Center for Evaluation Innovation

Systems Change Evaluation Challenges
Resource List

APPROACH OR TOOL	DESCRIPTION	WHEN TO USE	RESOURCE LINKS
Assessing contribution			
General information/ Overview			• *Clearing the fog: new tools for improving the credibility of impact claims* by IIED • *Overview: Strategies for Causal Attribution* by Patricia Rogers
Contribution Analysis	An approach for assessing causal questions and inferring causality that reduces uncertainty about the contribution the intervention is making to the observed results. It entails assembling confirming evidence first, testing its plausibility with other actors, and then assembling disconfirming evidence or evidence for alternative explanations for change.	Use for any systems change or policy change effort where some observable results have already occurred and you'd like to understand what role your investments/ grantees played.	• *Contribution Analysis: An approach to exploring cause and effect* by John Mayne • *Applying Contribution Analysis: Lessons from five years of practice* by Delahais and Toulemonde
Modus Operandi	A theory-based approach in which the evaluator builds a picture of predicted effects and supplements this picture through existing research. The evaluator then looks for typical patterns of effects and contrasting patterns, and consistency of the 'trace' with the predicted pattern helps prove or disprove the program theory.	Use for any systems change or policy change effort where some observable results have already occurred and you'd like to understand what role your investments/ grantees played.	• *The Qualitative Method of Impact Analysis* by Lawrence B. Mohr

Outcome harvesting	A multistep *inductive* evidence gathering process that first collects evidence of what has changed and, then, working backwards, determines whether and how an intervention contributed to these changes through a detailed and intensive evidence gathering process, which could include qualitative and/or quantitative data.	Use for innovative efforts where you have a high level of uncertainty about what outcomes might occur and/or where you want to capture both intended and unintended outcomes, positive or negative.	• *Outcome Harvesting* by Grau & Britt • *Retrospective 'Outcome harvesting': Generating robust insights* by Rassman, et al.
Process Tracing	A case-based approach to causal inference which focuses on the use of clues within a case (causal-process observations) to adjudicate between alternative explanations. Process tracing involves four types of causal tests, and can be used both to see if results are consistent with the program theory of change and to see if alternative explanations can be ruled out.		• *Understanding Process Tracing* by David Collier • *Straws-in-the-wind, Hoops and Smoking Guns: What can Process Tracing Offer to Impact Evaluation?* by Punton and Welle
Qualitative Comparative Analysis	A means of analyzing the causal contribution of different conditions (e.g. aspects of an intervention and the wider context) to an outcome of interest across a number of cases. After documenting different configurations of conditions associated with each case of an observed outcome, a minimization procedure identifies the simplest set of conditions that can account all the observed outcomes, as well as their absence. Results are able to distinguish various complex forms of causation (e.g., partial causes, necessary but not sufficient, etc.).	Use when you have several similar cases/sites all working towards the same outcome within their context.	• *Qualitative Comparative Analysis: A valuable approach to add to the evaluators toolbox* by CDI

Propensity-score matching	A quasi-experimental, quantitative approach to estimate the difference in outcomes between beneficiaries and non-beneficiaries based on a sampling method that matches the characteristics of each person or case who received the intervention as closely as possible to those of a person or case who did not (the 'control'). This strategy requires a statistician.	Use when you are delivering an intervention to a specific subset of a larger population (e.g. individual scholars/ fellows, universities), but when a) those receiving the intervention can't be randomly assigned, and b) those who participate are systematically different from those who do not. Larger sample sizes are needed.	• *An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies* by Peter Austin
Ripple effect mapping	A participatory method using elements of an appreciative inquiry approach. Directly affected stakeholders and other critical observers brainstorm and hierarchically map the effects or ripples of the intervention, so that groups hypothesize about connections among observed program effects. Data is coded and themed, and connections between effects can be tested with additional data collection.	Use for interventions or collaborations that are expected to produce broad or deep changes in a group, organization, or community and to have "knock on" effects that are important to understand but difficult for one person/researcher to observe.	• *Ripple Effect Mapping: A Radiant way to capture program effects* by Kollock et al.

Identifying meaningful interim systems change outcomes

Disrupting Systems Dynamics framework	A framework for market systems interventions that outlines a pathway for systemic change and presents a complementary set of indicator areas, or 'domains', that signal systemic changes. The framework distinguishes between agent-level change (changes in voice, level of investment, amount of innovation, perceptions and beliefs, imitation, and institutionalization of new practices) and collective level change (changes in norms, governing rules, and networks)	Use when working on market systems in particular, or adapt to use for other types of decentralized systems that have a heavy emphasis on changing normative behavior among many independent actors.	• *Disrupting Systems Dynamics: A framework for understanding systemic changes* by Markel, Sparkman and Fowler • *Practical tools for measuring system health* by T Sparkman • *Evaluating systems and systemic change for inclusive market development* by ben Fowler
Consolidated Framework for Implementation Research	A framework offering a range of constructs that are critical to the successful implementation of a program or approach. These include characteristics of the intervention itself (adaptability, cost, relative advantage, etc.), the inner organizational setting and outer contextual setting within which the intervention takes place, the individuals involved, and the implementation process (quality of planning, engaging, evaluating, etc.).	Use for initiatives to improve the quality of health service delivery, but also a useful frame for thinking through larger scale system redesign processes and interim outcomes in other content areas.	• *CFIR Online Guide*
ABLe Change Framework	A systems change model designed to help community collaboratives unpack the domains of a system that likely needs to change to create a system that produces the ultimate desired outcome. These domains are: mindsets, power, resources, regulations, connections, components, and the interactions between all of these.	Use to guide thinking about domains of systems change your initiative is addressing and what, therefore, should be measured. Designed for community initiatives but more broadly applicable.	• *On-line access to ABLe Change Framework* by Pennie Foster Fishman [Requires free registration]

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Increasing confidence that an initiative is on the right track

Limiting Factors Analysis	A qualitative approach to forecasting whether projects will succeed, given the degree to which they address the factors of greatest threat. Requires identifying limiting factors such as institutional capacity, public policy, enforcement practices, stakeholder support, etc., and inviting a range of experts and stakeholders to score and rank the current status of the limiting factor.	Developed for conservation initiatives, but conceptually applicable to other efforts. Useful for planning at the outset, but also for repeating periodically to test progress.	• _Using Limiting Factors Analysis to Overcome the Problem of Long Time Horizons_, by Gullison and Hardner
Scenario Planning/Delphi technique	Both are predictive exercises that can be applied to evaluation. They use different approaches (either qualitative or quantitative) to identify factors that could affect the outcome of interest, or rank the importance and impact. Given which scenario is unfolding, experts can judge the extent to which particular interim outcomes increase the systems' resilience and progression.	Use at the outset and periodically throughout an initiative with a variety of experts from various perspectives to reduce the risk of groupthink and increase the credibility of conclusions.	• _WHAT IF? The Art of Scenario Thinking for Nonprofits_ by Diana Scearce • _Quick Tips - Collecting Group Data: Delphi Technique_ by U. of Wisconsin Cooperative Extension
Agent-based modeling	A quantitative/computational model for simulating the actions and interactions of individual actors or groups to determine their potential effect on the system as a whole. Most ABM is done via software and requires a team to conceptualize numerous agents specified at various scales; name the decision-making heuristics that guide agent behavior, define learning rules or adaptive processes; and set other parameters. With the model can make small or large adjustments in parameters to see how those changes would affect other actors and the whole system.	This strategy is s useful when anchored in a very clear research question, and for systems where the agents interact in non-random ways, like social networks, or spatial explicit ecological systems.	• _Open ABM_ (collection of papers, tutorials and models) – The Open ABM Consortium • _On-Line Guide for Newcomers to Agent-Based Modeling in the Social Sciences_ by Axelrod and Tesfatsion

Setting systems boundaries

Critical Systems Heuristics	A framework of 12 "boundary" questions designed to outline and provoke systematic thinking about boundary judgements. These questions, which probe sources of motivation/incentives, power, legitimation and knowledge in a system are answered in terms of what currently is and what ought to be. This helps strategists determine who should be in their frame of reference as they examine how the system works and where to intervene.	Use during initiative planning and review—and during evaluation design—when you are unsure about what factors, perspectives and norms to include within the scope of the strategy and/or the evaluation.	• *A Brief Introduction to Critical Systems Heuristics* by W Ulrich
Attractor Mapping	Like a heat map, attractor mapping helps to distinguish areas of intense activity (and thus opportunity or energy for change). Activity or energy can be overlaid onto maps of relationships (such as social network maps), organizational roles (organization charts), system dynamic models and causal loop diagrams.	Use as information to support decision making about where to intervene that could capitalize on current momentum. Repeat at mid-course to test whether context has changed enough to warrant adaptation in your strategy.	• *Resource forthcoming at www.cense.ca*

Strategic learning

Compilations of learning tools			• *Facilitating Intentional Group Learning: A practical Guide to 21 Learning Activities* by FSG *Tools for Knowledge and Learning: A Guide for Development and Humanitarian Organisations* by B Ramalingam
Developmental Evaluation	An evaluation approach designed to assist social innovators develop social change initiatives in complex or uncertain environment. The evaluator serves as a 'critical friend' to the	Use for systems change or innovation initiatives where you are uncertain about how	• *Evaluation for the Way We Work* by Michael Quinn Patton

	strategy team throughout the life of an initiative by bringing real-time data and evidence to the table about what's unfolding to help the team strategize about its next moves.	change will occur and you have room to adapt your strategies in response to the changing environment and emerging conditions.	• *A Developmental Evaluation Primer* by Jamie Gamble • *Developmental Evaluation Toolkit* by Spark Policy Institute
Before and After Action Reviews	A low-burden structured "pre-brief" and debrief process that helps teams clarify and reflect on their initial hypotheses about how to accomplish their goal, how and why the results played out as they did, and what the implications are for the next iteration.	Use as a team before and after significant events, meetings, planning processes, and projects.	• *Emergent Learning Before and After Action Reviews* by Marilyn Darling • Before and After Action Review Template • Guide to the After Action Review, by Salem-Schatz, et al.
Emergent Learning Tables	A structured approach to learning over time in teams or groups about substantive strategy questions. It offers a framework for more systematic review of data and experience through the frame of a meaningful strategic question, and encourages the generation of forward-facing hypotheses about how to improve the work (thus closing the plan-do-act-reflect learning loop with more intention and rigor).	Use over time with a strategy team that wants to build more systematic reflection and learning into their process. Use only for groups that face a shared strategy dilemma that is important to solve in order to have a real impact.	• *Emergent Learning: A Framework for Whole-System Strategy, Learning, and Adaptation* by Darling, et al. • *Emergent learning table – illustrated* by Fourth Quadrant Partners