Opportunities for using complexity-aware approaches to Theory of Change

Introduction

The purpose of this briefing note is to review opportunities for using complexity-aware approaches to Theory of Change (ToC) to inform the SDC approach.

It provides an overview of complexity-aware approaches and then focuses on demonstrating how complexity thinking can support programming by building on the frameworks currently being used in the project/programme cycle management (PCM) processes.

It is aimed at SDC staff, in particular Programme Officers and staff of partner organisations involved in the management of SDC interventions.

Note: this document builds on concepts and content from Briefing Note 07 "State of the art on use of Theory of Change in the development sector"

What is Theory of Change (ToC)?

SDC defines Theory of Change (or impact hypothesis[1]) as a narrative "describing the whole chain of influences (from outputs to impacts) of a project or programme up to its intended contribution to improve the lives of people in poverty, which is the ultimate aim of all our interventions" (SDC, 2015).

Using ToC as a participatory reflective process rather than as a one-off product enables it to inform programme learning and adaptive management. This is because, as a process, ToC can create a better understanding of the programme's context, including its inherent assumptions, and which different possible approaches the programme can take.

1 Used as synonym, see chapter 6 Terminology

Why is being complexity-aware essential for ToC?

Programmes can be simple, but in the real world of development programming it is more likely that they are or have elements that are complicated or complex (Ling, 2012; Rogers, 2008). Since ToC products and processes can be used to support all aspects of programme planning and implementation, they need to recognise complexity, and the resulting uncertainty it brings, so that they better reflect the reality of the programme. This recognition of complexity, and the resulting uncertainty it brings, needs to be inherent in any ToC process (James, 2011). Complexity-aware approaches are appropriate where there is uncertainty in the understanding of some or all of a programme's causal logic resulting in a potential disconnect between the activities and the outcomes (USAID Office of Learning Evaluation and Research, 2016). A ToC approach helps to bring a degree of clarity to the concept of impact in a development programme and allows for a positive response to uncertainty and so provides a valuable and more flexible support for tracking changes (Vogel, 2012).

Complexity and ToC

Rogers (2008) uses Glouberman and Zimmerman's (2002) classification of problems into simple, complicated and complex as a classification scheme to explore the challenges and opportunities around designing and evaluating complicated and complex programmes and their components (Table 1).

Table 1. Simple, complicated and complex scenarios (Adapted from Rogers, 2008)

Simple: Following a recipe	Complicated: Sending a rocket to the moon	Complex: Poverty reduction programme
The recipe is essential	Formulae are critical and necessary	Formulae have limited application
Recipes are tested to assure easy replication	Sending one rocket to the moon increases assurance that the next will be ok	Designing and running one successful poverty reduction programme provides experience but no assurance of success with the next one
No particular expertise is required but cooking expertise increases success rate	High levels of expertise in a variety of fields are necessary for success	Expertise can contribute but is neither necessary or sufficient to assure success
Recipes produce standardised products	Rockets are similar in critical ways	Every situation of poverty is unique and must be understood as such

2 A complexity-aware ToC approach may be usefully and more manageably used to explore and test specific key links in a programme's IH and logframe (Vogel, 2012), instead of undertaking this approach for the complete programme. This may be a good option in time- and resource-constrained situations in particular.

Simple: Following a recipe	Complicated: Sending a rocket to the moon	Complex: Poverty reduction programme
The best recipes give good results every time	There is a high degree of certainty of outcome	Uncertainty of outcome remains
Optimistic approach to problem-solving	Optimistic approach to problem-solving	Optimistic approach to problem-solving

According to Rogers' (2008) classification, simple programmes follow a set and relatively easy to follow pattern, with few components and generally one implementing organisation. Complicated programmes have many components running at several sites, often several organisations are involved and there may be several different causal pathways between any given activity and outcome depending on the context. Complex interventions have iterative feedback loops and non-linear causal pathways that might be multi-directional and between three or more programme components, depending on a critical level of activity in order to achieve their intended result. In addition, complex programmes can have several outcomes that are emergent and so cannot be identified in advance. Development programmes generally fall into the second and third classifications.

To explore the level of complexity in a programme, it is useful to ask:

■ What degree of certainty is there about how to make the intended impact?

■ What degree of agreement is there between stakeholders about how to make the intended impact?

(Questions adapted from USAID Office of Learning Evaluation and Research, 2016)

Addressing these questions provides a basic indication of the degree of certainty around whether the programme can solve the problem it has set out to address and whether the stakeholders are in agreement about this. In complex situations, such as with development programming, the key value of undertaking a participatory and iterative ToC process is that it helps the stakeholders to learn and adapt to be able to achieve their planned impact (Ling, 2012; Mayne, 2015).

Considering real world complexity from the start of the programme

Complexity-aware approaches begin by considering a programme, or parts of a programme[2], at the systems-level. Stakeholders going through this process have an opportunity to consider and discuss complexity of the real world from multiple perspectives from the start, acknowledge and plan where possible for the uncertainty this creates and better design and implement the development programme to fit into this context (Eguren, 2011; Jenal, 2016; Vogel, 2012). This context is characterised by many possible solutions or linkages between cause and effect which may dynamically change over time.

So, if a programme's outcomes are not able to be fully articulated at the start and may emerge during the process, how does one fully articulate the following upfront:

■ How its outcomes and impacts will be achieved

■ If everything that needs to be put in place to get to that result is in place when it is needed

■ Who all the key actors are and how they will be involved?

In fact, it may not be possible to articulate all of this, in the usually comfortable level of detail, before the programme begins; hand in hand with becoming increasingly complexity-aware is getting comfortable with the concept of emergence (Eguren, 2011; Jenal, 2016; Mayne, 2015; Reeler, 2007; Rogers, 2008).

> "One of the most challenging aspects of complex interventions ... is the notion of emergence – ... that the specific outcomes, and the means to achieve them, emerge during implementation of an intervention. ... Emergent outcomes may well require an emergent [ToC] – or in fact one that is expected to continue to evolve." (Rogers, 2008).

Therefore, checking periodically whether the context planned for is holding and whether our assumptions are being met (Eguren, 2011) can help to improve understanding and implementation by working towards reducing uncertainty (Ling, 2012) and bringing all stakeholders onto the same page (Jones, 2011). If not, a course correction may be needed to achieve the programme's overall impact.

Uncertainty and emergence in programme management

Uncertainty and emergence can be challenging in programme management and evaluation as the documents, tools and frameworks used generally require commitment to an approach (e.g. what activities will be funded, what indicators will be measured and reported against). For SDC, a complete programme proposal (including outcomes and intervention strategy) is needed for Operations Committee decisions. This raises the question of how much must be firmly articulate at the proposal submission stage and how much room there is for an iterative and complexity aware approach as the programme moves forward. Aiming for a complete picture of the outcomes and intervention strategy from the outset, at least as completely and thoroughly evidenced as possible at the time of the proposal submission, is the goal. This theoretical picture of expected outcomes looking forward to project implementation may change as the project is implemented and its ToC is tested against the reality of the context. Revisiting the ToC and testing the assumptions as the project runs operationalises a complexity-aware approach.

So, the challenges that emergence and uncertainty bring are not insurmountable if learning, adaption and innovation are actively incorporated into the programme management process. In the SDC PCM, incorporating key moments for reflexive learning, potentially linked to the annual and end of phase reporting processes through encouraging engagement around the reasons for and possible consequences of changes in implementation and the IH and any lessons learnt (SDC, 2015) could be a valuable opportunity for this. At these points in the programme cycle there is potential to explicitly reflect on the results and changes, including any contextual changes, and

how these may affect the ToC, underlying project logic, logframe and assumptions. This would assist in closing the learning loop and allowing for programming changes where needed.

Incorporating complexity-aware approaches to ToC

In developing an Impact Hypothesis (IH) and the logframe at the start of a programme, this uncertainty may seem very problematic. However, this complexity doesn't mean that you can't or shouldn't develop a ToC, as it may help to reach a degree of clarity:

> "This does not mean that because complex situations are unpredictable we cannot develop a theory of change. On the contrary, we need to capture our hypotheses of how we think we can get to the change we want. Being aware of complexity does not mean that the only thing we can do is to venture out there and try all kinds of random things. Trial and error needs to be systematised" (Jenal, 2016).

The complexity-aware approaches to ToC present several opportunities around the approach to programming at the SDC. To better support learning and adaptive management, the SDC project/programme cycle management (PCM) process could benefit from further unpacking the activities, outputs, outcomes, impacts, contexts, approaches, assumptions and especially the causal linkages using complexity-aware approaches. This would give a better sense of what evidence causal linkages are based on and the degree of uncertainty around IHs and logframes (SDC, 2010 and 2017).

It is important to note that using a comprehensive ToC approach does not exclude or replace the use of a logframe. These different tools are appropriate for different purposes. A ToC approach and a logframe are best used together as they inform two overlapping but distinct areas: accountability and learning. The ToC process, which helps more with learning, draws together the bigger picture around the program's context, plausibility and broad assumptions, iteratively, and drawing in different stakeholder groups. On the other hand, the logframe tool is more focused on accountability, looking at indicators and specific assumptions for reporting and program monitoring. Together, they provide a much more comprehensive picture of the project and changes over time, which is essential in complex programming.

To make sense of and begin to get comfortable with the degree of emergence inherent in a complex programme and its context, turning to Patton's (2011) developmental evaluation and the Cynefin framework (Kurtz and Snowden, 2003; Snowden and Boone, 2007) can be useful approaches to incorporate into your ToC process.

Developmental evaluation

Developmental evaluation acknowledges that different approaches are necessary for simple, complicated and complex programmes (Patton, 2011). This type of evaluation approach aims to foster understanding that is context-specific, emphasises use and aims to inform innovative programming going forward. As contexts change over time, a developmental evaluation approach works towards enabling a programme to learn, adapt and strategically respond to this change.

Patton (2011) notes that adaption and innovation fits well with how organisations and stakeholders intuitively approach planning and implementation in order to take up emerging opportunities to succeed. This starts with the planning phase where the intended strategy is laid out. These plans are then put into practice and what works, what does not work and what might need to change are identified and the strategy is refined. New opportunities created by a changing context allow for further changes to be put in place as an emergent part of the strategy. This modified strategy, reshaped by learning through implementation and innovation, is the resulting strategy that is implemented over the course of the programme. This cycle of planning, evaluation and adaption can be repeated many times. The extent to which the programme and its context may change can be surfaced by exploring what parts of the programme may be complicated or complex.

To begin the process, Patton (2011) encourages gathering the stakeholders in a workshop environment to explore their thoughts and knowledge about which parts of a programme are simple, complicated or complex. This is useful to generate insights from a variety of perspectives and understanding around what may be required in order to achieve the programme outcomes and impact. Through this engagement the level of certainty around the proposed causal linkages is highlighted and there is opportunity to elaborate on the causal linkages relating to complicated and complex programme elements.

Cynefin framework

The Cynefin framework can help to make sense of the dynamics of the situation a programme will operate in and allow stakeholders to move towards a common understanding for decision-making, taking these different and changing contexts into account. Acknowledging domains from simple through to complicated and incorporating disorder as a recognised domain, this framework enables a more realistic assessment of development programme situations. This leads to a more informed programme design, if done early enough.
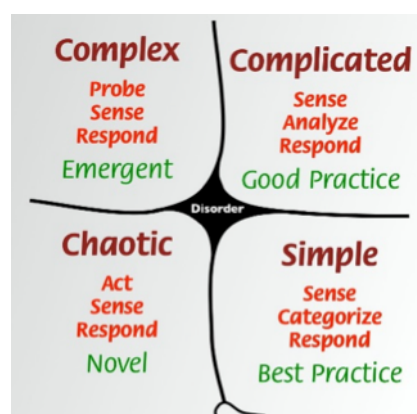
(by Snowden, 2011; CC-BY 3.0)

In Jenal (2016), applying the Cynefin framework to a ToC process is suggested after the initial development of the basic ToC in which the key activities, outputs, outcomes and impact and their causal linkages and underlying assumptions have been mapped out. These causal linkages and their assumptions are then classified as simple, complicated, complex and chaotic. This builds up a reference point of which causal links can be

considered ordered (simple and complicated) and, therefore generally safe to consider as a direct link, and which are disordered (complex and chaotic) and, therefore don't represent a clear direct causal relationship and more investigation is needed into how the change that this link represents can be achieved and what else may need to be put in place to make that happen. It is these second set of links that will require more attention in design, implementation and evaluation as they represent uncertainty in the programme and may well require changes and adjustments to be made.

In both of the above approaches to exploring complexity, uncovering the uncertainty inherent in causal links is valuable to understanding how a programme may progress and where the weak links in the causal chain are to provide them with additional support and attention. This level of certainty in the causal links can then be represented in the ToC diagram.

Depicting a complexity aware ToC

A ToC of a complex development programme is unlikely to fit well with simple, linear thinking and representations of programme logic (Eguren, 2011; Rogers, 2008). While being realistic about complexity, it is also important to try to not over-complicate your depiction of your ToC. Part of the benefit of undertaking a ToC process is to produce a clear visual depiction of how change will happen as a result of the programme. If this product is unclear, it is of limited value. Nested ToCs (Mayne, 2015) can be very useful for capturing both the overview level and the detail for complex programmes. These can be of particular value if only specific key links in a programme's IH and logframe are being explored and tested (Vogel, 2012) as the overall ToC can then be supplemented by the relevant detail for those specific causal links or programme components.

Figure 1: Nested ToC example (Adapted from Mayne, 2015; for aesthetic reasons, assumptions are excluded)
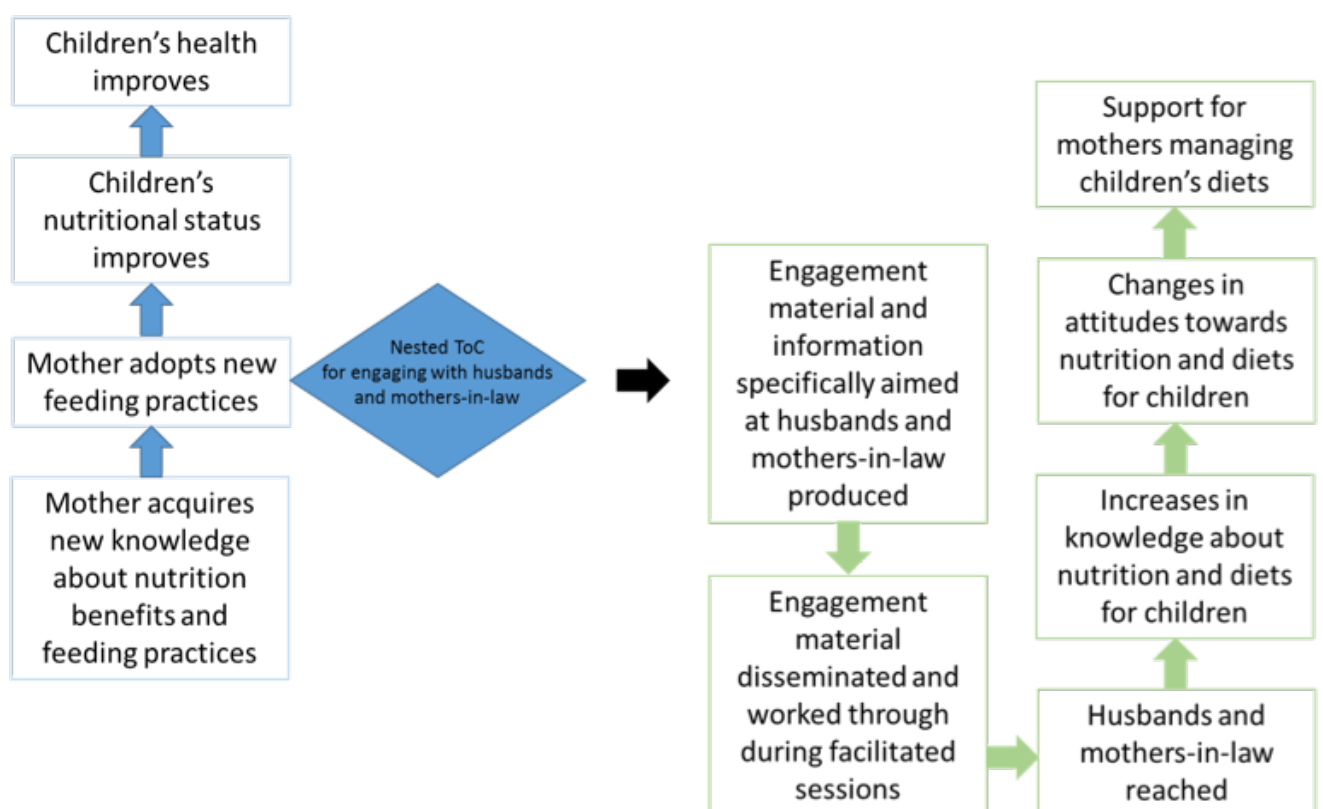
For more on depicting ToCs, see ToC as a product section in the Briefing Note 07 '*State of the art on use of Theory of Change in the development sector*'.

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This Collaboration between SDC and the Institute of Development Studies explores how poverty relates to politics and power. It is supporting SDC staff in improving the quality and effectiveness of SDC processes and operations focused on poverty. The Collaboration uses an 'organisational learning and change' approach to accompanying SDC activities, which is reflective, demand-based and rooted in the realities of SDC's work. It runs until December 2018.

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