

Under construction

THEORY OF CHANGE

Theory of Change (ToC) goes by many names including Programme Theory and Core Theory of Success. But no matter the name, the intent of this conceptual tool is the same. In essence a theory of change is the underlying logic linking together programme inputs and activities to a set of outcomes (Rogers, 2008). It is the articulation of the way in which programme planners aim to produce results, and it might be premised on past research or, it might be created inductively through a consultation process.

Often ToCs are represented in some visual format which can range in complexity. Sometimes this might be done using a logframe approach, others may choose to utilize a logic model to depict programme theory, and others might use a systems diagram to try and account for the complexity within which a particular ToC operates. Most often these visual depictions are simplified versions of the ToC itself but are used to help operationalize the structure within which results might be achieved. This is helpful for planning programmes, but also for planning and guiding the design of evaluations.

According to Russon and Russon (2010), the value of Theory of Change (ToC) models is that they make explicit the tacit knowledge (Polyani, 1967) upon which projects and programmes are based. This is extremely important because this act makes it possible to test the validity of the assumptions that link the elements together. Not only this, a ToC helps unpack the elements of a programme which lead to observed outcomes and allow an evaluation to focus on mechanisms which might be contributors or barriers to achieving results. It helps to answer the “how” as well as the “why”.

The hazard of ToC models is that evaluators sometimes commit a fallacy known as concretism (also known as reification). This logical fallacy occurs when a mental construction, such as a ToC, is treated as if it were real. This idea was most famously expressed by Alfred Korzybski who said, “The map is not the territory”. Additionally, programmes operate in complex environments. Well done ToCs can take this into account to a certain extent, but it is not possible to completely understand the various influencing factors, drivers, mechanisms, and/or barriers which might be at work in producing a set of outcomes.

A ToC can be expressed using techniques such as plain narrative description, Causal Loop Diagrams (Senge, 1990), ToC logic models (Wyatt Knowlton and Phillips, 2009) and Results Chains.

Narrative Description

It is possible, though not necessarily desirable, to express Theories of Change using narrative description. According to Meadows (2008), the problem with using narrative description is that words and sentences must, by necessity come only one at a time in linear, logical order.

This runs counter to the way that change happens. Change is often the result of the simultaneous, non-linear interactions among many factors. To understand it properly, it is necessary somehow to use a modality that shares some of the same properties as the process of change, itself.

Pictures work for this modality better than words, because it is possible to see all the parts of the picture at once. However, if narrative description is used to express a Theory of Change, it should seek to answer four questions:

1. What is the current situation?
2. What does the project or programme hope to accomplish?
3. What factors do the project or programme designers seek to influence?
4. How will the project or programme influence those factors?

Below is a good example of a narrative Theory of Change from the Value Chain Analysis reports of the Green Jobs Programme



Sector Vision (extract)

1.1. Towards systemic change: building a business case

This section outlines a possible vision towards building a sustainable ‘business case’ to improve working conditions in the construction sector.

The findings of the analysis suggest that binding systemic constraints to improving working conditions in MSMEs include *access to investment and working capital*, particularly to invest in assets, participate in bids and overcome delayed payment schedules; *public tendering and procurement processes* that do not maximise the potential to influence standards across the sector; and the *precarious performance of many smaller firms and their stagnant growth* which means many firms operate with narrow margins or at a loss, disincentivising investment in their workforce. Business

services (skills) and infrastructure (machinery) were deemed further constraints that were not systemic in nature¹.

The theory of change is that investment in better working conditions can occur:

- *If* public tendering and procurement processes are revised to become a tool to influence standards and working conditions norms across the industry, taking into account the history of firm performance as well as price;
- *And* effective and carefully assessed pro-MSME policies are in place, with public (sub)contracts inclusive of a sufficient number of smaller-scale building contractors to help jump-start growth for MSMEs;

- *And* improved financial products for MSMEs are available and accessed, especially to ease constraints on working capital that allow participation in tendering processes without compromising allocations for working conditions investments;
- *Then over time*, the capacity for more sophisticated regulation and enforcement is improved to undertake regular site inspections and to promote compliance with OSH regulations;
- *And* employee participation in MSME-sensitive social protection programmes gradually increases, particularly through employer promotion of existing schemes such as Workers' Compensation and new innovations for savings, insurance and pensions.

Causal Loop Diagrams

Causal Loop Diagrams (CLD) is a simple yet powerful tool that can be used for expressing a Theory of Change. A CLD is a graphic model of some of the key system variables connected by arrows that denote complex feedback processes in a manner that can reveal why change might occur.

In CLD modelling each arrow is identified as either positive (+) or negative (-) to indicate how the dependent variable changes when the independent variable changes. The + means that

¹ Systemic constraints were prioritised for 'action' based on feasibility (ease of over-coming the constraint within the programme's time period) and significance (the importance of the root cause being addressed). A business service such as skills has not been included as systemic, as this was covered under the initial Network Analysis and is already an integral part of the Green Jobs programme. Access to finance has been repeated as it was deemed to be a critical constraint to growth which inhibited improvements in working conditions. Machinery has been included under access to finance as demand for this is closely related to increases in the supply of capital.

Guidance Note 1

the dependent variable changes in the same direction as the independent variable. Likewise, a minus sign means that the dependent variable changes in the opposite direction as the independent variable (Burke, 2006).

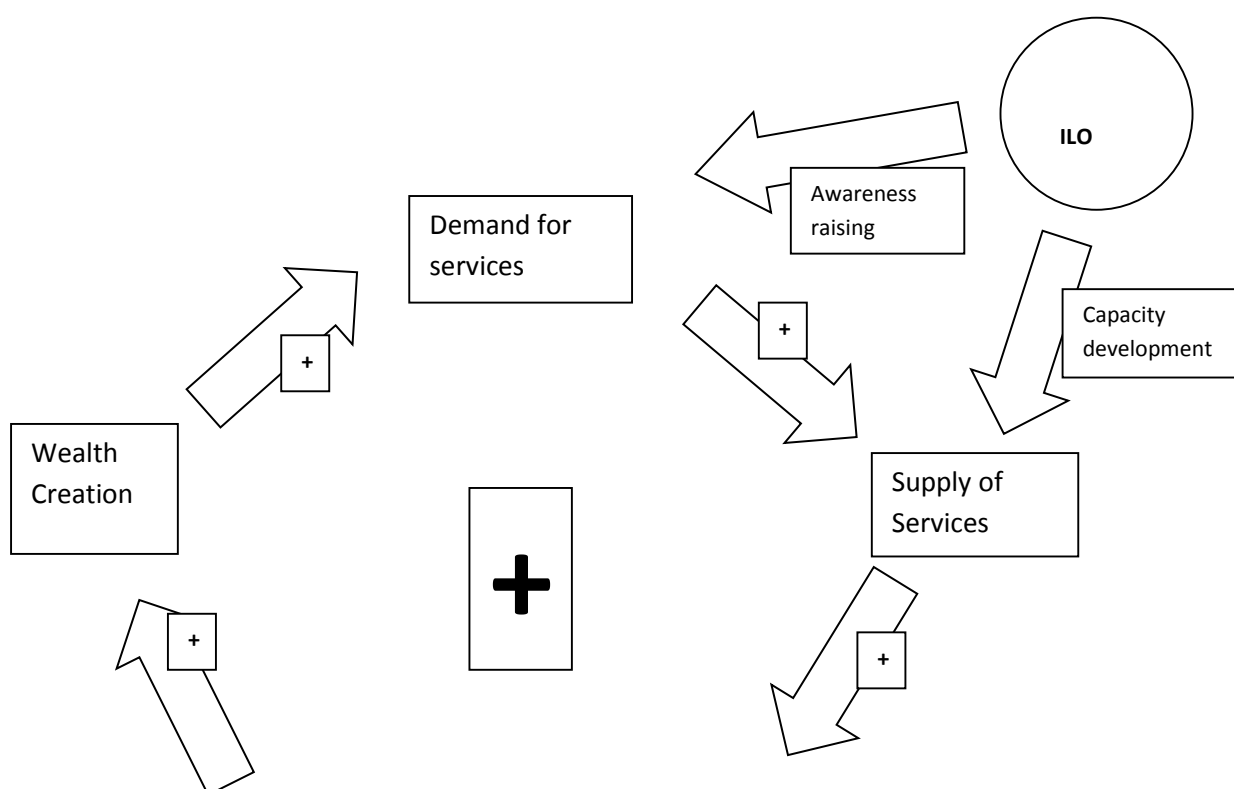
As one moves around the loop, what was once the dependent variable later becomes the independent variable. In examining the loop, if the number of negative links is even, it is a positive feedback loop as indicated by a large + sign in the centre. If the number is uneven, it is a negative feedback loop as indicated by a large – sign in the centre (Burke, 2006).

The CLS depicted in Figure 1 was developed by ENTERPRISE and EVAL as a Theory of Change for the ILO's fourth Area of Critical Interest (ACI4). The ACI concept note states that "A virtuous circle can be created in enterprises whereby investments in improved working conditions lead to higher productivity which in turn generates greater wealth which can be shared".

The CLD for ACI4 depicted in Figure 1 starts with demand for services. The ILO would engage in awareness raising activities to stimulate demand. As demand increases the supply of services would increase. The ILO would also provide services to develop the capacity of national stakeholders.

As the supply of services increases, the number of good work place practices would increase. As good work place practices increase, productivity would increase. As productivity increases, wealth would increase. As wealth increases, demand for services would increase. And the circle is complete.

The reader will notice that there is an auxiliary loop. As productivity increases, the number of good workplace practices will also increase. As there is an even number of positive links, this CLD is an example of a positive feedback loop or a virtuous circle as mentioned in the concept note.



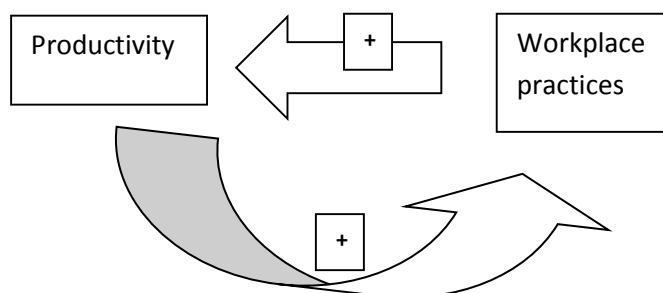


Figure 1. Causal Loop Diagram showing how ACI4 works.

ToC logic models

A Theory of Change logic model is simply a graphical representation of how an individual or group believes change will occur. It offers a way to describe and share an understanding of relationships among elements of a project or programme that will produce the change.

When the high-level evaluation of the Kyrgyzstan DWCP was conducted in 2010, the evaluation team used programme documents to create the logic model found in Figure 3 and used it to analyse the design of the programme.

According to the programme logic, if the labour market situation of youth in Kyrgyzstan is documented (STO 1.1.1) and if the constituents take action to alleviate the socio-economic impact of HIV/AIDS (STO 1.1.2), then capacities of the Government and social partners' institutions will be enhanced to formulate labour market policies and effectively contribute to implementation of employment strategies and programmes (MTO 1.1). The latter should contribute to employment creation, skills and employability for women and men (P1). While the causal link between P 1 and MTO 1.1 was clear, causal links between STOs and MTO1 was questionable.

Formulations of MTO 1.2 and STO 1.2.1 were very similar. In this case, it is expected that if the ILO's constituents, stakeholders, and intermediaries apply tools and approaches that are grounded in ILO core values (STO 1.2.1), they will be equipped with practical tools and methodologies for applying an integrated approach to employment creation (MTO 1.2). The logic here was questionable. It was more likely that the ILO's constituents would apply tools and techniques if they were equipped with the latter. The logical link between MTO 1.2 and P1 was clear.

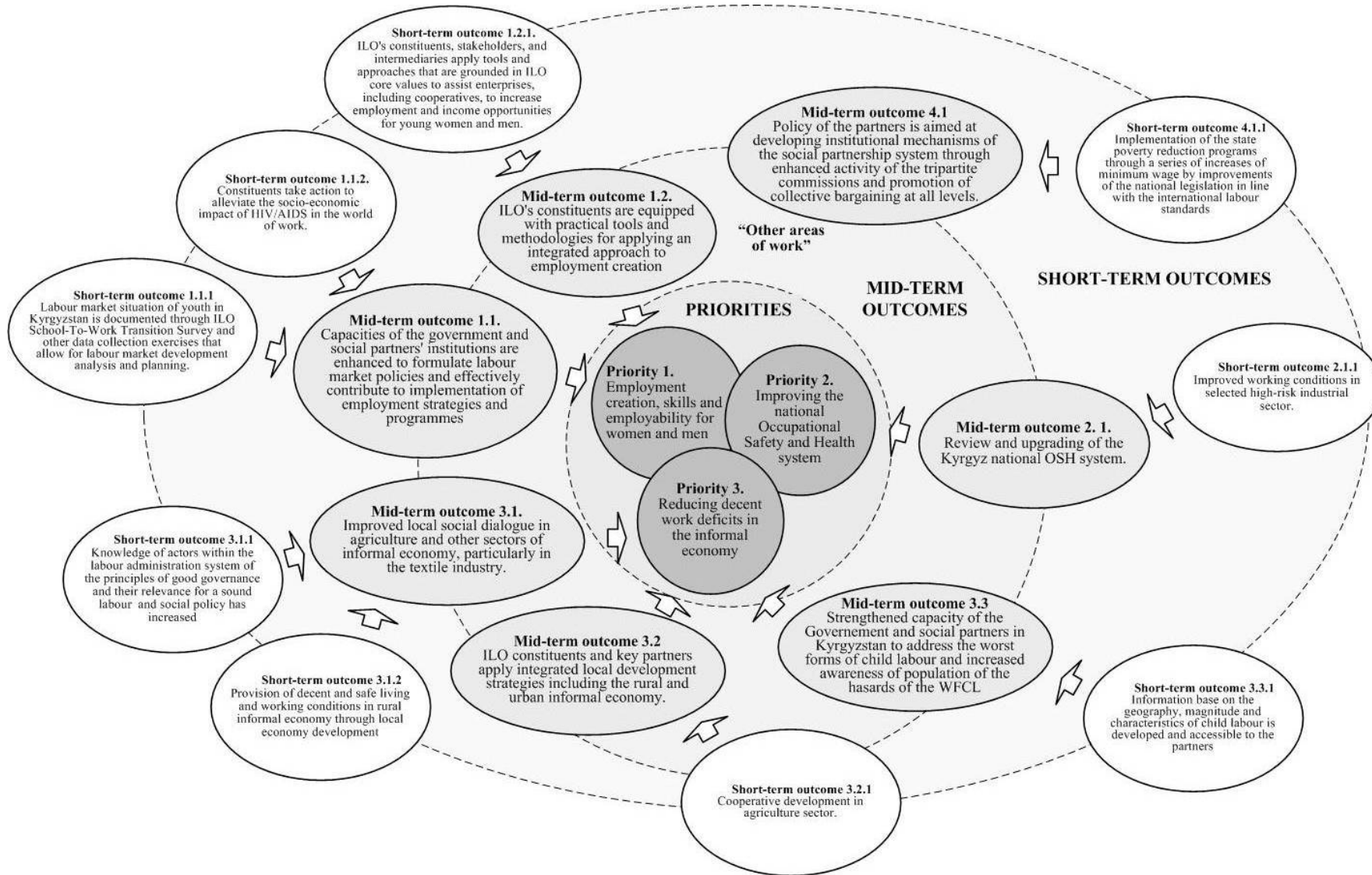
It was not quite clear how improved working conditions in the selected high-risk industrial sector (STO 2.1.1) would contribute to the review and upgrading of the Kyrgyz national OSH system (MTO 2.1). It seems more logical that an upgrade of the OSH national system would contribute to the improvement of working conditions. Upgrading the OSH national system

appeared to be a synonym for the improvement of the OSH system. Thus, MTO 2.1 was, to a great extent, similar to P 2.

The knowledge of actors within the labour administration system (STO 3.1.1) is logically connected to improved local social dialogue (MTO 3.1) and may contribute to it. However, the provision of decent and safe living and working conditions in rural informal economy through local economy development (STO 3.1.2) appears to be a possible consequence of MTO 3.1 than one of its potential causes. The link between MTO 3.1 and P3 is clear.

There was no logical connection between cooperative development in the agriculture sector (STO 3.2.1) and ILO constituents and key partners applying integrated local development strategies including the rural and urban informal economy (MTO 3.2). It was more likely that the application of integrated strategies (MTO in DWCP) would contribute to the cooperative development (STO in DWCP).

Development of a specialized information base (STO 3.3.1) may contribute to capacity building (MTO 3.3). In principle, each of the MTOs 3.1, 3.2 and 3.3 was logically connected to P 1. However, collectively, they were not coherent and could hardly be synergetic. The STO 4.1.1 statement was too complicated. It was actually a compilation of several outcomes. Thus, it was difficult to assess a possible contribution of STO 4.1.1 to the MTO 4.1.



Results Chain

Another way of portraying Theory of Change that has been used with success by ILO colleagues in SME is through Results Chains. Below is an excerpt from the Impact Monitoring and Measurement Manual of the ILO's Business Opportunities and Support Services project in Timor Leste.

Chapter One: Theory-based impact assessment

To address causality, BOSS adopts a theory-based approach to understand to what extent observed changes are due to its interventions². This helps BOSS 'get beyond' the numbers and to ask a critical question: it is not just about *whether* change has occurred (the 'average treatment effect' that statistical, experimental designs can tell us), but about *why*.

A theory-based approach examines the theory of change - the steps in the results chains and assumptions underlying them - all the way from activities to outcomes to impact. A theory-based approach can not only provide information on the strength of causal connections between interventions and observed change (to 'prove' results), but also enrich understanding of the process of change and whether interventions should be adjusted to deepen impact ('improving' results). A well-designed theory-based assessment therefore considers both process and impact evaluation questions, unintended change as well as so-called spill-over effects (which are, in fact, the explicit focus of developing market systems).

Adapting elements of one of the leading approaches in theory-based evaluation - Mayne's contribution analysis - BOSS focuses on "demonstrating a plausible association between a programme and observed outcomes"³. Each step in an intervention's theory of change is clearly evidenced and validated so that "a reasonable person, knowing what has occurred in the programme and that the intended outcomes actually occurred, agrees that the programme contributed to these outcomes". In contrast to the more *scientific* precision sought by some other impact measurement approaches, which is neither appropriate nor feasible when taking a systemic and facilitative approach⁴, this is about establishing *plausible* attribution⁵.

Causality, in this way, is inferred from:

- A reasoned theory of change: the 'step changes' (each box in the results chain and links between them) and assumptions behind why the intervention is expected to lead to impact are sound, plausible, and agreed upon.
- Activities of the intervention were implemented.

² This section is based on Mayne ('Contribution analysis: an approach to exploring cause and effect'), White and Phillips (3ie, 'Addressing attribution of cause and effect in small n impact evaluations: towards an integrated framework'), and Kessler and Sen (DCED, 'Measuring Changes in Indicators')

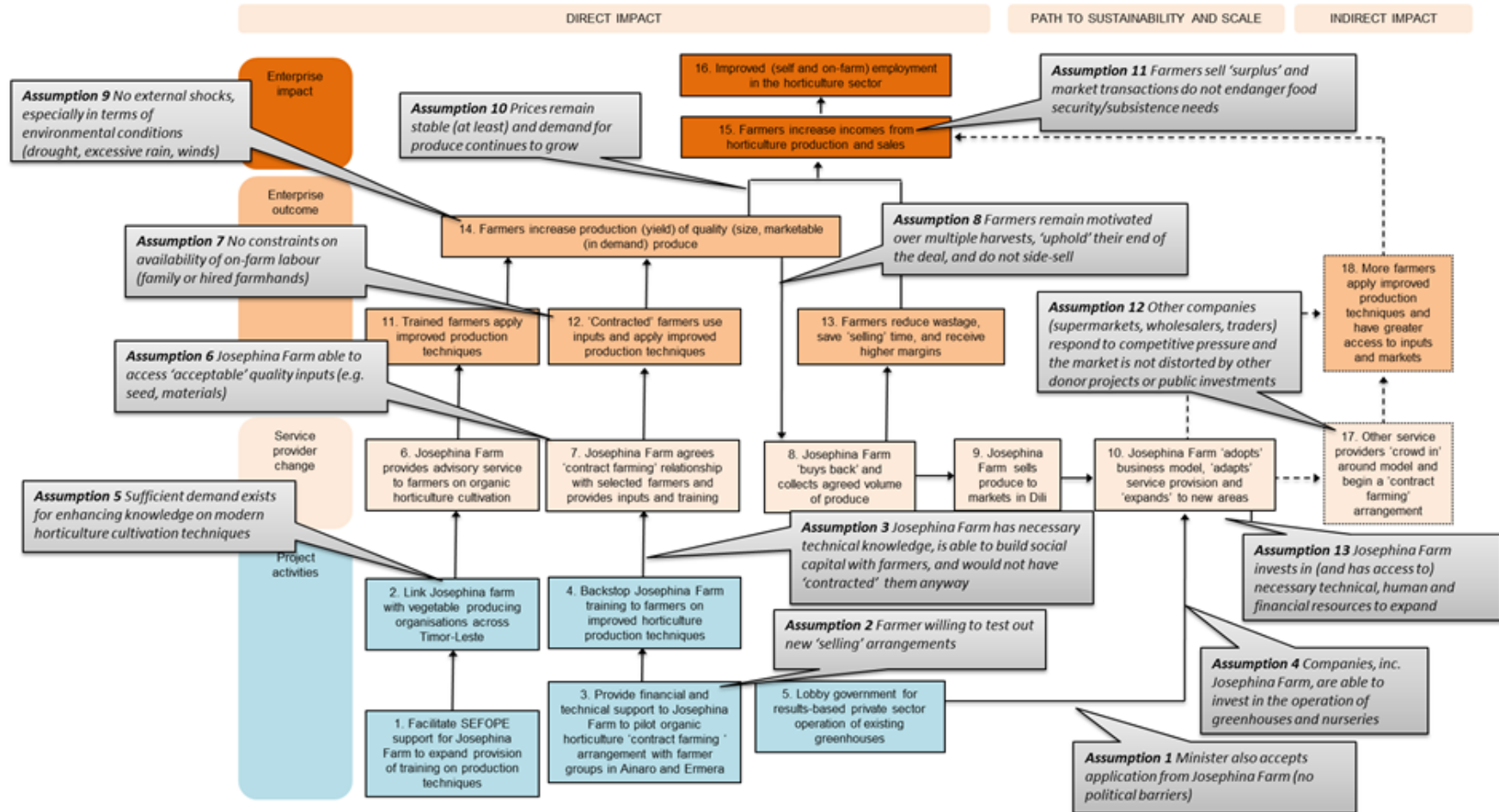
³ See White and Phillips for their summary of contribution analysis

⁴ There are a variety of reasons for the lack of suitability for randomisation in private sector development programmes that have been summarised elsewhere including by Taylor (2013) and Calvert (2012). Simply put, market systems development does not have one set 'treatment', participants are self-selecting, there is high (and deliberate) contamination effects, and there is, ultimately, little value-added in terms of learning.

⁵ This is BOSS's approach to exploring attribution. Regardless of debates about the semantics of whether this should be termed called 'attribution' or 'contribution', in line with the DCED Standard this makes every reasonable and feasible attempt to make a strong case for project impact, based on a validation of causal links between activities and the outcomes.

- The theory of change is verified by evidence: the chain (as originally intended, or re-constructed) and results within it occurred.
- Other factors influencing the programme were assessed and were either shown not to have made a significant contribution, or, if they did, the relative contribution was recognized.

This structured approach to assessing plausible attribution is based on a number of key steps, which are outlined in Figure 1, and explained in more detail in the pages that follow.



Logical Frameworks

Sometimes, for the sake of expediency, it is necessary to make nonlinear change processes to appear as if they were linear. A tool for this purpose that is often used in the UN system is Logical Frameworks or “logframes”. A logframe defines the project structure and logic using a matrix or table consisting of four rows and four columns. The rows capture the vertical logic and the columns the horizontal logic (see table below).

Project Structure	Indicators	Means of Verification	Assumptions
Development Objective			
Project Outcome			
Output			
Activity			

Vertical logic

The rows of the matrix reflect the hierarchy of objectives or vertical logic of the project. The vertical logic consists of a series of “if-then” statements that link the levels of the hierarchy together. If the activities are carried out, then the outputs will be attained. If the outputs are attained, then the outcomes will be achieved. And if the outcomes are achieved, then the development objective will be realized.

The external assumptions that underlie the links between the different levels (i.e., rows) of the internal project logic are presented in the fourth column. Each assumption must be analysed in terms of its importance and the likelihood of it being true. Care should be taken to ensure that the assumptions are not merely qualifications of the project structure.

Horizontal logic

Columns two and three reflect the proposed arrangements for monitoring and evaluation or the horizontal logic of the project. The horizontal logic consists of verifying that the indicators are valid measures of the corresponding element of the project structure. The indicators should also meet the SMART criteria. In addition, the source of data and the method of data collection should be specified.

SMART Criteria for Indicators

Specific
Measurable
Attainable
Realistic (or Relevant)
Time-bound (or Timely or Trackable)

EVAl recommends, however, that logical frameworks flexible enough to accommodate any changes to the Theory of Change that result from monitoring and evaluation activities.