Theory of Change Primer

A STAP Advisory Document
November 2020

STAP SCIENTIFIC AND TECHNICAL ADVISORY PANEL
An independent group of scientists that advises the Global Environment Facility

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UN environment programme

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ABOUT GEF:
The Global Environment Facility (GEF) was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems. Since then, the GEF has provided close to $20.5 billion in grants and mobilized an additional $112 billion in co-financing for more than 4,800 projects in 170 countries. Through its Small Grants Programme, the GEF has provided support to nearly 24,000 civil society and community initiatives in 133 countries. http://www.thegef.org

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CONTENTS

By Uwe Bergwitz

FOREWORD

This document provides a synthesis of guidance specifically aimed at Theory of Change (ToC) processes in a Global Environment Facility (GEF) context, as part of a growing suite of Scientific and Technical Advisory Panel (STAP) documents that support the design of interventions in meeting the GEF's goal to apply leading practices to deliver transformational change. ToC interacts with many other elements of project and program design. In this primer, these interactions are only discussed briefly in terms of their implications for ToC and cross-references to other STAP, GEF or external sources are often provided for more detail.

In drawing up this primer, STAP spoke with diverse practitioners in the GEF family, whose inputs were greatly appreciated. A wide range of sources, online and in the peer-reviewed literature, were also reviewed; more details can be found in the companion Supplement to this primer (a short literature review and annotated bibliography).[1] One anonymous correspondent commented: "ToC is challenging as it requires you to deconstruct your assumptions and the mini-outcomes towards goal achievement in a much more detailed way. It takes a lot of practice to be able to use the tool/process in a comprehensive and intelligent way." This is very true, but as articulated in an Annie E. Casey Foundation publication: "Communities have too much at stake to engage in work without a clearly defined purpose."[2] This primer aims to structure the complexity of ToC so that significant improvement in outcomes can be achieved with as little pain as possible.

1 Stafford Smith, M. 2020. Theory of Change Supplement: A short literature review and annotated bibliography, A STAP Advisory Document. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC. Available at https://stapgef.org/theory-change-primer

2 Organizational Research Services, *Theory of Change: A Practical Tool for Action, Results and Learning* (Baltimore, Annie E. Casey Foundation, 2004), p. 39.

GLOSSARY

Some terms are used in subtly different ways in different Theory of Change guides. There is no absolute standard of right and wrong, but in this primer the following terms are used consistently as follows:

activity. An action taken in an intervention that leads – independently or together with other activities – to its outputs. At the program level, activities include the development and coordination of projects as well as the pursuit of additional program-level actions, such as knowledge management or regional and value chain engagement.

assumption. A belief that is accepted as true or taken for granted in defining the causal links in the causal pathway. Assumptions are sometimes called "preconditions" (assumptions about things that must be in place for the link to work, such as good governance or education levels) or "hypotheses" (assumptions that are plausible but unproven). More generally, assumptions may also involve complementary activities by other actors, as well as internal and external risks, opportunities, barriers and enablers. Assumptions are elicited through the Theory of Change process.

causal pathway. A backward mapping from an intervention goal through all the long- and short-term outcomes, to the outputs needed to achieve it, identifying a logical arrangement of "causal links" between them. (Also called an "impact pathway", "outcomes chain" or "solution tree".)

goal. The impact in society and the environment that an intervention means to effect. In the Global Environment Facility context, goals are at least partly described in terms of the global environmental benefits that the Global Environment Facility aims to ensure are scaled and enduring.

input. Any resources, skills, funding, personnel, thinking, etc., provided by an intervention to enable its activities and deliver its outputs.

intervention. General term that covers program- and project-level activities enabled by Global Environment Facility investments and entrained resources.

outcome. A flow-on effect outside the intervention expected as a result of the outputs interacting with events and activities in the wider world. Outcomes may be short or long term, decreasingly within the sphere of influence of the intervention (see figure I). In some guides, outcomes are described as "preconditions for achieving the goal" or "impacts".

output. The immediate results of the activities of an intervention. Outputs are within the sphere of control of the intervention (see figure I).

program. A collection of related projects. The program coordinates the development of its projects and takes an integrated view of them to enable enduring, transformative impact.

project. A component of a program. Projects generally take place at the individual country level.

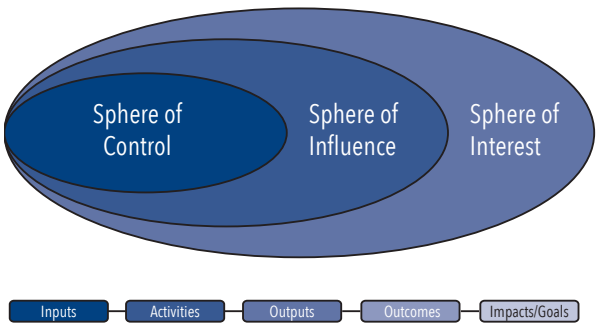

Figure I: Relationship between the goal, outcomes, outputs, activities and inputs of an intervention and the intervention's level of control over them. The Theory of Change process works backwards, from the right to the left.

LIST OF ABBREVIATIONS

CGIAR	Consultative Group on International Agricultural Research
GEF	Global Environment Facility
IEO	Independent Evaluation Office
IUCN	International Union for the Conservation of Nature
OFP	Office of Food for Peace
RAPTA	Resilience, Adaptation Pathways and Transformation Assessment
STAP	Scientific and Technical Advisory Panel
ToC	Theory of Change
UNDG	United Nations Development Group
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development

A BRIEF OVERVIEW OF THEORY OF CHANGE

Theory of Change (ToC) methodology is widely used in development activities and increasingly applied in other walks of life. The concept was first popularized in the 1990s[1] and has gradually become more widespread and sophisticated.[2] Numerous sources are available on ToC processes,[3] notably consolidated through the Center for Theory of Change website.[4] A body of peer-reviewed scientific literature more formally assesses the value and use of ToCs.[5]

This guide consolidates sources of ToC advice for a Global Environment Facility (GEF) context, following the Resilience, Adaptation Pathways and Transformation Assessment (RAPTA) framework[6] in emphasizing a systems-based approach, to have the best chance of contributing to interventions that meet the GEF's goals of being transformative and durable. Most GEF agencies explicitly require or recommend some form of ToC for their interventions, though the agencies vary as to the use of in-house or generic guides;[7] this primer aims to be compatible with these guides but consolidate their advice. This section outlines some background to ToC approaches, which section 2 implements in the form of guidance.

1.1 WHAT IS A THEORY OF CHANGE?

There is still diversity in how a ToC is defined, but here it is taken to mean the process and product of developing an explicit account of how and why an ***intervention*** is expected to achieve its intended ***outcomes*** and ***goal***, based on outlining a set of key ***causal pathways*** arising from the ***activities*** and ***outputs*** of the intervention (whether at the ***program*** or ***project*** level) and the ***assumptions*** underlying these causal connections. The account will usually include a ToC diagram to help summarize the logic through these causal pathways, as well as a narrative that explains the context, what the logic is based on, and how success will be measured. (For ***bold italic*** terms, see glossary.)

The essential distinctive aims of ToC, compared with other approaches, are to:

- Identify specific causal links among outputs and outcomes, with evidence
- Describe the causal pathways by which interventions are expected to have effect and identify indicators to test their validity over time
- Be explicit in describing assumptions about these causal pathways, which entails analysing barriers and enablers as well as indicators of success

Despite widespread information, there is still confusion about the distinction between a ToC and project descriptions such as a logframe.[8] The former establishes the logic of why and how an intervention is expected to achieve the intended change; the latter more simply describes the components of such an intervention. There also remains confusion about what makes a good ToC, partly related to the different reasons for using the approach; this guide seeks to summarize current leading practice.

1 See Weiss (1995), for example.

2 For a good short review, see Harries, Hodgson and Noble (2014).

3 Key useful resources, though including some divergence in detail: ActKnowledge (2011); CLiNKS and NPC (2014); Colby and Collins (2013); Harries, Hodgson and Noble (2014); O'Connell et al. (2019); Organizational Research Services (2004); Taplin and Clark (2012); Taplin and Rasic (2012); USAID OFP (2016).

4 https://www.theoryofchange.org. See also https://learningforsustainability.net/theory-of-change and http://fosonline.org/library/using-results-chains for other aggregator sites with more of a focus on sustainable environments.

5 For some useful recent commentaries, see Davies (2018), with regard to evaluation especially; Dhillon and Vaca (2018); Maru et al. (2018); Oberlack et al. (2019), for theoretical need; Thornton et al. (2017); and Stafford Smith (2020).

6 O'Connell et al. (2016, 2019). RAPTA provides an integrated set of approaches to designing transformative interventions and shows where ToC fits among other tools.

7 For example, UNDG (2017); UNEP Evaluation Office (2017); UNDP Effectiveness Group (2016); World Bank Group's DIME Wiki (https://dimewiki.worldbank.org). Additional unpublished material was kindly made available.

8 Clearly explained by Clark and Anderson (2004). See also appendix 1.

1.2 WHY DEVELOP A THEORY OF CHANGE?

There are multiple reasons for carrying out a ToC, which can be summarized into four areas:[9]

- **Design:** To **make projects more effective** and more likely to efficiently deliver enduring and transformative impact, partly by bringing in diverse sources of understanding and by opening up "black boxes" in thinking through defining explicit causal pathways.

- **Engage:** To **help teams work together** to achieve a shared understanding of an intervention and to help engage and develop ownership with partners and stakeholders (including those important for durability and scaling).

- **Communicate:** To **quickly communicate** a project's aims and set of activities, internally and externally, as well as to highlight the process of change.

- **Measure:** To **help teams learn** from data collection if there are gaps in the existing evidence base, to allow adaptive adjustments of an intervention during its lifetime, and to ensure indicators of success are in place for later evaluation. (Measure is the reason most highlighted by evaluation offices.)[10]

What balance of multiple purposes is important in a particular ToC exercise should determine what emphasis is placed on different aspects of the ToC (e.g. whether to prioritize partner engagement or causal understanding), though all aspects are important in the use of ToC across the lifetime of an intervention (see figure 1). For the GEF, a good ToC is foundational to having confidence that an intervention is likely to have durable and transformative impact, whether at the project or program level.[11] This is particularly important to the GEF given that most of its interventions tackle complex social-ecological problems involving multilevel governance and will fail if they are based on oversimplistic or disciplinarily narrow conceptual models.[12]

Monitoring of interventions is linked to ToC for various reasons. Monitoring is required internally to determine progress (Has this outcome been achieved to a level that will cause the expected flow-on effect?) and externally for evaluation (Is this investment achieving its promised aims?). However, an additional, and key, reason to link ToC and monitoring is to test whether changes in the short-term outcomes really lead to the intended long-term changes (sometimes called "proximate" and "ultimate" outcomes, usually measured by "activity-based" and "outcome-oriented" indicators, respectively). Detecting change in the ultimate outcomes and the contribution of the intervention to those outcomes is (usually) harder and slower than it is for shorter-term outcomes; confirming the proposed causal logic of the ToC enables early evaluations of progress to focus on indicators of the short-term outcomes and thus occur more quickly. For example, if you can be sure that a specified improvement in land management knowledge coupled with a certain level of land tenure security leads to a known reduction in land degradation outcomes, then measuring the proximate (activity) indicators of farmer knowledge and tenure becomes a reliable predictor of the outcome indicator of the ultimate global benefit, reduced land degradation. If well structured, this is a powerful contribution to learning within the intervention. If presumed links and assumptions turn out to be untrue (or only partially true), this finding allows a structured approach to be taken to adapt the way the intervention is delivered before it fails. This is important for the GEF, which seeks to have an adaptive but accountable level of flexibility in its program implementation.

9 For example, Harries, Hodgson and Noble (2014); UNDG (2017). See also appendix 2.

10 For example, GEF IEO (2018); UNEP Evaluation Office (2017); Vaessen (2016).

11 See GEF STAP (2019). Interesting perspectives for ToC aimed specifically at transformation may be found in Reos Partners (2018, pp. 2–5) and the SDGs Transformations Forum (https://www.transformationsforum.net).

12 Davies (2018) discusses how "complicated" as opposed to "complex" interventions affect ToC logic.

1.3 WHEN SHOULD A THEORY OF CHANGE EXERCISE BE CARRIED OUT?

For large interventions, ToC should help design thinking improve iteratively; repeated ToC exercises can improve the success of the intervention in different ways at different stages in the design-implement-evaluate life cycle. ToC is not an add-on but an integral contributor through the whole cycle of an intervention.[13] These multiple uses should be designed to provide maximum benefit for effort. Key stages at which ToC exercises can be important, as shown in figure 1, are:

- **Early design:** The core team develops the basic logic to frame the intervention.
- **Continuing design:** The team brings in potential partners and other stakeholders to develop ownership and to challenge and extend the team's logic; they should detail assumptions about causal links as well as internal and external risks, especially in aspects that relate to durability and transformational scaling of the intervention.
- **Late design:** The team ensures that indicators and monitoring are defined and completes ToC as part of the signed-off proposal.
- **During implementation:** At key review points, the extended team (probably with funding stakeholders) reflects on short- and long-term indicators (see section 1.2) and determines whether the ToC requires any modification.
- **At and after completion:** The team and independent evaluators reflect on ToC and indicator data to evaluate the intervention and learn from it.

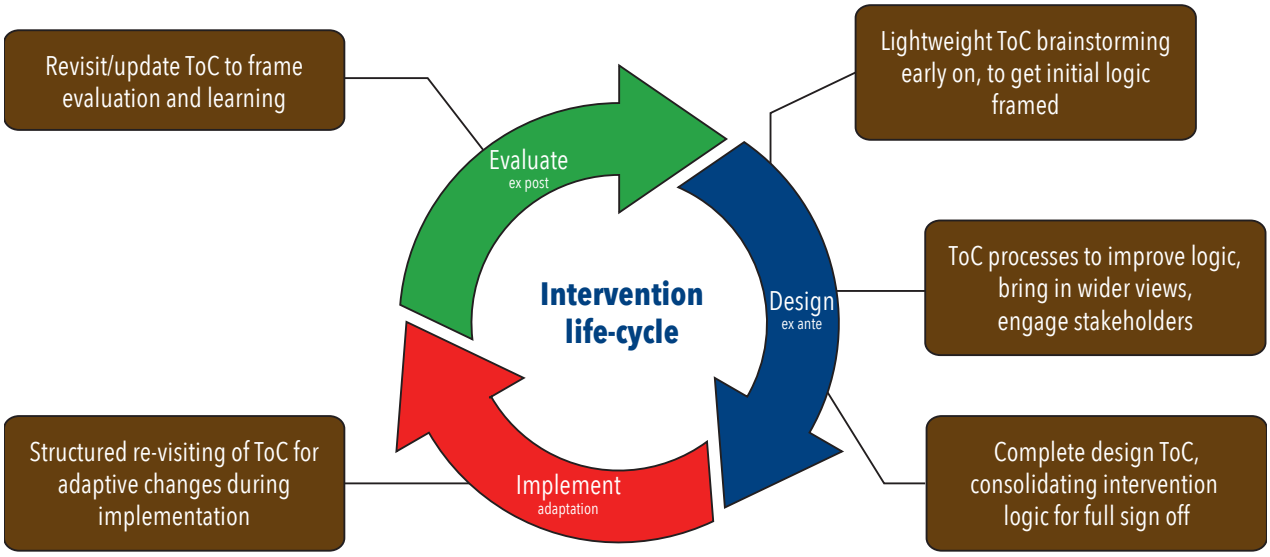

Figure 1: Role of Theory of Change (ToC) processes in key stages of an intervention life cycle. The consequences are reflected in table 1.

13 See O'Connell et al. (2019) for more on the interactions between ToC and other elements of design, implementation and evaluation.

By Jimmy Tran

1.4 HOW TO DEVELOP A THEORY OF CHANGE

There is considerable consistency about how to develop a ToC, both in sources used by GEF agencies and in the wider literature.

All ToC processes include being clear about goals or intended impacts and working back from them to intervention outputs; being explicit about causal pathways and assumptions and testing both the logic behind them and the associated risks; identifying what is within the intervention's scope; defining indicators of success; and reporting on the ToC. Most ToC sources also discuss the value of ToC in engaging intervention partners and stakeholders and the need to be iterative (not too perfectionist) in ToC development. Many sources provide tips to help the ToC processes work well.[14]

Recent literature emphasizes the value of ToC in reviewing and learning about the intervention's progress and in introducing flexibility into its implementation to make it adaptive in approach but still focused on achieving its goals (important to GEF's oversight function).[15]

A ToC exercise can be a small group brainstorm, a small workshop or a larger stakeholder engagement; it can be spread over multiple meetings, or an initial iteration may be largely achieved in a single workshop, with write-up afterwards. The ideal mode depends on the purpose of the ToC, as noted in section 1.2, and the resulting number of people involved, and should be chosen appropriately.

The implementation of these ToC elements is reflected in section 2 of this guide.

The *science* of a good ToC is to ensure causal pathways are likely to be valid, as well as *necessary and sufficient*. The *art* of a good ToC is to use the participants' collective wisdom to select a manageable but useful number of key pathways that probably entrain good results across other aspects. The *culture* of a good ToC is to create engagement, ownership, critical reflection and learning among all key actors.

14 See footnotes 3 and 4, Section 2, Appendix 1 and the Supplement.

15 See Thornton et al. (2017), Maru et al. (2018)

1.5 PROJECT OR PROGRAM-LEVEL THEORY OF CHANGE?

Intervention covers programs and projects for most of this guide, as most aspects of ToCs are relevant to both, but some issues are emphasized in the life cycles of programs rather than projects.[16]

The program design phase should include a ToC of typical causal pathways for the general goal of the program, such that these pathways provide a consistent approach that is then tailored to the context of individual projects within the program. For the GEF, programs (especially Impact Programs) will also emphasize causal pathways that enable scaled, transformative impacts beyond the scope of individual projects,[17] for example combining outputs and outcomes across multiple countries to change policies or practices within a whole region or global value chain. The program ToC should also contain some causal pathways related to managing and coordinating the subsidiary projects, such as knowledge management systems to enhance cross-learning. At the program level, stakeholder engagement and partnerships are likely to revolve around whole value chains or multi-country institutions, and adaptive learning about progress may be fed directly into other projects. Inputs to and outputs from the ToC will be embedded throughout the program design document (the Program Framework Document for the GEF).

Project-level ToCs at the design phase will draw on the program-level logic for some consistency but must tailor this to the context of the individual project; for example, a program ToC may emphasize the need for good governance, but the implication of this for a project will depend on the current governance characteristics of its focal country, sector or teleconnected value chain. Projects should explore context-specific barriers, enablers and risks that go beyond the more generic program detail. Project ToCs will ideally be much more specific about outputs, stakeholder engagement, and partners and will draw on more local evidence for assumptions. Complementary interventions by others will be explicitly identified. Once again, inputs to and outputs from the ToC will be embedded throughout the project design document (Project Identification Form and subsequent project design for the GEF).

1.6 WHAT TO DO WITH A THEORY OF CHANGE AFTER THE DESIGN PHASE

The primary reason for developing a ToC is to provide quality assurance of the design of an intervention in contexts that are usually complex and multi-causal. A well-structured approach can help avoid simplistic and ultimately wasteful (or even damaging) investments.[18] Aside from being a requirement of funders, the time investment should be seen as greatly enhancing interventions.

However, the GEF should capture other benefits from the ToC by:

- Using the ToC process to keep stakeholders engaged (especially as policy and other representative stakeholders change, as is often the case) through simple communications based on clear causal pathways and reviewing whether the circumstances justifying the ToC logic have changed.

- Using the ToC product to help define and analyse monitoring data that contribute to continuous learning through the intervention. Within the project team, this can provide a powerful sense of feedback and knowledge management.

- Using ToC reviews to ensure that flexibility in the intervention is constrained to genuine adaptability justified by thoughtful amendments to the ToC and consistent with agreed goals, rather than being a result of arbitrary or politically motivated deviations.

16 Usefully outlined in UNDP Effectiveness Group (2016, section 3).

17 See GEF IEO (2018); GEF STAP (2019); Reos Partners (2018); Tengberg and Valencia (2017); Toth (2018); SDGs Transformations Forum (https://www.transformationsforum.net).

18 A sobering example is provided by Bloem (2019), in which well-intended regulation of conflict minerals in central Africa may have in fact tragically increased conflict through overlooked causal pathways.

- Using the ToC product to frame ex post evaluation – one of the main original purposes of ToC, especially important for accountability to investors – and to aid learning that informs subsequent interventions.

Thus, a ToC is integral to guiding implementation and longer-term scaling of impact; it is not a tick box item.

1.7 HOW TO ASSESS A THEORY OF CHANGE

ToCs will mostly be assessed by the intervention team themselves, by funding stakeholders (e.g. GEF Secretariat and Council members), or by evaluators (e.g. the GEF Independent Evaluation Office). The intervention team should assess the quality of every ToC exercise against the reason for doing it (see figure 1); for example, has a ToC focused on design delivered high-quality logic and evidence? Has a ToC focused on stakeholder engagement included the right suite of stakeholders? The GEF Secretariat or Council is more likely to see the overall ToC product of a project or program, which was probably developed from multiple ToC exercises; the overall ToC needs to meet the following general design qualities:

In general, ToCs should be:[19]

- **Plausible:** Present clear logical pathways from the intervention outputs, through outcomes, to the long-term goal and show that these pathways are *necessary and sufficient* to achieve the eventual global benefits.

- **Feasible:** Identify realistic outputs, partnerships and complementary pathways by or with others to drive the necessary change, taking account of potential barriers, enablers and risks.

- **Testable:** Clearly outline measurable indicators of change through the pathways, and identify the points where the causal logic in the ToC might be reviewed.

19 For example, Taplin and Clark (2012).

In addition, for those commissioning or funding a ToC process, such as the GEF Secretariat, enquiries that may indicate how good the ToC process itself was (by the completion of the design phase) include:[20]

- Is there a mandate and buy-in from key decision makers? Did the right people participate in the ToC development, with sufficiently diverse representation? (Consider not only those who need to approve the design but also those groups whose eventual support or opposition could be critical to success.)

- Are the outcomes explicit, clear and mapped into sequence? Does each outcome state which actors (outside the project itself) are expected to be doing what differently? Are key barriers to, and enablers of, the outcomes identified, especially for outcomes related to transformative scaling?

- Are the links in the causal pathways explicit, and are the underlying assumptions for each link included? Is the cited evidence base for causal links strong, or are there plans to test unconfirmed assumptions (with appropriate indicator identification as necessary)?

- Are opportunities and risks from long-term changes (e.g. demographic, climate, market, technological, social, cultural) considered and accounted for?

- Was the process properly facilitated, with enough time and follow-through? Do the results embed insights from multiple sources, including key actors and prior research?

- Is the ToC adequately reported, with a diagram and narrative? Does it appropriately draw on and affect other sections of the proposal or design document?

When reviewed earlier in the design phase (e.g. on the Project Identification Form within the GEF),

20 See Colby and Collins (2013) on red flags; Dhillon and Vaca (2018, p. 74); Harries, Hodgson and Noble (2014, p. 21).

expectations for some of these indicators will be more preliminary; for example, stakeholder engagement will be incomplete; the key outcomes and causal pathways should be present, but with less evidence and testing; there may be limited attention paid to indicators; and the ToC reporting will be simpler. Assessors at this stage should acknowledge that details will change as additional perspectives and evidence are brought into the ToC process and the design logic of the intervention is made more detailed and more robust.

1.8 GETTING HELP WITH A THEORY OF CHANGE

Although section 2 provides an introduction to the practical steps of developing a ToC, and many GEF agencies have individuals with considerable experience in ToC, or have their own approaches (see the Supplement), readers may wish to seek outside support. This may be for help running the ToC process overall, running individual ToC exercises, or reporting the ToC.

Terms of reference for consultants being sought to help with designing projects should seek competence in the issues covered in this overview. In particular, consultants running the overall ToC or individual ToC exercises should be able to articulate the key principles that set a ToC apart from other approaches (sections 1.1, 1.2, 1.4) and understand the main criteria for assessing a ToC (section 1.7). They should expect to understand what stage of design the ToC is in (figure 1) and be able to indicate which aspects of the process might be emphasized at this stage. They should have enough awareness of the subject area to be able to understand and challenge the logic of general outcomes, causal pathways and causal links proposed by participants (without needing to know the details). They should be able to articulate a process that contains at least the phases and steps of figure 2, even if those elements are named differently.

Help specifically in reporting, both structuring the logic and visualizing it, can draw directly from software tools now available through various websites. Some such tools are summarized in Dhillon and Vaca (2018, pp. 78–82) and Davies (2018, p. 451). Van der Laan (2019) also provides useful practical steps in developing a visualization.

By Gustavo Frazao


By Tati Nova

2. SHORT GUIDE TO DEVELOPING A THEORY OF CHANGE

ToC is both a process, which may be applied in exercises at different stages in the life cycle of an intervention, and a product, especially during the design of an intervention but also at later stages of learning and evaluation. This section provides an introduction to the practical steps of a single ToC exercise and then works through these steps to show how the product is developed.

2.1 BEFORE DEVELOPING A THEORY OF CHANGE

It is important to be clear about the purpose of a particular ToC exercise and to design the process to suit. Table 1 outlines how the purposes at the different stages shown in figure 1 flow through to design implications. This includes deciding who should be involved, although recognizing that this will change through the stages; a prior stakeholder analysis may help.[21] This guide is mainly aimed at a workshop process, but similar considerations can be applied in small group brainstorming. Guides note that ToC is hard work and people soon lose focus, so it is best to spend a few hours to a day on it at most, if necessary reconvening later, which will allow time for writing up and reviewing.[22]

21 See O'Connell et al. (2016, pp. 44–46) for approaches to stakeholder analysis, also Reed et al. (2009).

22 For example, Harries, Hodgson and Noble (2014, p. 9).

Table 1

How the purpose (see section 1.2) in the intervention life cycle stage (see figure 1) drive the design and intended results of a Theory of Change exercise

Purpose		Implications for process of ToC exercise	Result
Design	Initial framing	Hold a small group brainstorm Make initial iteration a swift exercise ToC may be broad, with limited depth	Problem, goal, basic design and scope of intervention are defined. Key causal pathways sketched and their sufficiency assessed
	Deep design	Engage a wider group with new perspectives Run more detailed iterations (e.g. half-day workshops) with strong facilitation Develop comprehensive pathways and test logic deeply	Design now tested with insights from wider key perspectives Basis for ToC in proposal now well developed (may need to include some engagement too)
Engage	Team and partners	Run intensive workshop(s) with full team Needs strong facilitation and resolution of disagreements together Bring all to same understanding	Team and partners own and understand the approach, to ensure consistent implementation
	Wider actors	Run bigger group workshop Accept that process is more important than content (may be better to focus on fewer key pathways)	Stakeholders accept and own the approach, to help ensure scaling out, up and deep, and for durability
Communicate	Internally	Summarize underlying ToC logic in forms that are found useful, maybe in multiple formats (e.g. logframe)	Any changing staff or partners rapidly understand the project intent
	Outside world	Illustrate major pathway narratives that resonate with and explain the intervention	Public, community and stakeholders are supportive
Measure	Adaptive learning	Emphasize assumption testing and progress on nearer-term outcomes Explore adaptive implementation in response to new evidence and contexts	Learn from progress Justify necessary (but not open-ended) flexibility in implementation
	Post hoc evaluation	Test links between shorter- and longer-term outcomes Implement evaluation and learning for funders	Confirm that near-term outcomes predict eventual impact Meet formal evaluation

Abbreviations: ToC, Theory of Change.

Inputs to a ToC process should include a draft of the problem and the goal to be addressed. If there has been prior work on a systems analysis of the social-ecological system of concern, that analysis should inform the logic of the causal pathways,[23] otherwise it can be part of the ToC discussions.

23 O'Connell et al. (2016, 2019) provide guidance on goal setting and systems analysis.

2.2 STEPS IN A THEORY OF CHANGE PROCESS

The basic steps for a ToC process should be the same, whether for one or two individuals brainstorming,[24] a small project team with key partners or a major stakeholder engagement, though different levels of emphasis may be put on different elements and forms of output. There are many guides, each with various numbers of steps. Figure 2 shows the three phases – A: Set up causal pathways; B: Test logic and scope; C: Monitor, review, summarize – and the eight steps used in this primer to capture leading practice in a GEF context.

There are various other good guides and primers, including practical advice for facilitators;[25] if using others, it is important to ensure that all the elements in table 2 are included. In some guides, the order of the steps is different, or the steps are combined, especially those in phase B. This is fine, as long as the elements are covered.

There can be a convenient working break between phases A and B – allowing for reflection on the causal pathways – and again at the end of phase B. Detailed assembling of evidence in phase B, as well as more detailed development of indicators and the summary narrative in phase C, is best completed

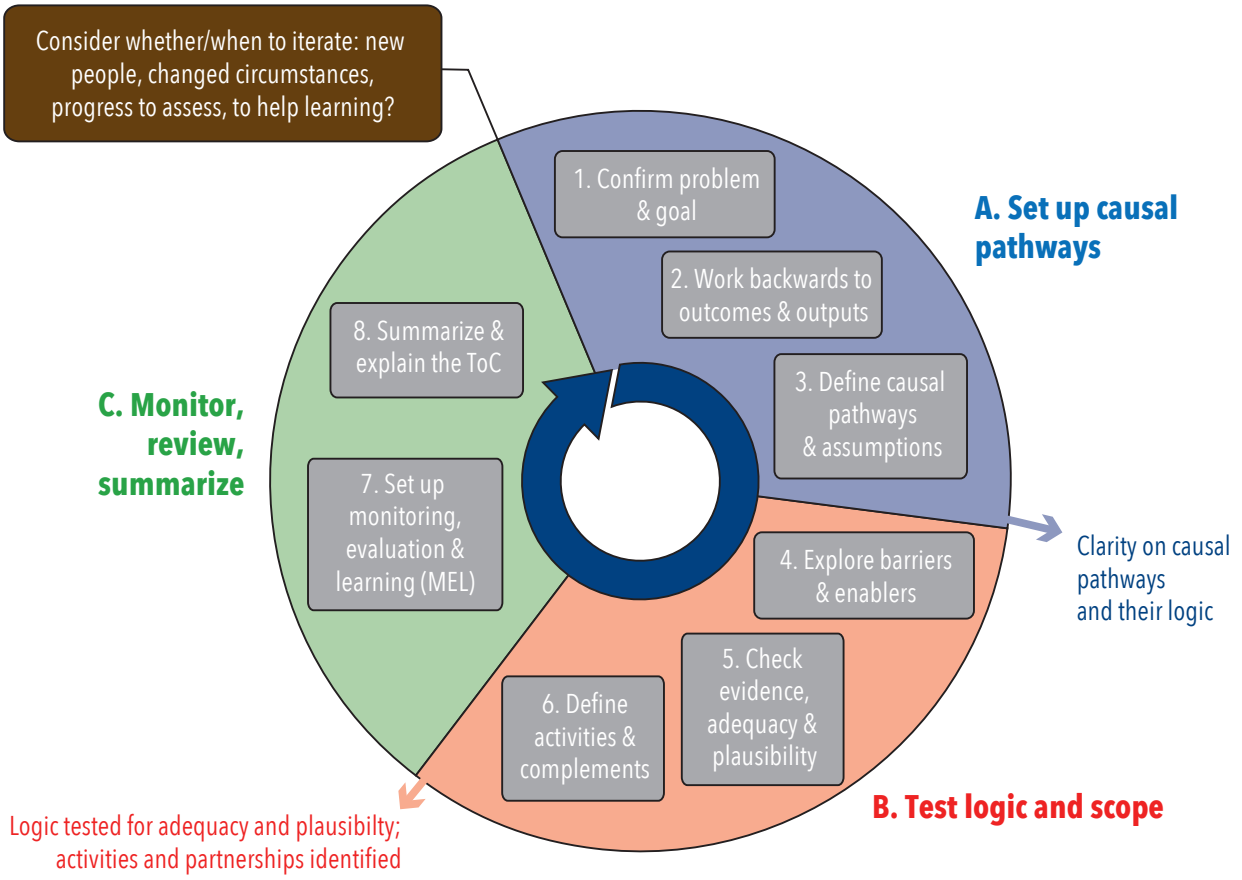

Figure 2: Key phases and steps of a Theory of Change (ToC) for the Global Environment Facility. These steps are elaborated in table 2.

24 In an early pass, for example for the GEF PIF, it is important to rough out the main causal pathways and critically assess whether they are likely to be necessary and sufficient to achieve the goal. Taplin and Rasic (2012, p.10) discuss "ToC-lite" further.

25 For example, Harries, Hodgson and Noble (2014, box 3, p. 10); Taplin and Clark (2012); Taplin and Rasic (2012); UNDG (2017). CLiNKS and NPC (2014, appendix 4, p. 32) provides a workshop template with rough timings.

outside a workshop (though some discussion of all these elements with the entire project team is important).

There remain diverse ways of displaying a ToC diagram,[26] with ongoing innovation; however, key requirements are to show a coherent and logical causal model (each element should plausibly lead to the next) and to communicate clearly. There are several items that are often omitted from the ToCs reviewed for this primer; between the diagram and the narrative, users of this guide should try to:

- Give proper attention to the assumptions underlying the causal chains of outcomes and the expected effects of interventions, including whether there is evidence for those assumptions and whether there is a means of adaptively testing them in the intervention.
- Clearly identify actions needed from actors outside the current intervention and whether the current intervention needs to do anything to encourage or align with these actions outside its immediate sphere of control.
- Cover the implications of long-term drivers – such as changes in population, market demand, globalization, climate and other global environmental changes, or disruptive technologies – for both the goal definition and the proposed responses. These drivers include many uncertainties and suggest the need for robust options (that work in any plausible future, rather than being optimized for one future and likely to fail in others).
- Give explicit attention to issues of scaling and durability of the impacts intended for the intervention (especially, for the GEF, of the global environmental benefits), including changes in policy, governance and culture that may be required for transformative scaling.[27]
- Critically justify that the causal pathways are collectively *necessary and sufficient*.

2.3 AFTER DEVELOPING A THEORY OF CHANGE

A ToC is an iterative part of intervention design, implementation and evaluation, and only one part of the description of an intervention, whether at the program or project level. Just as the ToC process should draw on other parts of an intervention proposal (context, systems analysis, stakeholder analysis, etc.), it should also feed into other parts (possibly scoping and goal setting, monitoring and active learning, knowledge management, and adaptive governance).[28] When a ToC is part of a complete proposal, some of the results of the ToC will (and should) be elaborated elsewhere, not just in the narrative of the ToC itself.

In completing one ToC exercise, consideration should be given to what the next iteration needs to be and what will trigger it. Early in intervention life cycles, the next iteration is likely to be further elaboration of the ToC and the engaging of partners and stakeholders; later on, it may be review, evaluation and learning (see table 1 and section 1.3).

A ToC will never be perfect, so time should not be wasted worrying too much over wording or exhaustive detail. The main aim is to produce something that everyone broadly agrees with and that is useful for the intervention aims. The ToC should be seen as an evolving, working document.[29]

26 Useful pointers can be found in Dhillon and Vaca (2018, pp. 77–81); Harries, Hodgson and Noble (2014, pp. 15–17, box 8); van der Laan (2019). Recent analysis (with regard to evaluation) can be found in Davies (2018).

27 See GEF STAP (2019) for scaling out, up and deep and the different forms of change these paths may require, also GEF IEO (2018); Reos Partners (2018, pp. 2–5); Tengberg and Valencia (2017); Toth (2018); SDGs Transformations Forum (https://www.transformations-forum.net). Stachowiak (2013) outlines 10 types of policy pathway for change.

28 O'Connell et al. (2019, pp. 8–11) outline these links further in the whole intervention design process.

29 Harries, Hodgson and Noble (2014, box 3, p. 10).

2.4 SUMMARY GUIDE TO CARRYING OUT A THEORY OF CHANGE PROCESS

Table 2

Elements of a comprehensive Theory of Change process

Phase	Step	Elements	Practical tips
Before	Inputs for a ToC	• Be clear on the purpose(s) of the ToC.	• This will direct how you develop the ToC, who you involve and how its success is assessed (section 1.2 and table 1).
		• Be clear on the goal of the intervention.	• Provide a simple statement of the problem being treated and the intended impacts of the intervention, including their relevance to the GEF's global benefits (these may be amended during the design stage). When you circulate this statement beforehand, include definitions of key terms (see, for example, the glossary).
		• Choose who to involve.	• This depends on the purpose and life cycle stage (table 1); if the purpose is engagement, ideally conduct a stakeholder analysis first (RAPTA)[a]. • More people provide more perspectives but make the process more complex. It is hard to develop a ToC with more than about 15 people, but fewer than 3 may be too narrow.
		• Conduct a systems analysis.	• A good systems-based ToC depends on an appreciation of how the social-ecological system of concern functions, including across scales. You can apply a formal systems analysis process (RAPTA)[a] or a strawman situation analysis, or it can be explored more simply in the ToC, focusing particularly on factors that facilitate or inhibit change. Circulate something beforehand.
Set up causal pathways	1. Confirm problem and goal	• Ensure everyone is on the same page about the overall problem and goal of the intervention.	• Circulate proposed problem and goal statements for feedback before any workshop; the goal should be a positive opposite of the problem, and it should be credible in the face of long-term drivers like population growth, urbanization, climate change and technological disruption. • If possible, do not spend too much workshop time on this. But it is important that everyone agrees on both the overall problem and goal and on the definitions of the terms used. • If there is debate, acknowledge and capture issues for possible adjustment later, but limit the time and, if necessary, ask people to suspend judgment for now. You may be able to make a few clarifying amendments or definitions on the fly. • Once you proceed, you may need to remind people of the goal repeatedly. (To keep the process going, have them add comments on a sheet of paper on the wall if their views change.) • If the disagreement is very heated, you may not be ready to discuss a ToC. This is an important finding: redesign the workshop to work the issues through.

Phase	Step	Elements	Practical tips
Set up causal pathways	2. Work backwards to outcomes and outputs	• Work backwards from the goal to specify *necessary and sufficient* outcomes and the outputs needed to achieve them. • Identify longer-term outcomes needed to deliver the goal first, then add the shorter-term outcomes needed to achieve them. • Add the outputs needed to deliver the outcomes. • Discuss what is *necessary and sufficient* to achieve the goal.	• Place the goal on the right or the top of a large sheet of paper or wall (this is useful even if you are a small group); people may need to warm up with some collective discussion of key long-term outcomes for the goal, but get into small groups soon so everyone contributes. • Use sticky notes to add outcomes and outputs, one on each sheet, working back from long term to short term; use different coloured sticky notes for outcomes and outputs. (Figure I may help people distinguish outcomes from outputs; see the Supplement for sources of examples.) • Ensure outcomes and outputs are stated as results, not processes. For outcomes ask, "Who will be doing what differently?" • Have everyone concentrate on the outcomes first, and only then add the outputs (to avoid people putting up their preferred projects). At this stage, do not ask for connecting arrows, though people may provide some. • If the group is small, this step can occur through discussion, with one person recording; if the group is larger, let people take 20 minutes to write their ideas on sticky notes and then have the whole group review what has been put up and combine similar ideas. • Have some initial discussion about which outcomes are really *necessary and sufficient* to achieve the goal. (This will challenge people's assumptions, to be revisited in step 3.) • Do not be limited to outputs that people initially imagine to be within the scope of the intervention (but also do not let the scope get too broad). It is important to know what scope is needed to address the connections between outputs. • Do not write down outcomes or outputs just because they are already being pursued. Encourage people to think creatively. Too often people only suggest what they are familiar with. • (A full intervention design will include activities and resources to deliver the outputs; this level of detail is not needed here, except as a reality check on what is possible.)

Phase	Step	Elements	Practical tips
Set up causal pathways	3. Define causal pathways and assumptions	• Organize the outputs and outcomes into causal pathways, linking items together with arrows. • Use each pathway to show how one (or more) of the outputs leads to one or more shorter- or longer-term outcomes that contribute to the overall goal. • Use the arrows between the outputs and outcomes to show the assumed causal logic. • Tag each arrow with key assumptions justifying it (especially if people disagree about these assumptions).	• If you have a prior systems analysis, you may start this step with a brief recap of it to get people thinking about causal links. • Consolidate sticky notes with similar outcomes. With a big group, you might start this in a break; in a small group, it can be done together. • Put assumptions on a different coloured sticky note beside the arrow or outcome each relates to. • In a workshop process, the product will be messy as people add to others' opinions. Just make sure the key pathways and assumptions are clear so that the whole can be tidied up and documented afterwards to reflect back to the attendees. • Remind participants you are trying to document important causal links and assumptions, not every single one. Is the one they are adding as important or more important than others already there? • Give the pathways preliminary narratives to explain them (e.g. governance pathway, local capacity-building pathway, private sector pathway); if possible, these narratives should engage and resonate with stakeholders. (Note any descriptions suggested by stakeholders in the workshop.) • Before finishing this step, gather everyone by the diagram and outline the main pathways. Revisit the question of what is *necessary and sufficient*: Are there any crucial gaps? Can some pathways be given lower priority? Check if any pathways have no explicit assumptions: Does no one really believe in them, or are they happening anyway? The end of this step is a good spot for a break and reflection.
Test logic and scope	4. Explore barriers and enablers	• Identify the barriers and enablers (and risks and opportunities) for achieving each pathway. • Add any additional outputs and outcomes (and associated logic) required to overcome the barriers and activate the enablers.	• In a large group, get people to document barriers and enablers on a different coloured sticky note on the relevant pathway. (By now you might have each pathway on a different wall or table so subgroups can move around them.) • Some enablers are just the reverse of barriers, but considering enablers explicitly often raises new (and positive) issues. Focus on these enablers, noting that they may be either internal (e.g. having the right partners) or external (e.g. land tenure policy) to the intervention. • Ask whether any long-term changes – for example, population, product demand, globalization, new technologies, climate and other global environmental changes, economy, or social expectations – are risks to (or opportunities for) the pathways (and the durability of results). • After adding examples for approximately 20 minutes, identify the most important ones. (In a large group, hand out voting dots to identify approximately 6 top barriers or risks and approximately 3 top enablers or opportunities.) • For these top ones, ask whether they require any additional causal pathways. • Bringing in more viewpoints can help to think through all possible causal pathways and thus to avoid unintended consequences (which usually result from unforeseen pathways).

Phase	Step	Elements	Practical tips
Test logic and scope	5. Check evidence, adequacy and plausibility	• For the main causal pathways, list the evidence that exists or is required to support the ToC. • Challenge existing assumptions and logic on how and why change could happen, and ensure key assumptions are plausible and valid. • Is the total set of pathways *necessary and sufficient* (possibly including complementary actions by others)?	• In practice, dealing with more than about 6 pathways (perhaps including 1 or 2 that other actors will implement) is beyond a large group (and may be unnecessary for engagement purposes); more may be feasible in comprehensive planning by a small team. • If you have identified many pathways, you may need to have a discussion about which are the 4–6 that will carry other pathways along, or you may need to combine some into larger pathways. Assessing evidence may help with this task, as may revisiting the question of what is *necessary and sufficient*. • You want people to draw on their experience or on literature to provide evidence. But capture enough detail that the team can verify the evidence later, if necessary. • In a large group process, for engagement purposes, detailed evidence may be less important, but capture any insights that help to challenge or support assumptions. In a smaller process, team members may assemble more evidence outside the workshop.
	6. Define activities and complements	• Draw a line around the pathways that are realistically achievable within your intervention. • Identify the activities needed for your outputs and who you need to partner with to achieve them. • Identify who may achieve the impact pathways outside that scope and ask what you need to do to ensure these complementary pathways are followed.	• The ToC literature calls this line the "accountability ceiling" for your intervention. But if complementary pathways are vital for you to achieve impact, then you must consider whether you can influence them. Some may be barriers or enablers needing action by others. • In a workshop, do not overdevelop the activity details; just clarify what type of activity was intended to produce each output. (People usually find activities much easier to talk about than outcomes, so spend most of the time on the latter.) • Do you need to add any pathways to your intervention to influence someone else to deliver outcomes outside your accountability but essential to your success? • Be realistic. If you cannot control what is critical to your success, is your intervention the right one at this time? Perhaps a focus at a different scale or sector would be more profitable. • In a more leisurely ToC process, expect to iterate steps 2–6 and, within this, steps 4–6.
Monitor, review, summarize	7. Set up monitoring, evaluation and learning (MEL)	• Identify what needs to be monitored on each causal pathway or for each outcome. • Develop indicators to measure whether you have been successful and set targets for them.	• A complete MEL strategy and specific indicator details should be elsewhere in an intervention proposal; the ToC should help define what such a strategy must achieve and hence what parts of each causal pathway need monitoring (see RAPTA)[a]. • Ideally, every outcome should have an indicator for "how well this outcome must be met to deliver the next step in the causal pathway". • Defining outcomes quantifiably can help clarify what people mean by them, so this may lead to some iteration back to step 2 or 3. • Do not belabour indicator detail as a group; elaborate after the session. It should be possible to think of a SMART indicator for anything suggested. • Think about what criteria (e.g. failure to confirm a logical link) might trigger a review of the ToC and implementation logic.

Phase	Step	Elements	Practical tips
Monitor, review, summarize	8. Summarize and explain the ToC	• Develop a summary diagram with a 1- to 2-page narrative accompaniment.	• The diagram and narrative will usually be developed after a workshop, but you may want to discuss what to highlight while the logic is on the wall. • Various diagram forms are possible (see appendix 3). Keep the diagram manageable, as its main purpose is to communicate; remember, it is a complement to the narrative. • The narrative should stay short but contain, as a minimum, a rationale for the intervention, a situation or context analysis, a description of the diagram logic (explaining barriers and enablers and addressing the issue of *necessary and sufficient*), key elements of evidence, and the basis for a MEL plan (RAPTA)[a]. • Also explicitly state the intention of the ToC (see section 1.1) and mention who was involved in developing it and what their roles were (as this should frame any assessment of the quality of the ToC process).
After	Follow-up to a ToC	• Review overall quality. • Develop other representations if needed. • Consider structured iteration or revision, both during proposal development and in the longer term.	• Common criteria to consider for internal quality review: plausibility, feasibility, testability and communicability. • Other representations, such as a logframe, may be useful for some purposes. • You may run this process iteratively with other sets of stakeholders, in which case be prepared to revisit or refine goals, engagement, the pathways and assumptions, barriers and enablers, and evidence. • Also consider iteration from program to project levels, or through the implementation of the intervention, in response to emerging new evidence.

Abbreviations: MEL, monitoring, evaluation and learning; RAPTA, Resilience, Adaptation Pathways and Transformation Assessment; SMART, specific, measurable, attainable, relevant, timely; ToC, Theory of Change.
[a] O'Connell et al. (2016, 2019).

By Ron Ramtang

APPENDIX 1: SOME FREQUENTLY ASKED QUESTIONS

DOES A ToC REALLY MATTER?

There are various ways of improving the design of interventions. The specific benefit of a ToC is its emphasis on making the mental models and causal logic that underlie an intervention explicit and on helping design monitoring and learning with them in mind. One result is that the whole team should now understand the mental models and causal logic rather than working at cross purposes. As articulated in an Annie E Casey Foundation publication: "Communities have too much at stake to engage in work without a clearly defined purpose."[30]

WHAT'S THE DIFFERENCE BETWEEN A ToC AND A LOGFRAME (OR A RESULTS CHAIN)?

Logframes and logic models, as well as other forms of program logic, document the intended steps of an intervention by describing the inputs, activities and outputs needed to reach the desired outcomes. A ToC product encompasses this, but the ToC process strategically engages designers, teams, partners and stakeholders in explaining the "why" – the perceived causal logic behind the set of activities – and documenting this logic in a way that enables evaluation of and efficient learning from successes and failures. ToC is needed to design a rigorous plan for a complex initiative, to evaluate appropriate outcomes at the right time and in the right sequence, and to explain why an initiative worked or did not work, and why. A logframe or similar may be better for showing the basic inputs, outputs and outcomes at a glance and may be used to partially communicate the results of a ToC.[31] A results chain approach is closely aligned and, in essence, provides the causal chain logic of a ToC.[32]

30 Organizational Research Services (2004, p. 39).

31 See also Bisits Bullen, P. (2013); Clark and Anderson (2004, slides 19–21); Harries, Hodgson and Noble (2014, p. 15).

32 See Foundations of Success (2007); Margoluis et al. (2013).

IS ToC JUST ANOTHER NAME FOR THE WHOLE PROJECT DESIGN?

No. It is the core rationale on which many aspects of the design should be built. Among other things, it says nothing about activity plans, budgets, responsibilities, implementation timelines, and similar items. RAPTA provides one framework in which ToC fits in with other tools and steps that are useful to project and program design;[33] different combinations can be applied to suit the context.

ISN'T THE PROJECT IDENTIFICATION STAGE TOO EARLY TO EXPECT A ToC?

A ToC can be developed very simply or be elaborated in great detail. Even at a very early stage in project identification (e.g. the Project Identification Form for the GEF), it is useful to sketch a rough ToC diagram and brief narrative that identify the main causal pathways and causal logic, which could come from just a few core proponents brainstorming for an hour (a "ToC-lite"). The diagram and narrative immediately provide logical structure to the proposal, which is immensely helpful in visualizing the intent and helping direct the next steps in development with fuller stakeholder engagement, testing and analysis.

IS A PROGRAM-LEVEL ToC JUST THE SUM OF THE ToCs FOR ALL THE PROJECTS IN IT?

In general, no. If all the projects are dealing with a similar issue in different contexts, then some general pattern may be useful (see next question). However, for a program to add value, the program level should be aiming for different outcomes to individual projects. For example, the GEF Impact

33 O'Connell et al. (2016, 2019).

Programs coordinate across multiple projects to gain efficiencies and learning, which are different outcomes from individual projects. In addition, the Impact Programs aim to achieve scaling beyond the sum of individual projects, for example by engaging a value chain that might service projects in several countries. Thus, a program ToC will engage different actors in its process and deliver a different product, at the same time as it may partially provide some common considerations for all its projects to contextualize.

CAN I HAVE ONE ToC FOR A LOAD OF SIMILAR PROJECTS?

In general, no. As ActKnowledge (2011) says: "Theory of Change is *not* a general theory of how change happens; rather, the theory is specific to your effort." However, it may make good sense to have a basic pattern derived from findings in multiple projects (e.g. there is good evidence that global benefits related to the management of land degradation depend in general on coherent national land planning policies as well as local land tenure security and effective land management extension) that is then tested in a specific context (e.g. priority actions in a country that already has good national planning will be different to those in a neighbour that has just emerged from conflict). Thus, a common pattern can be a useful starting point that saves reinventing much evidence, but it needs to be deeply contextualized for any specific intervention, with care taken not to assume that something that works in one place will automatically work elsewhere. In addition, a part of ToC is engaging local ownership; for this, the ToC process must occur, even if interventions are very similar.

WHAT IF WE JUST CAN'T AGREE ON BARRIERS, ENABLERS, ASSUMPTIONS OR RISKS?

Surfacing these disagreements is a vital benefit of ToC, since it enables you to understand (and perhaps resolve) different mental models in your team and wider stakeholders before those mental models emerge destructively during project implementation. Often, talking about them will bring new insights, which might involve changing or adding causal pathways; for example, stakeholders may highlight the importance of power relations and that might mean other actors need consulting. Sometimes you will come to agree that the evidence for or against a logical link is not there, but the link is still worth pursuing – you are really developing a hypothesis and you should establish monitoring to learn about it. Very occasionally, you may have irreconcilable disagreements, in which case it is better to know before big investments are made.

WHAT IF SOME OF THE CHANGE PROCESSES ARE POLITICAL?

Change processes are almost always partly political, so related assumptions and risks should not be ignored. Often, additional stakeholders may help develop insights into these issues and whether they require specific attention in the ToC. Vogel (2012) and Stachowiak (2013) contain useful guidance on this.

WHAT IF THE EVIDENCE BASE IS SLIM?

Projects and programs seeking to advance innovation and transformation will usually have to take some risks.[34] It is fine to phrase some of the causal links as hypotheses to be tested if there is evidence they could be powerful levers for scaling and transformation. Importantly, this phrasing should be explicit, and monitoring should be targeted at testing, validating and, if necessary, adapting the link.

HOW LONG SHOULD A ToC TAKE?

This depends very much on the purpose and stage of the intervention life cycle under consideration (see section 1.2, figure 1 and table 2) and how many people are involved. An early-stage ToC with just a few team members may take only 1–2 hours. ToC in the full design stage may require several meetings with different actors; it is recommended

34 See GEF STAP (2019).

not to extend any individual ToC workshop beyond a half to one full day. The total iterative process of developing a complete design ToC may take many days for a large investment.

DOES A ToC REQUIRE BOTH A VISUAL AND A NARRATIVE FORM?

The documentation of a ToC can begin with either, but good practice indicates both are needed to explain and reinforce each other. Step 8 in table 2 lists the key elements of a diagram and narrative.

WHAT IF STAKEHOLDERS CHANGE FROM THE TIME OF PROJECT IDENTIFICATION TO IMPLEMENTATION?

Changes in stakeholders should be a crucial expectation in the iterative development of the ToC, and you may wish to engage different stakeholders as the scope of the intervention is challenged (though the challenge may be due to external factors). It is important to engage the adjusted set of stakeholders and accept that they may drive further amendment of the ToC. It is far better to allow this early on than have them disengage and undermine the intervention later. Critical stakeholders may also change during implementation, for example if a pathway to scaling emerges and requires actors across scales.

DO I NEED TO MAP THE POWER AND INFLUENCE OF STAKEHOLDERS?

A simple diagram of who is who and what their perceived influence is in the socioeconomic and geographic context of the project implementation helps to identify who to involve, when to involve them and why to involve them and to anticipate resistance from groups that may perceive that the project does not carry benefits for them. RAPTA (O'Connell et al., 2016, pp. 44–46) provides approaches to stakeholder mapping or analysis (see also Reed et al., 2009).

WHERE IN THE PROCESS OF ToC DESIGN SHOULD I INCLUDE LEVERAGE WITH OTHER INITIATIVES THAT ARE RELEVANT OR COMPLEMENTARY TO THE VISION OF THE ToC?

The ToC causal logic should outline all outputs and outcomes that are key to achieving an impact, including those being satisfactorily implemented by others. The scope of the intervention can then be limited (step 6 in table 2) to filling in what others are not doing, but it might include actions to ensure coordination with those other initiatives (e.g. engaging with policymakers to know when a new regulation will come into force or ensuring that on-ground training by another non-governmental organization is compatible with the proposed project).

By Lucy Brown

APPENDIX 2: A SHORT THEORY OF CHANGE FOR THEORY OF CHANGE

Why do we think using ToC is important? We should be able to write a ToC to address this question, of course! Here is a short, generalized example of a ToC diagram and narrative on this subject, with perhaps the level of detail that might be expected at the project identification stage. An example preliminary ToC diagram is shown in figure 3.

SITUATION ANALYSIS

As global environmental change accelerates, funders are increasingly being required to tackle complex, cross-sector, cross-scale challenges needing rapid transformative change, yet independent evaluations often cast doubt on whether the resulting interventions have the desired, durable impact. Failings often arise from emerging issues that were missed in linear intervention design. The literature shows that interventions are more successful if they have better-structured design that more consciously reflects how the system works, and if they engage stakeholders in the design process.

LOGIC NARRATIVE

The goal of this ToC is to achieve more durable, scaled impacts from development project investments. This ToC focuses on the role of ToC processes in achieving this,[35] recognizing that other aspects, such as adequate financing and good project management, are essential but complementary activities achieved through other pathways. In general, the literature highlights four outcomes related to project design that will drive better impact: better design, better engagement, better learning and adaptive management from measurement, and better communication. These outcomes result in four causal pathways, regarded as *necessary and sufficient*:[36]

- **Design pathway.** Strategically, there is good evidence that systematically thinking through the logic of an intervention produces a better intervention design, and that this may be enhanced by bringing in stakeholders who understand how the intervention is likely to play out in their context. Outside the pathway, there is still a need for strong project management skills and sources of (co-)finance.

- **Engagement pathway.** In terms of partnerships and ownership, there is strong evidence that real engagement in intervention design builds ownership and improves the likelihood of local partners continuing the activity when the funded intervention ceases. This pathway is dependent on a degree of stability in the partnership and stakeholders, or regular review to re-engage new actors.

- **Measure, learn and adapt pathway.** Targeting indicators to critical logic pathways is known to improve the value of monitoring and is believed to improve learning outcomes about the intervention. There is emerging evidence that using ToC, with monitoring, to frame adaptive adjustments to the intervention during its lifetime is effective at avoiding unwarranted flexibility. The ability to adjust an intervention once initiated requires acceptance of flexibility by funders.

- **Communicate pathway.** It is believed that the ToC process can be useful to communicate the logic of the intervention to those not originally involved in its development, though there is limited real evidence of this.

35 Thus, this is not a ToC for this primer specifically, but for the use of ToC methods by investors, such as the GEF. If the ToC was for this primer, the primer would appear as an output in the diagram and be linked to assumptions about uptake, which would require logic pathways such as engaging with appropriate people during its development to ensure ownership, making it easy to use and readily accessible, and so on.

36 Sources for evidence (which should normally be cited) in this case may be found in the supplement.

By Marion Smith – Byers

ASSUMPTIONS

Key assumptions in this logic include that projects fail more because of poor design or inadequate engagement than because of chance changes in external context, and that strong engagement of stakeholders is sufficient to improve the likelihood of success in the face of changing power balances. These assumptions should be tested through monitoring across intervention portfolios. Other key assumptions include that intervention teams have (or have access to) skills to run good ToC processes, that intervention teams are stable and that funders are willing to allow adjustment in committed activities. A key external risk – that global environmental change continues to accelerate – is likely to be mitigated by applying ToC regardless of the rate of change; however, this is unlikely to be enough by itself, and other pathways, including increasing rates of financing, will need to be mobilized over time.

MONITORING, EVALUATION AND LEARNING

To test the (less strong) causal logic of this ToC across a large investment portfolio, monitoring of the quality of ToC processes across multiple interventions should be combined with (i) assessment of the levels of team and partner awareness and engagement in the investment logic and (ii) the establishment of a baseline for longer-term stakeholder engagement in scaling the outcomes. The effectiveness of the Measure, Learn and Adapt Pathway should be monitored by tracking whether the indicators emerging from the ToC resulted in useful learning and adaptation. The (currently weak) understanding of the Communicate Pathway should be expanded by monitoring whether different forms of ToC reporting were detectable in stakeholder descriptions of the interventions.

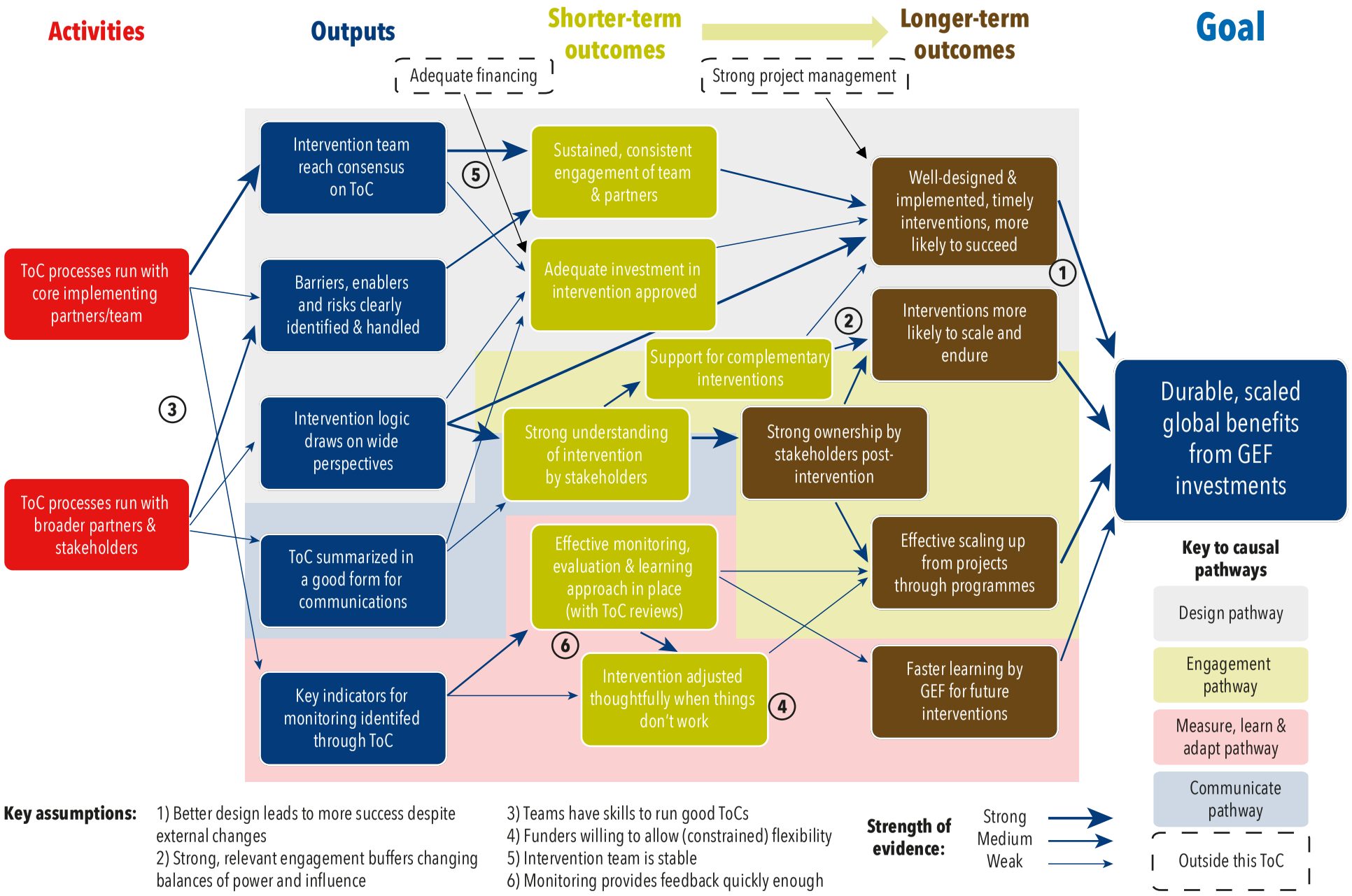

Figure 3: A preliminary theory of change diagram for the use of Theory of Change (ToC) by large institutional investors such as the Global Environment Facility (GEF). To be read in conjunction with the narrative in this appendix.

APPENDIX 3: SOME EXAMPLES OF THEORY OF CHANGE PRODUCTS

This appendix provides some examples and sources of examples of ToC products; ideally this would be both diagrams and narratives, but the latter are too extensive to reproduce here. Instead, a few key diagrammatic forms are illustrated, and some other examples and lessons are briefly referenced.

The figure below (following the example of Davies, 2018, p. 439) shows the first page of a Google Images search for "theory of change" (as of November 2019), illustrating the diversity of diagrams. Many of the diagrams shown do not capture all the features highlighted in this primer, though they may still be useful as a simplified form of the logic for communications. The reader can repeat this search.

Davies (2018), Dhillon and Vaca (2018), Vogel (2012) and the Center for Theory of Change website,[37] among others, also provide examples of ToC diagrams (see also the discussion in the Supplement to this primer). A few examples are annotated below:

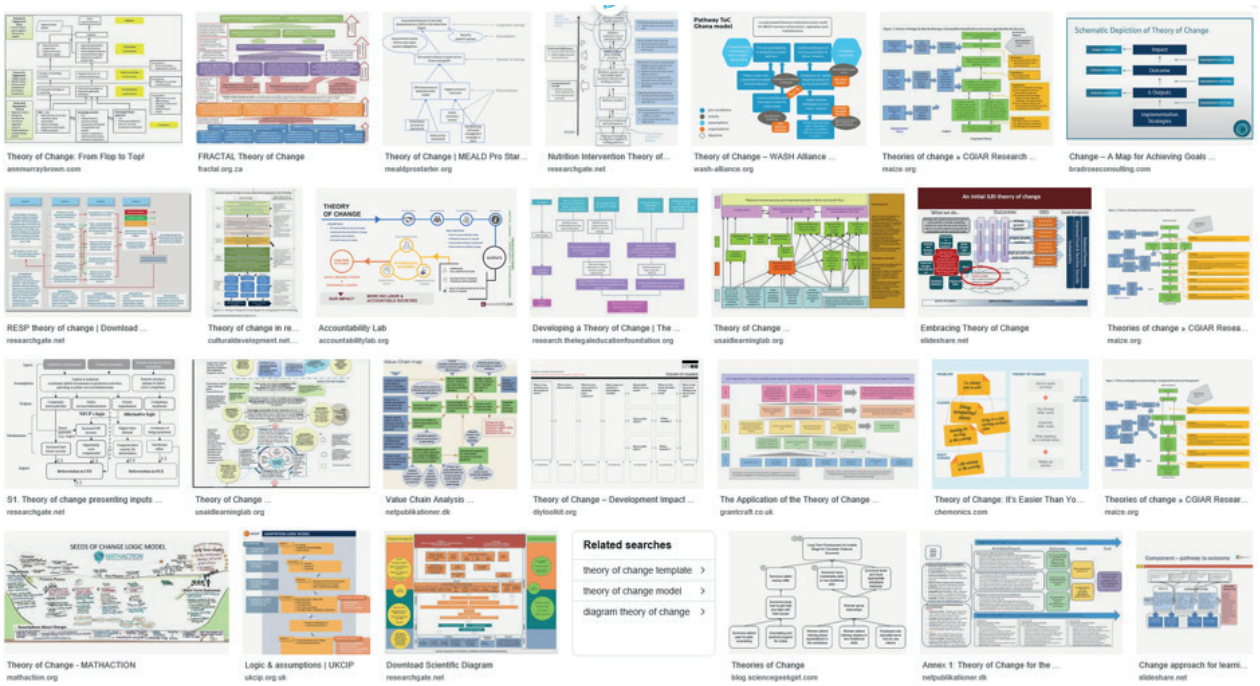

Figure 4 Examples of Theories of Change. Source: Google Images search result for "Theory of Change".

37 See https://www.theoryofchange.org/library/toc-examples.

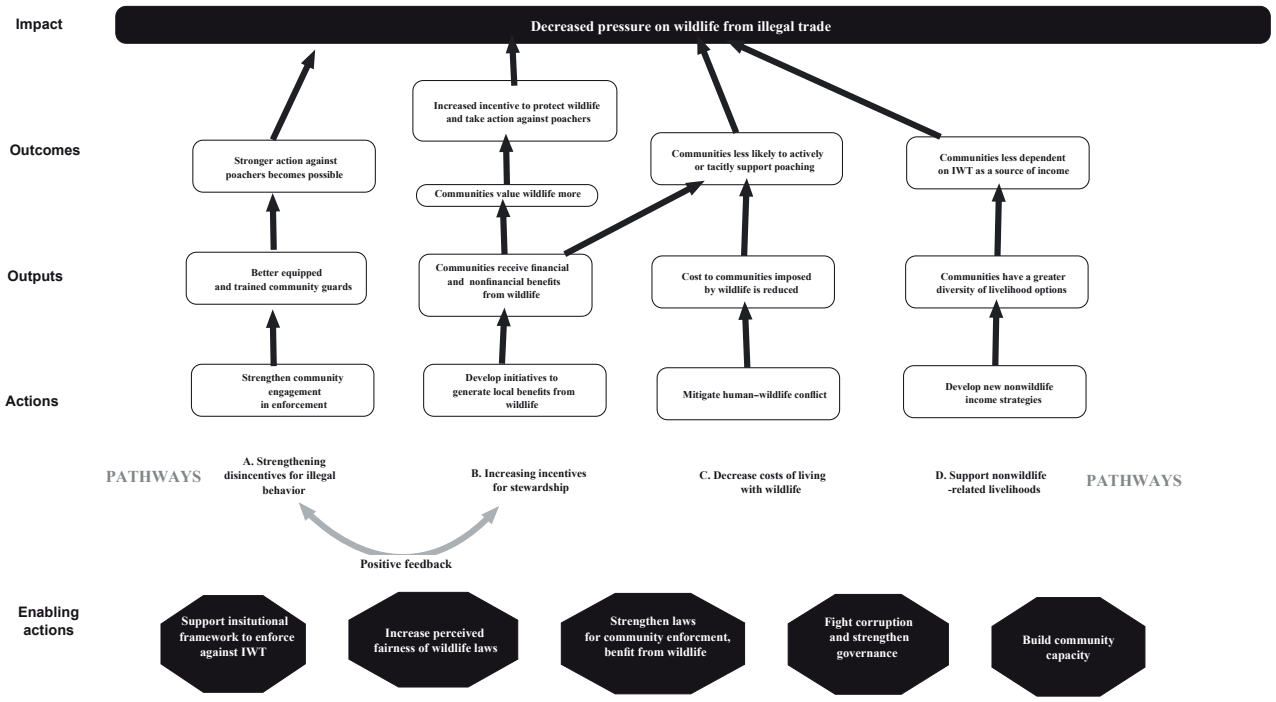

Figure 5: A simple, vertical Theory of Change for community-based actions against illegal wildlife trading with backing assumptions and other details in Supplementary material. It highlights enabling actions and has been subsequently field-tested (IUCN n.d.)

Source: Biggs et al. (2017).

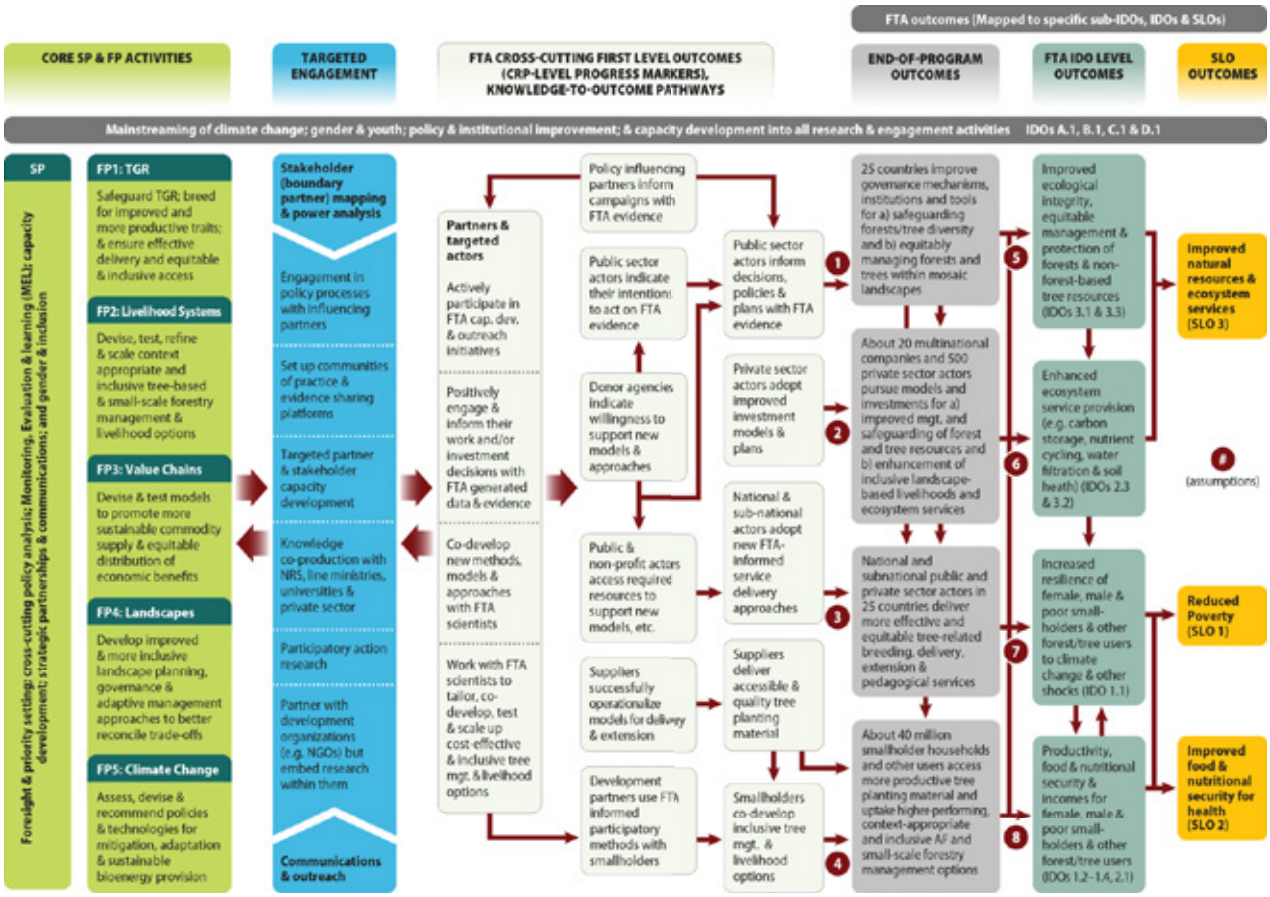

Figure 6: The horizontal Theory of Change diagram for the Consultative Group on International Agricultural Research's Forest Trees and Agriculture program illustrates other key features; the related narrative contains a description of the assumptions (red numbers) in table 1c, p. 19.

Source: CGIAR (2017).

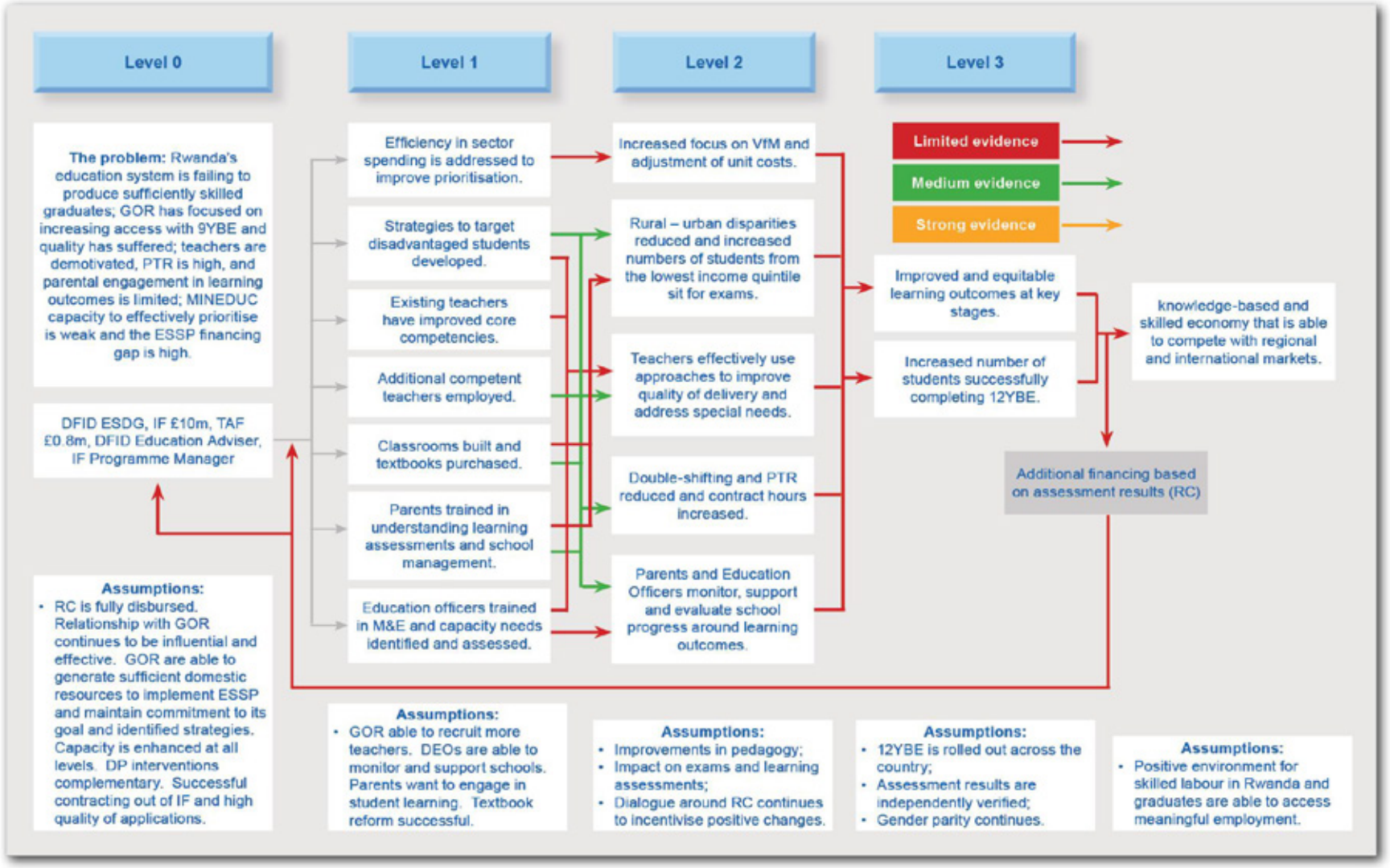

Figure 7: This Theory of Change from the evaluation of a U.K. Department for International Development-supported project on Rwandan education shows assumptions and illustrates the use of (here, colour) coding to show the strength of evidence for proposed causal links.

Source: Upper Quartile (2015).

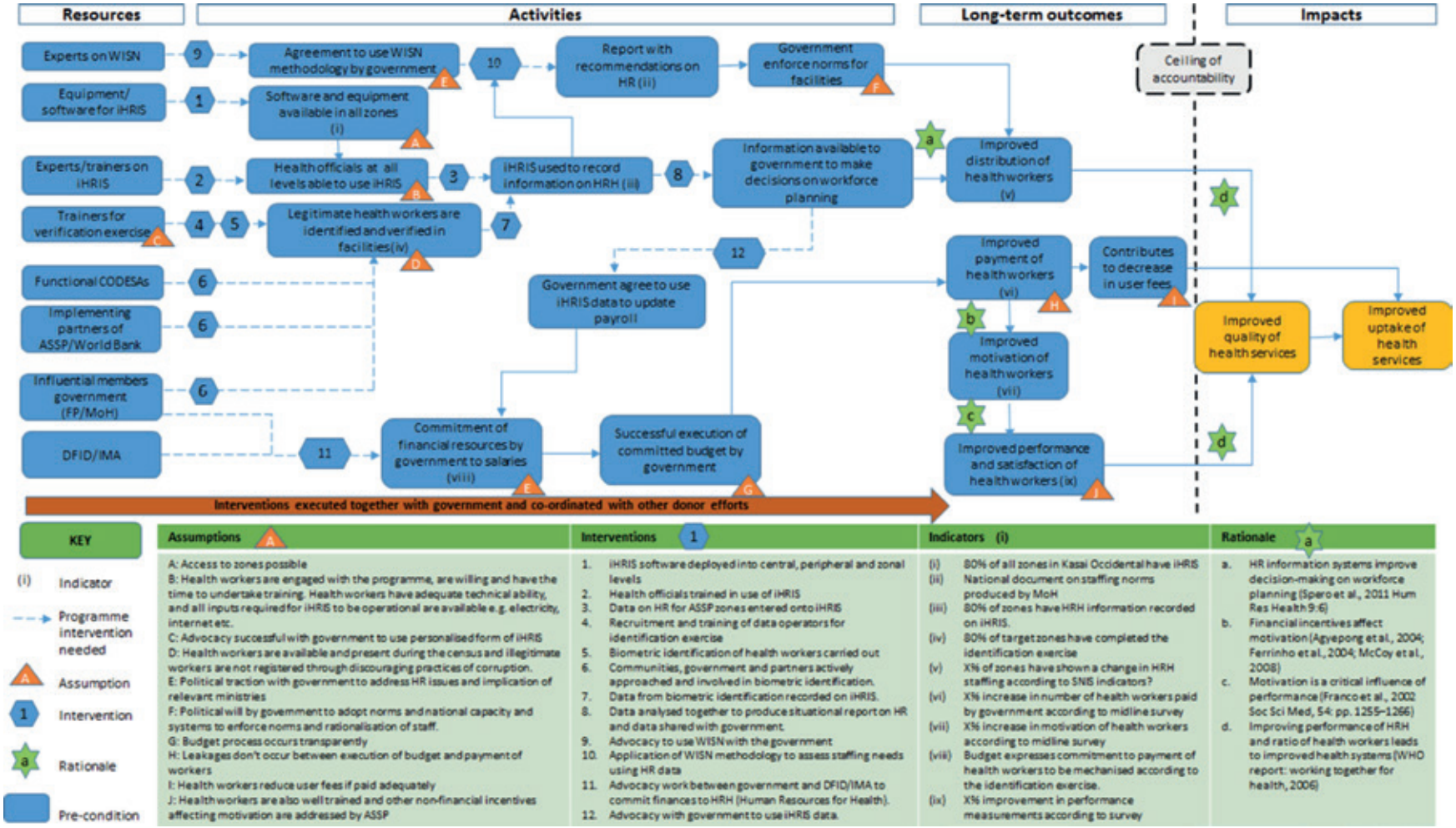

Figure 8: This ToC on an intervention in the Democratic Republic of the Congo shows the extension of the outputs-outcomes-impact mapping back into program resources and activities; it also shows good development of assumptions and indicators. The paper reflects on the ToC process, including a candid discussion of what did not work well in this case.

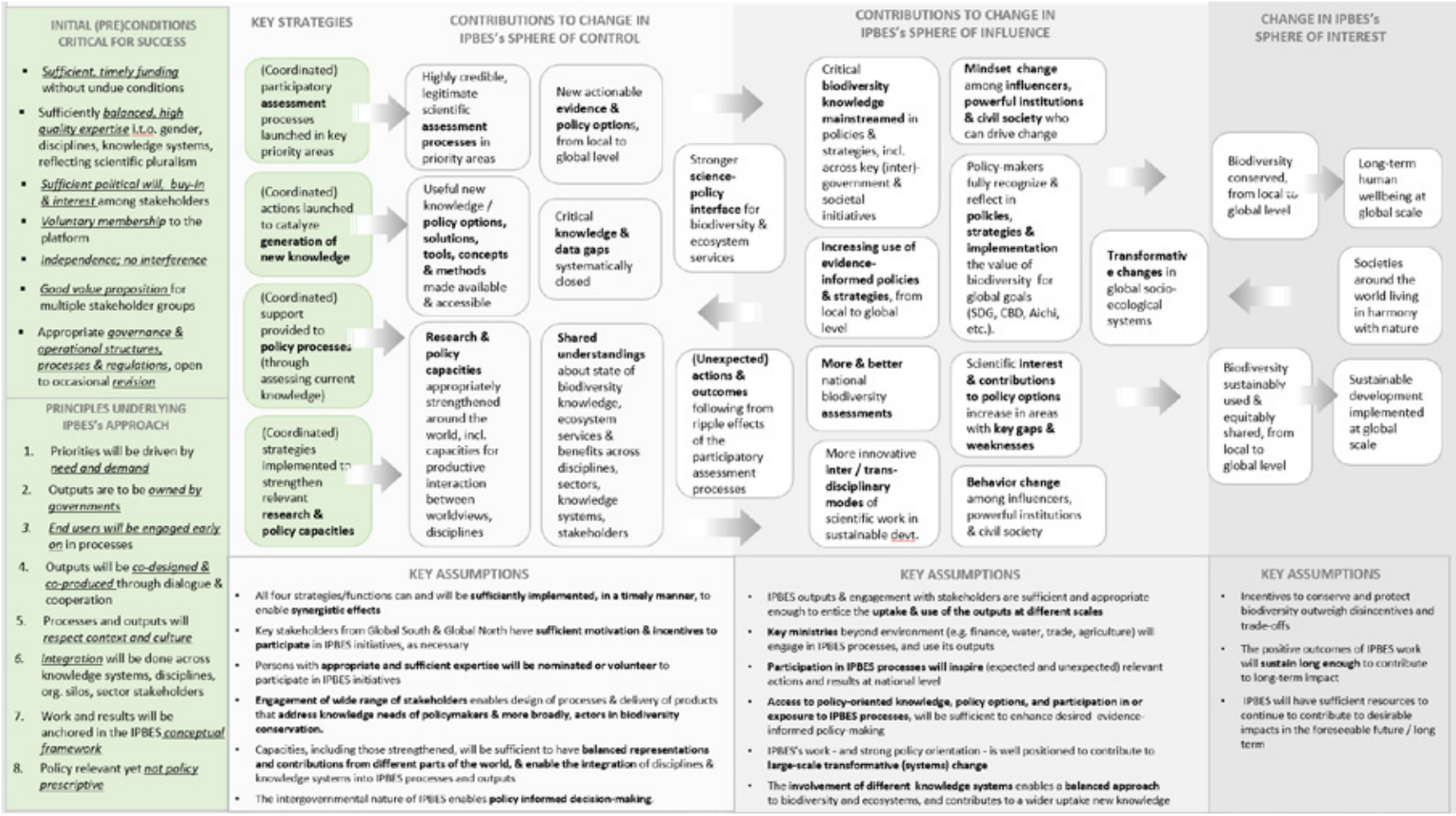

Figure 9: An Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' Theory of Change, which provides a program- or strategy-level example and a surrounding narrative focused on testing its logic.

Source: International Science Council (2019, pp. 91–93).

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In contrast to the above diagrams, Wicander and Coad (2015, pp. 30–35) contains a Theory of Change that is entirely articulated in text and a table, although some individual causal chains are illustrated (e.g. Wicander and Coad, 2018, p. 447, figure 3). CLiNKS and NPC (2014, appendix 5) contains a good example of a four-page summary of evidence in support of a ToC (in this case, for a supported housing project). In addition, van der Laan (2019) provides useful steps in developing a representation.

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(See also more extensive sources in companion Supplement.)

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