

## Assumptions, Conjectures, and Other Miracles: The Application of Evaluative Thinking to Theory of Change Models in Community Development<sup>1</sup>

Thomas Archibald, *Virginia Tech*  
Guy Sharrock, *Catholic Relief Services*  
Jane Buckley, *JCB Consulting*  
Natalie Cook, *Virginia Tech*

### Abstract

Unexamined and unjustified assumptions are the Achilles heel of development programs. In this paper, we describe an evaluation capacity building (ECB) approach designed to help community development practitioners work more effectively with assumptions through the intentional infusion of evaluative thinking (ET) into the program planning, monitoring, and evaluation process. We focus specifically on one component of our ET promotion approach involving the creation and analysis of theory of change (ToC) models. We describe our recent efforts to pilot this ET ECB approach with Catholic Relief Services (CRS) in Ethiopia and Zambia. The use of ToC models, plus the addition of ET, is a way to encourage individual and organizational learning and adaptive management that supports more reflective and responsive programming.

**Keywords:** assumptions; evaluative thinking; critical thinking; evaluation capacity building; theory of change; community development; international development

### Highlights

- An evaluation capacity building approach designed to foster evaluative thinking (ET) is described.
- The approach has been piloted with Catholic Relief Services in Ethiopia and Zambia.
- Community development practitioners learn to apply ET to work with assumptions in their theory of change models.
- Initial evidence suggests that this approach can help foster reflective practice and adaptive program management.

---

<sup>1</sup> This paper is a preprint version of a paper published in *Evaluation and Program Planning*. To refer to or cite the published version, please use:

Archibald, T., Sharrock, G., Buckley, J., & Cook, N. (2016). Assumptions, conjectures, and other miracles: The application of evaluative thinking to theory of change models in community development. *Evaluation and Program Planning*, 59, 119-127. doi:10.1016/j.evalprogplan.2016.05.015

Correspondence regarding this article should be addressed to Thomas Archibald, Assistant Professor, Virginia Tech, Agricultural, Leadership, & Community Education (0343), Litton-Reaves Hall, Rm. 284, 175 West Campus Drive, Blacksburg, VA 24061, 001-540-231-6192, [tgarch@vt.edu](mailto:tgarch@vt.edu)

**Acknowledgement:** The work described in this paper was supported in part by Innovation Funds from the Program Impact and Quality Assurance department of Catholic Relief Services.

## **Assumptions, Conjectures, and Other Miracles: The Application of Evaluative Thinking to Theory of Change Models in Community Development**

### **Introduction**

Assumptions imbue program planning and evaluation. They can be a resource for or risk to the success of programs and the validity of evaluations. Whether an assumption functions as a resource or a risk depends on the extent to which it is explicated (Nkwake, 2013). Unexamined and unjustified assumptions are the Achilles heel of development programs. In this paper, we describe an evaluation capacity building (ECB) approach designed to help community development practitioners work more effectively with assumptions through the infusion of critical thinking into the program planning, monitoring, and evaluation process. Critical thinking, though it has been discussed in the evaluation literature surprisingly sparingly (Schwandt, 2008, 2015; Scriven 2001), has the potential to help evaluators and program implementers uncover, reflect on, and thereby adaptively manage assumptions. As critical thinking scholars Paul and Elder write, “Critical thinkers strive to make their assumptions explicit in order to assess and correct them when good reason or the evidence requires it” (2014, p. 357).

In our ECB approach, we tailor general notions of critical thinking to the field of evaluation by conceptualizing it as “evaluative thinking.” There is clearly a close relationship between critical and evaluative thinking; “evaluative thinking requires critical thinking” (Schwandt, 2015, p. 67). Invoking Dewey’s notion of “reflective thought” and Schön’s focus on “reflective practice,” Schwandt frames the application of critical thinking in evaluation as “assessing and making claims of value, specifically seeking the ground or basis for those claims and examining the adequacy of that ground to support those claims” (2015, p. 67). Elsewhere, we have defined evaluative thinking (ET) as

critical thinking applied in the context of evaluation, motivated by an attitude of inquisitiveness and a belief in the value of evidence, that involves identifying assumptions, posing thoughtful questions, pursuing deeper understanding through reflection and perspective taking, and informing decisions in preparation for action.

(Buckley, Archibald, Hargraves, & Trochim, 2015, p. 378)

Our ECB approach is guided by this definition, as well as by Brookfield’s substantial body of work on teaching critical thinking (1987, 2012) and by related literatures on organizational management and organizational learning (de Bono, 1999; Preskill & Torres, 1999).

To appreciate the added value of ET, especially in contexts where working with assumptions and fostering learning and adaptive management are accentuated, it is important to note that thinking evaluatively and doing evaluation are not synonymous. One can do evaluation without ET (e.g., when evaluation is treated as a technical, check-it-off compliance activity), just as one can do ET outside of formal evaluation (e.g., when a front line community education volunteer critically reflects on assumptions about why a project is working or not working, even if she is not ever involved in formal data collection activities). That is why “evaluative thinking” has meaning and substance that merits its existence as a term separate from the more widely understood notion of “doing evaluation.” That is also why the central thesis of this paper is that an intentional effort to promote ET, rather than simply more evaluation, should be a key component of any endeavor aimed at working with assumptions in community development. A more in-depth description of ET and additional guiding principles and practices for promoting ET are presented in greater detail in Buckley, Archibald, Hargraves, and Trochim (2015).

In this paper, we focus specifically on one component of our approach to promoting ET that centers on the creation and analysis of theory of change (ToC) models. ToC models are one of many ways of articulating program theory that have gained prominence in recent years,

especially in contexts of international development (United States Agency for International Development [USAID], 2015b), though they are not without their detractors (Ruesga, 2010). A general overview of ToC models and their role in working with assumptions in international development is presented in the next section. It is important to note that many comparable tools, such as Participatory Impact Pathways Analysis (Douthwaite, Alvarez, Thiele, & Mackay, 2008) and Process Monitoring of Impacts (Williams & Hummelbrunner, 2011)—both approaches that are aligned with USAID’s efforts to foster more complexity-aware monitoring (USAID, 2013)—are also very useful for articulating project or program logic. While in this paper we focus on ToC models, ET is equally applicable to those other types of models as well. And while ToC models, as useful tools, provide the centerpiece of the ECB and ET work we describe in this paper, we also posit that ET is applicable in working with assumptions in program planning and evaluation contexts more generally. For example, ET’s encouragement of multiple perspectives can help connect ECB to culturally responsive evaluation (Hopson, 2009) by challenging the paradigmatic assumptions often associated with sociocentric thinking, which Schwandt described as

the tendency to see the world from a narrow, group-centered perspective that reflects the prejudices of the group or culture, also seen as the failure to study the insights of other cultures (thus restricting the breadth and depth of one’s thinking) and the failure to think historically and anthropologically (thus being trapped in current ways of thinking). (2015, pp. 68-69).

Indeed, a French word sometimes used as a translation for “assumption” is *préjugé*, akin to the English word “prejudice” (although we hesitate to draw this allusion since it is important to emphasize that assumptions are not necessarily negative; they are a normal part of everyday life).

In the remainder of this paper, we: (1) review selected literature on ToCs in international development, focusing especially on their intersection with assumptions; (2) describe our ET ECB approach and discuss how ET—as the application of critical and reflective thinking to contexts of evaluation and program planning—is both conceptually and practically useful in working with the assumptions revealed through ToC models; and (3) share some preliminary lessons learned about this approach, its benefits, and its limitations. The organizational and programmatic contexts in which we piloted our ET facilitation approach are provided by Catholic Relief Services (CRS), a large international non-governmental organization (INGO) that implements social transformation projects worldwide. Specifically, we describe our multiyear collaboration with CRS Ethiopia and CRS Zambia.

### **Theories of Change and their Intersection with Assumptions**

The concept of “Theory of Change” was originally introduced to the field of evaluation in the 1990s. For instance, in 1995 Carol Weiss described a ToC as “a theory of how and why an initiative works” (as cited in Stein & Valters, 2012, p. 3). In recent years, ToC models have been used increasingly in the day-to-day practice of international relief and development organizations to improve project design and operation. Their use is being seen by an increasing number of international development agencies as “an emerging best practice” (USAID, 2015b, p.1) accompanied by an exhortation directed at practitioners to “identify and explicitly present all assumptions underlying the ToC” (USAID, 2015b, p. 15).

It is helpful to understand the possible reasons that might explain the greater prominence now being afforded to ToC approaches and models in development programming (see Guijt, 2007; Guijt & Retolaza, 2012; Stein & Valters, 2012):

1. They support project planning by conveying (often graphically) the intended direction and approach of specific development investments. It is important for practitioners to

- make clear how they believe change will occur; if this clarity is absent, it is believed that development efforts are likely to have less impact.
2. Making explicit the development “pathway” can enable progress and achievements to be tracked more easily thereby facilitating more useful monitoring and evaluation.
  3. ToC models serve as communication tools that describe the “story” and logical coherence of planned interventions. This encourages and motivates dialogue among those interested in the success of the project.
  4. ToC models make explicit the “theory” that underpins an intervention—they demystify theory and remystify practice (Lederach, Neufeldt, & Culbertson, 2007)—thereby serving as a useful learning tool that promotes “collaboration, learning and adaptation” in and among development programs (USAID, 2015a).
  5. Some authors suggest that ToC models are as much a process as they are a product. The development of a ToC model requires ongoing consultation, deliberation and collective decision-making that in itself has value for the design and implementation of complex development interventions.
  6. Importance is also attached to ToC mapping for the purposes of “democratic evaluation and dialogue” (Guijt, 2007, p. 7) in order to understand “what implicit/explicit understanding of social change is underpinning the process that one is assessing and wanting to learn from” (Guijt, 2007, p. 12).

ToC models have gained greater prominence in the last few years, despite their much earlier conception, perhaps in response to the disquiet within the development community about conventional logical planning frameworks. There is a growing desire among development practitioners to respond to the “complexity” agenda (Ramalingam, 2013) that recognizes the need to develop monitoring and evaluation (M&E) tools that are more flexible and responsive to operating environments and contexts in which outcomes from project interventions are uncertain, dynamic and not easily replicable from one setting to another. ToC models are seen as offering practitioners a way to engage more transparently with complex change processes. For this reason they are viewed as being more appropriate than conventional logical planning tools that for a generation have been the common parlance in development and remain in widespread use.

Despite a recognition among development practitioners that ToC models have value as a management tool, it is curious that there is seemingly little consensus on their definition. A number of concerns arise from the apparent absence of unanimity: first, without a common understanding, it is difficult to collectively improve ToC modelling theory and application; second, it gives rise to “unrealistic promises” (Stein & Valters, 2012, p. 5) made about what ToC models can deliver. Given the growing ubiquity of ToC models, the myriad of interpretations about them should be a matter of some concern.

Arguably, nowhere is this more important than a consideration of the role of assumptions in ToC models. Development projects are founded on the belief that it is possible to apply theory, research findings, and learning from previous experiences to the design of programmatic interventions. CRS describes assumptions as “the conditions outside the direct control of project management, but that nevertheless must be met” (Stetson, Sharrock, & Hahn, 2004, p. 196). Social development programming does not take place in a laboratory; instead, interventions are based on “explicit or implicit theories about how and why the program will work” (Stein & Walters, 2012, p. 3). For this reason, it is essential that assumptions and beliefs about the change processes underpinning a ToC model are surfaced and examined. A recent USAID publication suggests there are two types of assumptions. The first type are

about why a precondition or set of preconditions is necessary and sufficient for movement from outcome to outcome. In the ToC, assumptions are shown along the

arrows that connect outcome boxes to explain the connections. They need to be supported by evidence in accompanying narrative. For example a hypothesis, improved efficiency and resilience of agricultural production would lead to increased total production, depends on the assumption that households will continue to have access to land to increase farm size. (USAID, 2015b, p. 11)

It is regarding these types of assumptions, and even more micro-level ones, that ET can be a particularly helpful addition to the ToC process. The second type suggested by the USAID document are those which are commonly found in the right-hand column of traditional logical frameworks. They bear stating, yet do not necessarily open up new possibilities for learning, rapid feedback, and adaptive management as do the first type. This second type of assumptions are broader contextual or environmental conditions that are typically out of the control of a project but have significant influence over the success of a project goal. For example a food security project in Bangladesh may assume that during the project life the annual flooding in the project area will not exceed the 50 year flood level. Exceeding the flood level beyond 50 year threshold will likely erode the benefits from the project activities and households' ability to cope with the flooding without adopting harmful coping strategies. (USAID, 2015b, p. 11)

A key challenge for working with ToC models and understanding the role of assumptions is whether it is even reasonable to talk about *theories* of change if the theoretical basis for a model's construction is not well founded in the context and conditions to which it is being applied. According to Graig, "many programs are based on faulty theories or they fail to acknowledge alternate theories" (2015, slides 35-36). In the absence of any articulated theory or robust evidence justifying the link between program activities and program outcomes, he suggests that it would be more appropriate to refer instead to "CoCs, or Conjectures of Change" that all too often are based on "wishful thinking" (Graig, 2015, July 14).

For all practitioners working with ToC models there exists the challenging tasks of accurately identifying which assumptions are relevant to a given ToC model and then determining which of them are critical to success. Our own experience of running ET workshops suggests this is not an easy task. Risks associated with this process are related to the subjectivity and a degree of arbitrariness surrounding the identification and selection of assumptions. In the world of proposal development and program implementation, disincentives can exist to identifying too many assumptions, particularly if they call into question the intentions of the donor funding the intervention. This relates, too, to cultural and discursive norms, habits, hierarchies, and the difficulty of posing questions in certain social and professional settings.

Additional challenges can arise when practitioners seek to address the assumptions underpinning a program intervention, such as: the risk of arbitrary selection of assumptions that may convey a spurious sense of rigor to programs based on ToC models; lack of clarity regarding the extent to which assumptions should be tested, how this is to be done, and whether it is enough simply to identify assumptions clearly; and the danger of staff adopting a superficial approach to ToC modelling processes, rather than engaging with the complexity of change processes. This is a familiar challenge for those working even with more conventional logical planning models. If the identification of assumptions really is pivotal to the success of programs based on a ToC model, then it is vital that this "central element should not be something that may lend itself to shallow analysis" (Stein & Valters, 2012, p. 10).

Clarification on the role of the above concepts is crucial if ToC models and approaches are to foster and sustain current efforts to engage with real-world complexities of development programming. Ultimately what matters is determining whether the use of ToC models can facilitate greater involvement of those on the receiving end of aid interventions. As practitioners

seek to understand and respond to unpredictable development processes, ToC models and the correspondingly greater effort to identify assumptions may serve to direct attention to the need for more dialogue with those towards whom development efforts are directed. The use of ToC models, plus the addition of ET, may be seen as one step toward encouraging sound structures for individual and organizational learning that supports more reflective and responsive programming.

### **Application: An Evaluative Thinking Workshop Series in Ethiopia and Zambia**

In recent years, we have worked to design, implement, and conduct research on an approach to promoting ET among the staff and partners of CRS. Over a two-year period starting in 2014, we piloted our approach with CRS Ethiopia and Zambia, offering a course of three workshops in Ethiopia and five workshops in Zambia with participants representing multiple positions within the organizational hierarchy of CRS and its partner organizations in those two countries. In CRS Ethiopia, we worked with a variety of different projects, including a direct food assistance project, a project designed to help communities conduct autonomous development on projects of their choosing, an operations research project designed to better understand recommendations on irrigation and other agronomic practices, and a girls' empowerment program. In Zambia, we worked primarily with the Mawa project that is active in the Eastern Province. The project is funded by President Obama's Feed the Future (FTF) global hunger and food security initiative. The project seeks to contribute to FTF's overarching goal to sustainably reduce global hunger and poverty by tackling their root causes and employing proven strategies for achieving large scale and lasting impact. The Mawa project is led by CRS in partnership with Caritas Chipata, Golden Valley Agricultural Research Trust (GART), University Research Company, LLC (URC) and Women for Change (WFC). Mawa aims to deliver solutions that are appropriate and relevant to resource-poor smallholder households in Eastern Province that, in turn, will achieve significant impact at scale in a cost-effective manner.

Below, we describe in detail the workshops we facilitated through this pilot program; since they appear to be the first ECB workshops of their kind—intentionally and explicitly focused on promoting ET among diverse community education and development volunteers and professionals—we hope that our experiences with and research on this ET promotion approach can contribute to related ECB efforts in other contexts. We also share some images of the workshop participants in action as they practice ET with ToC models and other tools to work with assumptions (see Figure 1).



*Figure 1.* Evaluative thinking workshop participants creating and analyzing theory of change models.

Our ET workshops are informed by a set of guiding principles and practical strategies for fostering ET that have been presented elsewhere (Buckley, Archibald, Hargraves, & Trochim, 2015). The approach mirrors the definition of ET that is introduced in that paper, quoted in this paper's introduction above: specific activities are designed to give participants opportunities to learn and practice all four elements of ET, which are: (1) identifying assumptions, (2) posing thoughtful questions, (3) pursuing deeper understanding through reflection and perspective taking, and (4) informing decisions in preparation for action. The approach also follows previously established good practice guidelines for conducting adult education (Wilson & Hayes, 2000) and for facilitating ECB (Preskill & Boyle, 2008), takes cues from organizational development literature (de Bono, 1999), and draws heavily from Brookfield's substantial body of work focused on teaching critical thinking (Brookfield, 1987, 2012). Finally, our approach adapts elements of a systems evaluation ECB protocol (the Systems Evaluation Protocol, or SEP) that was initially developed to build the evaluation capacity of Cooperative Extension and non-formal science, technology, engineering, and math (STEM) educators (Trochim et al., 2012).

One aspect of the SEP that is central to our efforts to promote ET among diverse educational stakeholders is the creation and analysis of "pathway models," a type of ToC model. This particular format of ToC models are described elsewhere in greater detail (Urban & Trochim, 2009), especially in reference to how they can help community education practitioners connect their local M&E work to existing bodies of research knowledge, thereby arriving at more evidence-based programs. As a component of our ET facilitation approach, the participatory creation and analysis of pathway models helps people to identify and critically reflect on the assumptions that indwell and undergird their programs' theories of change. Yet these models alone, absent the supporting pedagogical context provided by the rest of the ET promotion activities, do not necessarily foster ET.

### **Year 1: Establishing a Framework for Evaluative Thinking**

In Year 1 we facilitated two five-day introductory workshops (one in each pilot country) for 25 participants in Ethiopia and 25 participants in Zambia. Workshop participants included a mixture of CRS project managers, administrators, frontline personnel, M&E staff (or, as they are called in CRS, MEAL staff—monitoring, evaluation, accountability, and learning), and representatives of partner organizations (primarily from Caritas organizations, which carry out the social development mission of the Catholic church, and other small local NGOs). The goal of each workshop was to foster continuous reflection and learning to enable the emergence of adapted practices and increase the relevance and sustainability of CRS programs. The specific objectives of the workshops were to help partner and CRS staff learn what ET is, practice ET skills and behaviors, connect ET to their daily professional practice in MEAL activities and beyond, and prepare to apply ET in their projects in an ongoing way. To meet these aims, the first two days were focused on introducing the concept of ET and facilitating incrementally more challenging ET experiences. Once the basic notions of ET were established among the participants, a series of activities focused on identifying assumptions within ToC models formed the centerpiece of the workshop. Table 1 provides a summary of the workshops' major activities and the primary scholarly sources from which we drew inspiration for each activity.

Table 1

*Activities Used in the ET Workshops and the Sources Informing Them*

<b>Activity</b>	<b>Source</b>
Introduction to concepts of ET and types of assumptions	Brookfield (2012); Buckley, Archibald, Hargraves, and Trochim (2015); Nkwake (2013)
Scenario analyses (first on general, then progressing to program-relevant scenarios)	Brookfield (2012)
Stakeholder analysis and boundary analysis	Trochim et al. (2012)
Six thinking hats activities	de Bono (1999)
Critical conversation protocols	Brookfield (2012)
Media critiques	Taylor-Powell (2010)
ToC creation, peer review, and assumption harvesting	Trochim et al. (2012)
“Zoomed in” nested ToC creation and analysis	Trochim et al. (2012)
Creation of learning-to-action plans with built-in safe-fail probes	Britton (1998); Catholic Relief Services MEAL documents; Cognitive Edge (2015)

We provided lessons on the different types of assumptions discussed by Brookfield (2012) and Nkwake (2013): causal, prescriptive, and paradigmatic. Causal assumptions consist of “if...then” statements and are contained within the arrows of a ToC diagram (e.g., if farmers appreciate the benefits of conservation agriculture, then they will increase the use of conservation agriculture production practices in their fields). Prescriptive assumptions pertain to what “ought to” or “should” happen in a given scenario—as such, development programs are rife with prescriptive assumptions (e.g., farmers in Eastern Province of Zambia should use conservation agriculture in most or all of their fields). Finally, paradigmatic assumptions have to do with deeply held beliefs, akin to one’s worldview (e.g., promotion and uptake of conservation agriculture is an undeniable moral imperative [see Whitfield, 2015, for both an articulation and problematization of the discursive ways in which this specific paradigmatic assumption has taken hold in Zambia and elsewhere in recent years]).

When working with assumptions, we take cues from Brookfield’s approach to teaching critical thinking. In his approach, there is a widely-applicable three-step process that entails: (1) identifying the assumptions, be they explicit or initially implicit, under which one is operating; (2) imagining what plausible alternative explanations or perspectives might explain what is happening if the originally identified assumptions in fact did not hold true; and (3) exploring what evidence would be needed to ascertain which options, among the identified assumptions and plausible alternative hypotheses, is best borne out empirically. Brookfield (2012) introduces these questions as part of a “scenario analysis” activity, in which these three questions are used to work on the assumptions under which the characters in the scenario are acting. This is an example of ET guiding principle II presented in Buckley, Archibald, Hargraves, and Trochim (2015): “Promoting ET should incorporate incremental experiences, following the developmental process of ‘scaffolding’” (p. 380).

Additionally, assumption identification and examination is bolstered by taking multiple perspectives. One way in which we operationalized this aspect of ET was through stakeholder analysis. There are many tools and techniques for identifying project or program stakeholders. We adapted an approach described in Trochim et al. (2012) in which a concentric circle diagram (like a target) is drawn and different types of stakeholder groups are brainstormed. Additionally, participants select a handful of key stakeholders based on their perceived level of interest and influence and then, thinking of the perspective of each of those key stakeholder groups,

brainstormed phrases they might use to describe the program (e.g., by answering questions like: What would they care most about? and What would jump out at them or make them care about it?).

A second activity we use to encourage participants to take multiple perspectives on the assumptions they identify is based on de Bono's (1999) notion of the "six thinking hats." In this approach, derived from the field of organizational management, people are encouraged to reflect and comment on a given scenario or issue with one of six different perspectives corresponding to the different colored "hats." The Managing (Blue) hat perspective asks: What is the subject? What are we thinking about? What is the goal? The Information (White) hat perspective considers purely what information is available, and asks: What are the facts? The Emotions (Red) hat perspective offers intuitive or instinctive gut reactions or statements of emotional feeling (but not any justification). The Discernment (Black) hat perspective appeals to logic applied to identifying reasons to be cautious and conservative. The Optimistic (Yellow) hat perspective involves logic applied to identifying benefits and seeking harmony. Finally, the Creativity (Green) hat perspective offers statements of provocation and investigation, seeing where a thought goes. As it pertains to ET workshops aimed at helping people better identify and think critically about assumptions, the black hat is invoked most frequently. However, by mentioning that "this is a black hat comment," the critical exchange can be more productive because the critique is not seen as a personal attack and the receiver is less likely to get defensive.

Then, in our introductory workshops, once participants were comfortable with the practices of identifying assumptions and posing critical questions about them, they were divided into small groups that each focused on a particular programmatic initiative for the duration of the workshop (e.g., health and nutrition, gender and equitable access to land, research on savings and internal lending groups, seed fairs accompanied by extension education, development food aid, conservation agriculture, and more). Each group used colored notecards to brainstorm the elements of their ToC model, and then used yarn to construct the arrows between the elements. The latter days of the workshop were then devoted to rounds of peer review of the models, whereby participants applied all of the ET skills they had learned earlier in the week to the task of identifying, critically reflecting on the assumptions in their ToC models and in those of their colleagues. Questions and reflection prompts guiding this peer review activity (adapted from Hargraves, Buckley, Johnson, & Archibald, 2015) include the following:

1. Look for good ideas and note/highlight them. These might include particularly good or novel outcomes, good links, whatever deserves recognition.
2. If you see big leaps in logic, add a brief note with a suggestion if possible.
3. If you see something that makes you wonder about a how the project is defined issue, add a brief note with a suggestion if possible.
4. If you see something that is likely to be confusing to an outsider, or that could be worded more clearly, mark it and add a brief note with a suggestion if possible.
5. From your own perspective and what you know of the key stakeholders' perspectives, think about whether the model captures a full view of the project. If necessary, propose an additional outcome or activity.
6. Look for themes or common threads among outcomes and make a note of them.
7. If you think there is a key assumption being made that may have been missed, make a note
8. If you think there is a key contextual factor that should be mentioned, make a note
9. Step back and think about the model overall. Prepare some comments and observations to share as appropriate.

At the conclusion of the Year 1 workshops, each working group identified an area of their ToC which, due to the problematic assumptions identified, would require gathering further evidence to promote better understanding and adaptive management. Additionally, each individual participant completed a “learning-to-action plan” in which she or he wrote a specific plan to implement some ET activities in daily or monthly practice. Finally, we established a plan for follow-up. In Ethiopia, this consisted of a mid-year conference call focus group to keep track of progress and experiences vis-à-vis the group and individual learning plans. In Zambia, this consisted of a mid-year follow-up workshop by one of the facilitators at a quarterly learning meeting for the project.

### **Year 2: Expanding and Deepening Evaluative Thinking**

In Year 2, we facilitated two workshops in Ethiopia and three in Zambia. To structure this second year of intensive ET workshops, we conceptualized a three-tiered approach based on two factors: participant groups’ position within the organizational hierarchy, and past exposure to ET workshops. This was done to reflect the observation, common in much of the ECB literature and justified by our own experience with ECB, that for evaluation capacity (and ET) to take hold culturally within an organization, the push for ET must be top-down and bottom-up, and also to account for the assumption that continued, longitudinal interaction is more likely to effect lasting change (i.e., one sole ET workshop is not enough). Thus, starting in Year 2, we began working with three levels of trainings: Level 1 is a field-based training aimed primarily at CRS and partner staff who are most frequently in face-to-face contact with community members. Level 2 is training for those who have already attended a workshop to consolidate and develop further evaluative thinking activities. Level 3 involves awareness training for CRS senior managers on the potential of ET and on the need to ensure supportive leadership for ET. In 2015, the Level 3 training consisted of a half-day discussion-based workshop with country program leadership with CRS in Ethiopia and Zambia. In addition to these three levels of workshops, Year 2 also consisted of on-going support for ET to the two country programs and their regional MEAL Advisors. Because of logistical challenges, Ethiopia only had Levels 2 and 3 in Year 2, whereas Zambia had all three.

There are three aspects of the Year 2 workshop series that are particularly noteworthy. First is the inclusion of front-line community development practitioners in a workshop involving ToC mapping and planning. The Level 1 participants were essentially volunteer community educators, working for a stipend, to be the “on the ground” presence of the project. They had little formal education, and some struggled with written and spoken English. Even in ECB efforts aimed at decentralizing and democratizing participation in M&E planning and management, one might conjecture that these front line staff would either not be interested in or not have an adequate level of preexisting capacity to favor participating in a workshop on ToC models and working with assumptions. We found that conjecture to be wholly unfounded. What we found instead was that these front-line community educators were hungry to learn ways to conceptualize the theory behind their work, to share their frustrations about the real-world barriers to project success that they experience in their daily practice, and to express their desire to be more involved in program planning.

Second, the participants in Level 2 were able to operationalize the systems evaluation concept of nested hierarchical models, akin to what is sometimes done in multilevel evaluations (Yang, Shen, Cao, & Warfield, 2004). The participants constructed models-within-models to guide their iterative cycles of learning and adapting. Specifically, the more advanced and experienced ET staff began the Year 2 workshop by “zooming in” on a hypothesized linkage from a ToC model that was created either by them in the previous year, or by the Level 1 (field

staff) participants in their workshop, which had taken place one week prior. Through reflection and analysis of focus group data they had collected from beneficiaries during the year, the Level 2 participants identified linkages which have been shown to be barriers to project success—that is, causal assumptions in the program logic that had been shown to not hold true. For example, returning to the previously introduced set of assumptions pertaining to conservation agriculture, one working group focusing on the agricultural component of the Mawa project honed in on the assumption that if farmers understand the benefits of conservation agriculture and know how to practice it, then they will adopt it on most of their land. Observations, however, had shown that most farmers were only putting a small section of their land under conservation agriculture and leaving the rest under traditional management practices. Informal data collection and analysis suggested that the major limiting factor for farmers was weeding. The agriculture working group thus constructed a new “zoomed in” ToC model, nested within the larger-scale version of the ToC model that had been created in the previous year, laying out how they might address the weeding constraint. Then, before applying that new management decision across the project, they established a plan to seek further feedback from smaller experiments and “safe-fail probes” (Cognitive Edge, 2015).

Another working group, focused on savings and internal lending community (SILC) groups, identified as a high-priority barrier the fact that men were neither participating in SILC groups nor supporting the microfinance and business endeavors of their wives. They then focused their ET efforts on the assumption that if men participate more in SILC, then they will also support their wives in SILC-related activities. However, through dialogue and critical feedback from their peers (wearing “black hats”), they quickly realized that a plausible alternative outcome of their suggested management decision would be that increased participation by men in SILC groups could lead to women feeling a loss of autonomy in the groups, thus leading to decreased participation and fewer positive outcomes for the women. The working group then realized a need to gather more data and consider new management alternatives.

The third especially noteworthy aspect of the Year 2 workshop series is the inclusion, in the Level 3 workshop, of not just top leadership of the organization, but also of non-M&E and non-programmatic leaders (such as business development and human resources directors). Both inclusions relate to the need to foster an operating environment that is enabling and supportive of the ethos and practice of ET. The wider operating context for learning and adaptation is critical, and may even be the “decisive factor” in inducing reflective practice (Van Es & Guijt, 2015). For this reason, “supportive leadership” provides a focus for part of the planned ET capacity-strengthening activities. Plus, many descriptions of ET frame it as much broader than just M&E: it should be integrated throughout all of an organization’s work practices (Baker, 2011); it is “a constant state-of-mind within an organization’s culture and all its systems” (Bennett & Jessani, 2011, p. 24); “Evaluative thinking is a way of doing business” (Patton, 2014, p. 1). In both Ethiopia and Zambia, the organizational leadership expressed their perceptions of how ET would help them manage operations throughout the entire country program.

### **Lessons Learned**

In addition to facilitating ET among CRS program and partner staff in Ethiopia and Zambia, we are also conducting ongoing research on ET in general and on our specific ET facilitation approach. The objectives of this research project are: (1) to assess the efficacy of our ET facilitation approach, (2) to generate new knowledge about how ET intersects with existing CRS MEAL frameworks, and (3) to elucidate recommendations for how ET can contribute to CRS and USAID initiatives to support learning and adaptive management in complex

community development contexts. We have collected quantitative and qualitative data via a number of data collection tools, such as: (1) an ET scale which is undergoing validity and reliability testing (J. McIntosh, personal communication, June 1, 2015) and a workshop feedback survey; (2) an evaluative thinking learning-to-action plan template; (3) post workshop interviews; (4) documentary evidence (including diagrams of theories of change); (5) mid-year follow-up focus groups; and (6) document review. Analysis of these varied data is still ongoing, and a full presentation of our research procedures and findings is beyond the scope of this paper. However, in the section that follows, we selectively pull from the data to share some lessons learned that are particularly salient to questions about using ET to work with assumptions and ToC models in community development contexts.

### **Working with assumptions resonates with practitioners at all levels**

From across all of our data sources, and from workshop participants representing all levels of the organizational hierarchy, people demonstrated keen interest in identifying and critically reflecting on the assumptions in their program logic. For example, quotations from participants' open-ended responses to the question: *What can you do now that you couldn't do this time last week?* on the learning-to-action template include the following: *Teasing out assumptions along pathway model; Seek alternative explanation of assumptions before I take them as true and valid assumptions; Question certain assumptions through meetings and trainings including during my field visits; Critically thinking about assumptions; Consciously identify assumptions; analyze assumptions for alternative explanations; Have colleagues to mine my assumptions on the model and help me use evaluative thinking to re-evaluate my model; How to spot implicit and explicit assumptions in the design of a project/activity; Test assumptions; Am able to identify assumption in my project pathway model; I am able to accept critics because the peer review challenged me that it's not all that I see right that is right; other people may see something different; I knew about the six hats exercise but feel I can use it more effectively with a group of people to surface "unseen" interpretations or understandings related to a specific issue; Be more critical of the assumptions that I held about my work – a reawakening of reason.*

Some participants expressed an intention to use the ET and ToC modelling tools with the farmers and other beneficiaries with whom they work: *Pathway model peer review: I would apply this activity during community sensitization meeting where I can put the attendants in groups; then ask them to identify possible assumptions that they might be leading to the poor state of health in their community.* This aspect of our work hints strongly at the prospect of ET serving as a conduit for frontline staff and beneficiary involvement in evaluation and program planning processes.

### **ET shows promise for working with assumptions for adaptive management**

In interviews, a senior partner staff in Ethiopia said: *When we modeled our assumptions, and I saw the models, they can really help us to evaluate our basic results so we can stop in the middle and think of how we are going how we are monitoring, and how we can measure our project results;* a senior manager with CRS Ethiopia said: *It is a highly inquisitive process, it keeps on pressing for more and deeper questions and it is a social process. ... In my project ET will be useful throughout the project cycle starting with design through and it helps me to critically think about assumptions. ... It will help me by focusing on the critical assumptions and it will help also to identify, refine and manage them throughout the project cycle.*

Involving all levels of an organizational hierarchy, from front-line field staff through senior management, seems to be one specific way to operationalize the potential benefits of ET for working with assumptions. The Year 2 Level 1 participants resoundingly stated how much

they appreciated the opportunity to voice their perspectives and work with the assumptions regarding the on-the-ground realities of program successes and failures. In a comment during the workshop, one SILC educator said: *We are the engine of the project. Without us the project will not go. So we need to be involved in program planning so our realities can be put into the program plan.* When he finished speaking, his colleagues spontaneously applauded. These potential benefits of including front-line community educators that we observed have been discussed elsewhere: “It is not until front-line workers’ questions are at the center of the discussion that it becomes possible to deliberate on such ideas as data-driven decisions and even evidence-based practices” (Sabo-Flores, 2014, para. 14).

This lesson about the role of ET and ToC models as tools for adaptive management, especially in complex community development contexts, has heretofore been insufficiently addressed. While addressing that role is beyond the scope of this paper, one aspect of our ongoing research on ET is focused specifically on adaptive management and on how every development practitioner, equipped with ET, can be a “knowledge worker.”

### **Barriers to fostering a culture of ET must be addressed**

At each workshop, we solicited participant perspectives on what barriers might exist that could prevent a culture of ET from taking hold within their project or organization. Some barriers were particular to only one category of participant, while others were universal across all categories. For Level 1 participants (front line field staff and volunteers), the barriers prioritized as most important included: Incomplete understandings of ET, lack of simple language training manuals to support continued practice of ET, and lack of backup support. For Level 3 participants (organizational management), barriers included those related to the functioning of donors: Short project cycles, rigidity of planning and reporting structures, and difficulties in instilling ET because it is not a tangible tool. Across all three levels of participants, there was a shared sense that ET would flourish more with the project and organization if there were:

1. ***Better communication channels, especially for feedback, between all levels of the system.*** Ironically, every “lower” level of the hierarchy claims to feed information to the “higher” level and complains on not receiving rapid or regular feedback from that higher level, while the higher levels complain that the lower levels don’t communicate the realities of their situations through the formal channels. Participants at multiple levels said that communication could be enhanced through ET if there were more “time to listen” built into project processes, coincidentally echoing the title of the book, *Time to Listen: Hearing People on the Receiving End of International Aid* (Anderson, Brown, & Jean, 2012).
2. ***Flexibility in management decisions.*** The final step, and the ultimate goal, of ET practice is to make informed decisions in preparation for action. That action is adaptive management whereby small (or sometimes large) project processes are altered to avoid failure and favor success. Participants perceived the need for increased flexibility in project management processes if the insights from ET were to actually make a difference. Often, these management decisions involve people outside of the M&E and project content function areas of the organization—there may be changes required in budgeting, business development, and human resource management—hence another reason why including a wide array of Level 3 participants is important.
3. ***Trust, openness to critique, and motivation.*** This last barrier, and the ways in which it could be overcome, are perhaps less tangible. Yet the need for trusting relationships between everyone involved (including between farmers and field staff) was resoundingly stated by many workshop participants. This is one way in which ET promotion and more

well-established approaches to community base participatory research align quite strongly (Jagosh et al., 2015); those of us who are interested in promoting ET should look to participatory research for guidance on how to intentionally address the need for trusting relationships into our ET work. The issue of motivation (i.e., to do one's job and to engage in ET) is something of a feedback loop or a chicken-and-egg scenario. Motivation begets ET and vice versa. Yet it remains to be seen whether or not, in cases where there is low motivation, ET can still effect positive changes. In our pilot programs, there was a natural motivation for and inclination towards ET, so a broader implementation of our workshops and a more robust study of its effects would be needed to examine this question.

This paper examines the notion of “evaluative thinking” as it is applied in an ECB initiative designed to help program administrators and implementers reveal, question, and rethink the assumptions that pervade their work. We see our ET promotion work as a way to support and nurture “reflective practitioners who are able and willing to challenge continuously their own assumptions and the assumptions of their colleagues in a constructive way which generates new insights and leads to the development of explicit wisdom” (Britton, 1998, p. 5).

Often, introductory lessons on logic or ToC models refer to a well-known cartoon by Sidney Harris (see Figure 2), in which two men are standing in front of a chalk board. On the board, there are equations on the left, equations on the right, and, in the middle, the phrase “then a miracle occurs.” One man says to the other, “I think you should be more explicit here in step two.”

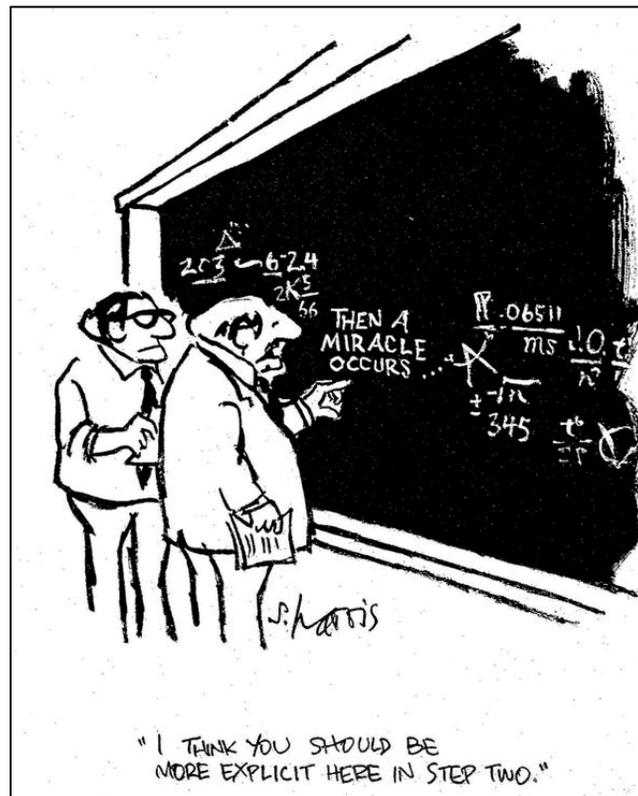
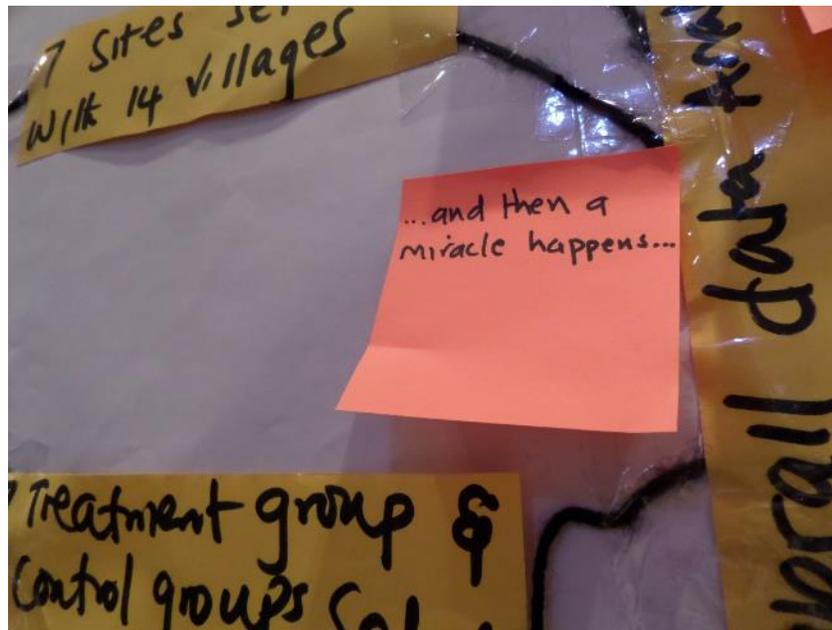


Figure 2. “I think you should be more explicit here in step two” cartoon by Sidney Harris. Copyright by sciencecartoonsplus.com. Used with permission.

We referred to that Harris cartoon in one of our workshops, and then a participant evoked it while giving feedback about a rather large leap of logic he noticed in a peer group's ToC model (see Figure 3). Assumptions, conjectures, and miracles are all part of the sometimes tenuous articulation of program logic through ToC models and other schematic diagrams used in community development settings. It is our hope that, by intentionally fostering ET as a way to help community development practitioners work with assumptions and conjectures, their supposed miracles can be better understood. We believe this can then bolster adaptive management for program success, and ultimately, bring about improved outcomes for communities.



*Figure 3.* Peer review comment from a participant about a peer group's assumptions; based on Sidney Harris' cartoon.

### References

- Anderson, M. B., Brown, D., & Jean, I. (2012). *Time to listen: Hearing people on the receiving end of international aid*. Cambridge, MA: CDA Collaborative Learning Projects. Retrieved from <http://www.cdacollaborative.org/media/60478/Time-to-Listen-Book.pdf>.
- Baker, A. (2011). Evaluative thinking in philanthropy pilot. Report submitted to the Bruner Foundation, Effectiveness Initiatives. Lambertville, NJ: Author. Retrieved from [http://www.evaluativethinking.org/docs/eTip.FINAL\\_REPORT.V8.pdf](http://www.evaluativethinking.org/docs/eTip.FINAL_REPORT.V8.pdf)
- Bennett, G., & Jessani, N. (Eds.). (2011). *The knowledge translation toolkit: bridging the know-do gap: A resource for researchers*. New Delhi, India: Sage.
- Britton, B. (1998). *The Learning NGO*. INTRAC Occasional Paper Series, No. 17. INTRAC, Oxford.
- Brookfield, S. (1987). *Developing critical thinkers*. San Francisco, CA: Jossey-Bass.
- Brookfield, S. (2012). *Teaching for critical thinking: Tools and techniques to help students question their assumptions*. San Francisco, CA: Jossey-Bass.
- Buckley, J., Archibald, T., Hargraves, M., & Trochim, W. M. (2015). Defining and teaching evaluative thinking: Insights from research on critical thinking. *American Journal of Evaluation*, 36(3) 375-388.
- Cognitive Edge (2015). Retrieved from <http://cognitive-edge.com/>
- de Bono, E. (1999). *Six thinking hats*. London: Penguin.
- Douthwaite, B., Alvarez, S., Thiele, G., & Mackay, R. (2008). Participatory Impact Pathways Analysis: A practical method for project planning and evaluation. *ILAC Brief*, 17.
- Graig, E. (2015). *The Theory of Change Approach*. Retrieved from <http://www.slideshare.net/EricGraig/the-theory-of-change-approach>
- Graig, E. (2015, July 14). Re: Slide Share on Theory of Change. Email message to the EvalTalk list serve of the American Evaluation Association.
- Guijt, I. & Retolaza, I. (2012). Defining 'Theory of Change.' Paper based on Hivos E-dialogues input by Jim Woodhill, Paola Rozo, Simone van Vugt. March.
- Guijt, I. (2007). *Critical Readings on Assessing and Learning for Social Change: A Review*. Paper prepared for Prepared for the Power, Participation and Social Change Group, Institute of Development Studies, Brighton, UK. November.
- Hargraves, M., Buckley, J., Johnson, M., Archibald, T. (2015). Review Guide for Pathway Models. The Netway – Software for Evaluation Planning. Retrieved from <http://www.evaluationnetway.com/guide/evaluation-guidance/pathway-model>
- Hopson, R. (2009). Reclaiming knowledge at the margins: Culturally Responsive Evaluation in the current evaluation moment. In K. Ryan & B. Cousins (Eds.). *Handbook of Educational Evaluation* (pp. 429-446). Los Angeles, CA: Sage.
- Jagosh, J., Bush, P. L., Salsberg, J., Macaulay, A. C., Greenhalgh, T., Wong, G., ... & Pluye, P. (2015). A realist evaluation of community-based participatory research: partnership synergy, trust building and related ripple effects. *BMC public health*, 15(1), 725.
- Lederach, J. P., Neufeldt, R., & Culbertson, H. (2007). *Reflective Peacebuilding: A Planning, Monitoring and Learning Tool Kit*. Joan B. Kroc Institute, University of Notre Dame and CRS, Baltimore.
- Nkwake, A. M. (2013). *Working with assumptions in international development program evaluation*. New York: Springer.
- Patton, M. Q. (2014). Preface. In L. Griñó, C. Levine, S. Porter, & G. Roberts, G. (Eds.). *Embracing evaluative thinking for better outcomes: Four NGO case studies*. InterAction and the Centre for Learning on Evaluation and Results for Anglophone Africa (CLEAR-

- AA). Retrieved from <http://www.interaction.org/document/embracing-evaluative-thinking-better-outcomes-four-ngo-case-studies>
- Preskill, H., & Boyle, S. (2008). Insights into evaluation capacity building: Motivations, strategies, outcomes, and lessons learned. *The Canadian Journal of Program Evaluation*, 23, 147–174.
- Preskill, H., & Torres, R. T. (1999). *Evaluative inquiry for learning in organizations*. Thousand Oaks, CA: Sage.
- Ramalingam, B. (2013). *Aid on the edge of chaos: Rethinking international cooperation in a complex world*. Oxford: Oxford University Press.
- Ruesga, G. A. (2010). *Philanthropy's Albatross: Debunking Theories of Change*. The Greater New Orleans Foundation.
- Sabo-Flores, K. (2014). Data-Driven Decisions: A Myth or Reality for Out-of-School Time? *Youth Today*. November 25, 2014. Retrieved from <http://youthtoday.org/2014/11/data-driven-decisions-a-myth-or-reality-for-out-of-school-time/>
- Schwandt, T. A. (2008). *Educating for intelligent belief in evaluation*. *American Journal of Evaluation*, 29(2), 139-150.
- Schwandt, T. (2015). *Evaluation foundations revisited: Cultivating a life of mind for practice*. Stanford, CA: Stanford University Press.
- Scriven, M. (2001). Evaluation: future tense. *The American Journal of Evaluation*, 22(3), 301-307.
- Stein, D. & Valters, C. (2012). Understanding 'Theory of Change' in International Development: A Review of Existing Knowledge. Paper prepared for The Asia Foundation and the Justice and Security Research Programme at the London School of Economics and Political Science.
- Stetson, V. Sharrock, G. & S. Hahn. (2004). *ProPack: The CRS Project Package. Project Design and Proposal Guidance for CRS Project and Program Managers*. Catholic Relief Services, Baltimore, MD.
- Taylor-Powell, E. (2010, November). Building evaluation capacity of community organizations. Materials from a professional development workshop presented at the American Evaluation Association annual conference, San Antonio, TX.
- Trochim, W., Urban, J. B., Hargraves, M., Hebbard, C., Buckley, J., Archibald, T., Johnson, M., & Burgermaster, M. (2012). *The Guide to the Systems Evaluation Protocol* (v2.2). Ithaca NY. Retrieved from <https://core.human.cornell.edu/research/systems/protocol/index.cfm>.
- Urban, J. B., & Trochim, W. (2009). The Role of Evaluation in Research—Practice Integration Working Toward the “Golden Spike”. *American Journal of Evaluation*, 30(4), 538-553.
- USAID. (2013). *Complexity Aware Monitoring*. Discussion Note. Version 2.0. Washington DC.
- USAID. (2015a). *Program Cycle Learning Guide – BETA*. Retrieved from <http://usaidlearninglab.org/learning-guide/program-cycle-learning-guide-beta>.
- USAID. (2015b). *Technical References for FFP Development Food Assistance Projects*. Bureau of Democracy, Conflict, and Humanitarian Assistance Office of Food for Peace (FFP). Washington D.C., USA. May.
- Van Es, M. and Guijt, I. (2015). The Politics of Results and Evidence in International Development: Playing the Game to Change the Rules? In R. Eyben, I. Guijt, C. Roche & C. Shutt (Eds.). *The Politics of Results and Evidence*. Practical Action Publishing: Rugby, United Kingdom.
- Whitfield, S. (2015). *Adapting to climate uncertainty in African agriculture: Narratives and knowledge politics*. New York: Routledge.

- Williams, B., & Hummelbrunner, R. (2011). *Systems concepts in action: A practitioner's toolkit*. Palo Alto, CA: Stanford University Press, p. 92.
- Wilson, A. L., & Hayes, E. R. (Eds.). (2009). *Handbook of adult and continuing education*. San Francisco, CA: Jossey-Bass.
- Yang, H., Shen, J., Cao, H., & Warfield, C. (2004). Multilevel evaluation alignment: An explication of a four-step model. *American Journal of Evaluation*, 25(4), 493-507.