process Tracing can also be used to *develop* theory, most evaluations are designed primarily to *test* existing theory (some of it context-specific, some of it taken from wider research), about the relationship between an intervention and its impact. The focus on theory testing aligns well with Realist Evaluation as ideally in Realist Evaluation a hypotheses on what drives change is identified prior to data collection, which can then be tested. For example, in a health programme, there could be a hypotheses about how the intervention interacts with *contextual factors* (e.g. awareness training with pregnant women on the dangers of smoking) to trigger a *mechanism* (e.g. discouragement from doing something they know harms the unborn baby) that then translates into an *effect* or *outcome* (pregnant women stop smoking). This is phrased as *Context-Mechanism-Outcome-Hypotheses* (see below).
- 2. *Realist Evaluation:* Realist Evaluation is a school of philosophy rather than a concrete approach. Realism posits that both the material world and social world, including social constructs (such as gender), exert very real effects, which makes them both real. For evaluation, this implies that there can never be final proof of what has led to a change, but that we can work towards a better understanding of the world (Westhorpe 2014).
- 3. Added features of Realist Evaluation: the central role of context. The fundamental assumption of Realist approaches is that nothing works everywhere for everyone. In other words, context determines programme outcomes. Famously, and in juxtaposition to the existing emphasis by some donors and development agencies on finding out "what works", realist approaches phrase the question as: "How does this work for whom in what circumstances?".
- 4. Focus of Realist Evaluation: causal mechanisms. In Realist Evaluation, this is perhaps one of the most central concepts. According to Realist Evaluation, these mechanisms will only be triggered ("fired") when the circumstances are right. Using the example of local elites who get discouraged from unfairly influencing decisions affecting the community if they find themselves under greater scrutiny of better informed community members, this mechanism (the discouragement) only works if there is a sufficiently large mass of people holding them accountable, presumably.
- 5. Focus of Realist Evaluation: focus on individuals' reasoning. Accordingly, a programme possesses causal powers ("firing power") by providing a resource, an opportunity or a restraint to change the reasoning of programme participants. In other words, Realist Evaluation tends to be more concerned with psychological and motivational responses leading to behaviour change. The implication for evaluators is that they need to identify *what* resources, opportunities or constraints were provided by the programme *to whom* and *what reasoning* was prompted in response, generating *what changes in behaviour*, generating *what outcomes*. The interaction between what the programme provides and what decision-making it triggers in target groups causes an outcome (this is the 'causal mechanism').
- 6. Based on our experience with Christian Aid in Bangladesh, we would recommend Realist Evaluation primarily for community-level work, where the theory the justification for and targeting of different groups through different measures under the same intervention is well developed and understood from the beginning. Where there is no strong 'Theory of Change' that connects programme measures with different target groups in different contexts, then this cannot be tested by Realist Evaluation.

Why combine the two approaches

- 1. Utility and user focus. Process Tracing can be carried out without an explicit Realist element, however, adding a Realist focus can strengthen the overall utility of the evaluation. The reason for this is that Process Tracing uses a wider lens to look at why something happened, which could include explanations that might dwarf the importance of the intervention that is being reviewed, and therefore may provide a smaller number of actionable lessons for the implementing agency. Realist Evaluation on the other hand asks very specific questions about specific target groups and what works for them and why. While both approaches have an overlapping concept of what constitutes 'causal mechanisms' and both draw on programme and implementation theory as a foundation for their inquiry, Process Tracing tends to focus on careful description and testing of causal stories, while Realist Evaluation hones in on specific learning-focussed questions phrased as Context-Mechanism-Outcome-Hypotheses.
- 2. Increasing flexibility of evaluation approach: Programming focussed on individual level changes lends itself more strongly to Realist inquiry. Where an evaluation will require considerations on the complexity of the overall intervention packages as well as learning about specific mechanisms, combining the two approaches seems to be most fruitful offering an overall assessment of Christian Aid's contribution and effectiveness as well as some targeted key learning. Each best copes with different levels of complexity Process Tracing allows for an elaboration of assumptions, feedback loops, influencing variables and the understanding of different configurations of factors while Realist Evaluation, through its focus on mechanisms, can appear more suited to less complex settings.
- 3. Shared preparatory steps make for little duplication in planning. Since many aspects are shared by both approaches Theory of Change as a starting point, flexibility in terms of methods and data sources, focus on careful documentation and transparency, single case focus combining both approaches could easily bring added value.

	Process Tracing	Realist Evaluation
What type of evidence will be generated?	Insights into the relative weight of evidence for causal explanations of outcomes, including an overall verdict of how significant Christian Aid's contribution to desired outcomes has been.	Specific learning on causal mechanisms and the conditions under which they operate most effectively.
Overarching question these approaches are answering	"What role did the portfolio play in bringing about the expected outcomes vis-à-vis other possible factors?"	"What has worked for whom when and how?"

Steps	Activities	Participation of Christian Aid staff
1	 Setting the theoretical framework This step will unpack the 'black box' of what happens between the project and programme activities and expected (or unexpected) changes. It is recommended to start steps 1 -5 before field visits and data collection are planned in detail. Reconstruct relevant elements of Theory of Change involving programme team: What was intervention trying to achieve (outcomes)? How (strategy and activities)? How will it contribute to these changes (key assumptions)? Who are relevant actors and drivers of change? Realist Evaluation: This will demand an inquiry into how the programme intended to change the internal reasoning- the thinking or attitudes - of its stakeholders to encourage, discourage or enable them to change their behaviour. In other words, what were the resources, opportunities, and/or constraints provided to stakeholders through the intervention). Elaborate the framework for testable realist hypotheses on how the (intervention) context interacts with the mechanism to produce an outcome (Context-Mechanism-Outcome- Hypothesis or CMO-Hypothesis). Discuss: For whom will the basic programme theory work and not work and why? In what contexts will the programme theory work and not work and why? What are the expected mechanisms and in what contexts are they expected to work, and how? The starting point for thinking about this could be to look at where interventions were successful and compare them to where they were not successful (i.e. in different localities or with different groups). 	Close involvement of Christian Aid staff who will co- construct the theoretical framework, with the evaluator facilitating and steering the process
2	 Appraisal of implementation process In order to establish a plausible causal story, there needs to be evidence that the intervention was carried out to a sufficient degree of quality and scope. Assess and document what was actually done under the intervention to achieve the selected target outcomes Including review of the quality of partnership agreements Realist Evaluation: This will require evidence of what was done to encourage, discourage and/or enable participants to change their reasoning and their subsequent behaviours or actions. 	Christian Aid staff to validate existing information, prioritise source documents where time constraints, providing insights on what actually happened, going beyond what has been reported and documented

3	 Prioritising the key dependent variables ("priority outcomes") This step will further delimit the scope of the inquiry and allow for a targeted approach. Outcomes to be focussed on might be set at different levels (e.g. medium-term to longer-term). Identify key intermediate or final outcomes considered to be the most significant ones, i.e. realistic and useful for learning 	Christian Aid staff to participate in facilitated discussion on this
4	 Identify and evidence the extent to which these outcomes and any unintended outcomes have materialised This will include a look at whether/ how behaviour changed as a result of the intervention and what followed from this. This step will require a mix of document and internal M&E data review and consultations with internal – and where appropriate external – stakeholders 	Little participation needed in most cases.
5	 Process induction and operationalisation This step will guide decisions about data sources and concrete questions to be asked during field work. It will also establish a framework to be applied later on during testing of the strength of evidence. Develop a causal story for each possible explanation – the intervention being one of them – by means of a detailed sequence of potential processes and mechanisms. This might draw on tools such as the 'Impact Grid'¹ to help get thinking started. Operationalisation: develop some specific indicators (what would changes look like?). What evidence should we expect to see if part of the causal mechanism exists? What counts as evidence for an alternative hypothesis? What can we conclude when the predicted evidence is not found?² 	Staff to provide a sounding board for and insights into suggested causal stories and how to operationalise them.

¹ The impact grid is a qualitative data collection and analysis method that enables partners and beneficiary groups to identify and articulate what difference the interventions of the project/programme have made to them. The participants identify *stories of change* - brief examples of the knowledge, skills, confidence etc they have gained, and what they have done as a result. These stories can be positive or negative- it is the respondent who makes this judgement. The participants then place the stories on a grid, depending on the extent to which they believe the project/ programme/ intervention contributed to this change. The stories are then analysed to help give an indication of the project/ programme's outcomes and impact and how strongly these can be attributed to the interventions. The position of the examples on the grid can also be analysed to see what patterns emerge (e.g. differences in men's and women's stories, differences in contribution of different aspects of an intervention). An additional benefit is that the grid can help to identify stories that can be further developed into case studies.

² See reference Punton, M & Welle, K. 'Straws-in-the-wind, Hoops and Smoking Guns: What can Process Tracing Offer to Impact Evaluation?' IDS CDI Practice Paper, No. 10, 2015 for further information on different types of evidence tests in Process Tracing.

	Realist evaluation: This step will involve elaborating hypotheses about what mechanisms operated in which context to produce what outcomes (Context-Mechanism-Outcome / CMO- Hypotheses). This line of inquiry will not be pursued for the entire causal chain; the focus will be on main mechanisms defined through discussions with the team.	
6	Refine data collection tools This is based on the specific direction of enquiry and mapping of evidence needed. Data can be of quantitative or qualitative nature and be collected and analysed in any way appropriate.	Little participation needed in most cases.
7	 Field work and primary data collection with key informants and stakeholders This step will generate the bulk of the data and will involve some triangulation of data gathered through document review and internal discussions. Use for example and impact grid exercise and/ or semi- structured interviews, timelines exercises Gather required data to assess the extent to which explanations are supported or not supported. 	Little participation needed in most cases, except where staff are key informants.
8	 Building causal stories: first assessment of strength of each causal story based on evidence This can be a quick assessment conducted by the evaluators to pursue further data collection in areas where evidence is weak and/or to adjust the focus of enquiry (e.g. where initial data shows that some hypothesised causal factors have indeed not played a big role in bringing about the outcome). Arrive at short-list of explanations and draw conclusions on relative contributions. Identify weaker areas of evidence and prioritise these when gathering more evidence. The question applied for each causal link in the causal story could be: <i>"Is the evidence available necessary and/or sufficient for confirming or rejecting the hypothesis?"</i> 	Little participation needed in most cases
9	 Synthesis of evidence on causal story for each outcome and drawing out learning o mechanisms This step will piece together the different causal stories to arrive at an understanding of what the contribution to impact of the intervention has been to date. Different tools could be used for this, for instance, a matrix to demonstrate the extent of achievement of an outcome and contribution. Allocate contribution scores or similar measure of synthesis Presentation of causal stories and initial analysis to team/validation workshop. Discussions with the team will contextualise the evidence gathered in the field by adding insights on how conclusive the evidence is in some cases. Discuss findings and make sense of them 	Active participation of staff required at this validation stage

	 Draw out_learning from Realist enquiry_and to what extent lessons are context-specific or generalizable Ensure process has been well understood by team and discuss how both the findings of the approach and the approach itself could feed into future planning or M&E 	
10	 Narrative analytical report and documentation Short narrative report on evaluation findings and results, including outputs of the methodologies and tools used in the evaluation, including Stories of Change where appropriate Suggested structure for Process Tracing: Select priority outcomes Lay out causal stories for Outcome 1 Describe evidence/data sources Reconstruct to what extent each causal story can be confirmed and rejected Conclusion on what causal chain most likely led to the outcome and add contribution score <i>Repeat process with other outcomes</i> Conclusions 	Little participation needed in most cases

A Practical Example

How the analysis was applied and documented: Evaluation of Christian Aid Bangladesh's use of HAP (Humanitarian Accountability Partnership)

Weighing the evidence

For each of three identified priority outcomes (mostly relating to improved governance and empowerment of communities), the evaluators elaborated different possible explanations, of which Christian Aid's accountability mechanisms were one.

Example outcome: **Communities - particularly women - are enabled to articulate rights and claim entitlements from duty bearers.**

Example hypothesis: Experiencing accountable relationships with the partner NGO using HAP encourages community members to also seek out accountability with other duty-bearers at local and higher levels.

Priority outcome	Causal Links for Causal Story	Evidence	Is the evidence necessary and/or sufficient to confirm the link?
Communities - particularly women - are enabled to articulate rights and claim entitlements from duty bearers.	Through holding community consultations and practicing the transparent sharing of information with communities and local decision-makers, the partner NGOs have facilitated greater exposure of the majority of villagers to local government interactions than before	Value of everybody attending community consultations as departure from common practice mentioned in more than half of all Focus Group Discussions	Neither necessary nor sufficient to confirm link
	Greater exposure to interacting with local government leads to greater confidence of community members to approach decision- makers on other issues.	Focus Group Discussions delivered examples of emerging interactions with government but attributes all of these changes to group momentum and not to greater exposure	Sufficient to disconfirm link

The reason for the way the evidence on the first link was weighted ("neither necessary nor sufficient to confirm link"): It is not *sufficient* to confidently confirm the link because the available evidence does not rule out alternative factors. This is also known as 'low uniqueness'. The evidence is not *necessary* to confirm the link as this link could have been confirmed through other types or sources of evidence than the Focus Group Discussions, for instance, by local government confirming increased exposure to villagers.

The reason for the second link's weighting of evidence ("sufficient to disconfirm link") was that open-ended questions were asked in the Focus Group Discussions to establish why particularly women felt more confident about approaching decision-makers after the intervention. What all of the Focus Groups confirmed was that it was enhanced knowledge or rights, livelihoods skills obtained and group mobilisation that made them speak up – not prior exposure to their interlocutors through accountability mechanisms.

It needs to be stressed that the process of weighing evidence should ideally be thought through before data collection – to think about appropriate and strong sources of data. Working out what the evidence means is best done in a group of people who bring appropriate contextual knowledge to judge how strong a piece of evidence really is.

Example for a documentation and analysis grid for an added Realist Evaluation element (optional)

The evaluation combined an element of Realist Evaluation with Process Tracing, attempting to explicitly draw out and test causal mechanisms – interactions of the context with opportunities, constraints or resources provided by the intervention - emerging alongside the prioritised outcomes. The following is an example of a table that structures these Context-Mechanism-Outcome-Hypotheses. A few of these hypotheses were prioritised for testing as part of Process Tracing.

Context	Mechanism	Outcome	Reason
e.g. Elected leaders	Are discouraged (constraints imposed by intervention)	From weighing in unfairly on decisions affecting communities	Because they are under greater scrutiny of the better informed and confident villagers

On the use of contribution scores

A contribution score can be used to visualise and rate an intervention's contribution to the prioritised outcome. The wording and 'intervals' for this can be decided by the evaluator in discussions with Christian Aid staff to arrive at a scale that is meaningful and useful in a given context. The following is an example from the Bangladesh evaluation.

Significant contribution	HAP was the primary factor in bringing about a change in attitudes, knowledge and actions of the target stakeholder group. Without HAP, the change would not have been observed.
Some contribution	HAP was among the important factors for bringing about a change in attitudes, knowledge and actions of the target stakeholder group. Without HAP, the change may not have occurred in the same way.
Small contribution	HAP was a relatively minor factor in bringing about changes in attitudes, knowledge and actions of the target stakeholder group. Without HAP, the change is likely to have occurred but to have looked differently.
No contribution	HAP was no factor in bringing about changes in attitudes, knowledge and actions of the target stakeholder group. Without HAP, the change is likely to have occurred in the same way.

What findings from the Bangladesh evaluation were unique to Process Tracing?

Similar to other theory-based methods to evaluation, Process Tracing delivers a very detailoriented investigation of alternative explanations as well as the intervention as an explanatory factor. Instead of delivering an implementation-focussed verdict on effectiveness, it contextualises an intervention's influence in this way. Subjecting each causal link and each piece of evidence to testing and increased scrutiny enhances the credibility of the overall explanation. Particularly the formal evidence testing element and accompanying documentation introduce an element of transparency and greater intersubjectivity that sceptics of qualitative evaluation may often find lacking in the real-life application of methods otherwise. While similar findings would have been reached using other approaches, the extent of detail dedicated to a limited number of selected key outcomes and competing explanations of this, as well as careful evidencing of each link, is unique to Process Tracing.

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