**4.669...**
Evaluation & Planning

# Revealing Implicit Assumptions:
# Why, Where, and How?

Prepared for Catholic Relief Services

By:
Jonathan A. Morell, PhD
jamorell@jamorell.com
734 646-8622

# Executive Summary

This report contains the results of a multiple comparative case study that was conducted for the purpose of providing Catholic Relief Services (CRS) with a means to reveal implicit assumptions. Assumptions can reside in different "locations" – budgets, staff beliefs, funding proposals, organizational culture, mission/goal statements, makeup of human capital, stakeholders' expectations, history of previous activities, and schedules; and can operate at different levels of granularity – single programs, portfolios of programs, and the organization as a whole.

Understanding assumptions can play a part in two types of information use. "Instrumental use" invokes specific information to inform a specific decision. "Conceptual use" has a more diffuse impact on opinion and belief. Both kinds of use need to spread throughout the agency.

Questioning assumptions should be designed into routine tasks and distributed across multiple regions of an organization's functioning. The topic should be as accepted as subjects such as budgets, timelines, or staffing. It helps for different groups engaged in assumption exercises to have some knowledge of each other's work, but tight coordination would be dysfunctional. Both individual opinion, especially at the field level, and group knowledge must be considered. Sometimes consensus is needed, sometimes it is not. Added value from these assumptions would derive from maintaining a centralized database to track common assumptions and shifts in assumptions over time.

In the last few years, for example, CRS has invested in an initiative to promote evaluative (critical) thinking that places assumptions center stage in discussions. Reasons where unquestioned assumptions may impede effectiveness include: 1) the interface between a program and external partners, 2) beliefs about impact beyond immediate goals, 3) willingness to consider negative consequences, and 4) system dynamic behavior of program activity and impact.

Two types of schedules for detecting implicit assumptions need to be used. "Event driven" links efforts to specific activities, e.g. writing a proposal. "Time driven" is carried out at fixed intervals. Time driven scheduling is important because programs may evolve in subtle but profound ways.

Two types of questions can be asked. The first asks people to reflect critically on the programs and activities they are involved with on a routine basis. As this process takes place it is beneficial to ask about unintended and/or negative and positive developments. The second type of question asks people to step outside of their familiar frames of reference and to reflect on radically different approaches to accomplishing stated goals. These same methods can be used to investigate assumptions that are contained in "artifacts" such as mission statements or schedules.

Theories of change (TOCs) are dense with implicit assumptions. 1) There is no consequential difference between "and" and "or" relationships. 2) Outcome chains can be specified beyond the near-term. 3) If a model is correct locally, it is correct globally. 4) All causal connections are of equal strength and certainty. 4) One version of a TOC will suffice. 5) Time and rates of change do not matter. 6) Outcomes stem only from program action, not from the existence of the program itself.

Sometimes a dedicated effort to question assumptions is needed, e.g. a sense that opportunities are being missed, or that priorities are misplaced, or that the operating environment is changing. Methods borrowed from the field of Planning can be useful, e.g. Assumption Based Planning, Backcasting, and Multiple Scenario Planning.

# Contents

.

# Figures

# Tables

## Purpose

Catholic Relief Services (CRS) appreciates the influence that implicit assumptions can have on program design, on the link between program and outcome, and on interactions among outcomes. They know that failure to recognize implicit assumptions can result in programs failing to meet their objectives, or to miss opportunities in an otherwise successful program. Either way, both CRS as an organization, and its specific programs, would be better off had the assumptions been known.[2]

Recognition of the importance of knowing assumptions has led CRS to initiate an organizational change effort to sensitize its staff to the importance of questioning the assumptions behind its actions. The work reported here is an outgrowth of that activity. One aspect of this work is research to develop a method by which CRS can systematically detect consequential implicit assumptions. A second aspect of this work is to further CRS's effort at organizational change.

> A tacit assumption or implicit assumption is an assumption that includes the underlying agreements or statements made in the development of a logical argument, course of action, decision, or judgment that are not explicitly voiced nor necessarily understood by the decision maker or judge. Often, these assumptions are made based on personal life experiences, and are not consciously apparent in the decision-making environment. These assumptions can be the source of apparent paradoxes, misunderstandings and resistance to change in human organizational behavior.[1]

## Method

The methodology employed was a "multiple comparative case study" that comprised CRS' operations in in Ghana and in Malawi.[3] The intent was not to conduct an M&E-like exercise, but to use knowledge of CRS activities in those locations as sources for developing an assumption detection method that would be appropriate for CRS as a whole.

Fourteen CRS staff in Ghana were interviewed, eleven individually and three as a group. Locations were in Tamale and Walewale. These interviews focused on testing methods of asking people to articulate the implicit assumptions that characterized their work. Interviews in Malawi were conducted in three locations. CRS staff in Balatyre, two locations of implementing partners – Save the Children Blantyre Rural District, CARE in Nsanje District. These interviews focused on people's narratives about their work. The objective was to discern how assumptions played a part in their activities.

---

[1] https://en.wikipedia.org/wiki/Tacit_assumption
[2] CRS's understanding of the need to attend to assumptions fits within a larger context in which the role of assumptions is recognized in the fields of Evaluation and Planning. See: (Jonathan A. Morell, 2010; Nkwake & Morrow, 2016)
[3] Yin (2014) provides an in-depth discussion of case study methodology.

## Where are assumptions?

Assumptions are baked into many aspects of an organization.

- Budgets
- Staff's beliefs
- Funding proposals
- Organizational culture
- Mission/goal statements
- Makeup of human capital
- Stakeholders' expectations
- History of previous activities
- Schedules of varying timeframes

Each of these may be relevant within three levels of granularity:

- Single programs,
- Collections of similar programs, and the
- Organization as a whole

Thus, one way to categorize the "location" of an assumption is with a matrix, as depicted in Table 1. For any assumption seeking exercise, some of the cells will contain meaningful programmatic assumptions, and some will not. The work of determining the relevant cells is in itself an assumption seeking activity. For instance, concluding that a theory of change (TOC) is relevant only to a single program but not to a portfolio of programs is an indication of beliefs about the relationship between program and groups of related programs.

| Table 1: Where do assumptions live? | | | |
|---|---|---|---|
| | Single programs | Portfolios of similar programs | Whole organization |
| Budgets | | | |
| People's heads | | | |
| Funding proposals | | | |
| Theories of change | | | |
| Organizational culture | | | |
| Requests for proposals | | | |
| Mission/goal statements | | | |
| Makeup of human capital | | | |
| History of previous activities | | | |
| Schedules (of varying timeframes) | | | |

In some cases, assumptions can also be mapped into a project lifecycle, from project initiation to close out. This mapping does not refer to the actual set of activities that are going on at any particular time. Rather, it refers to the logic that is operating at those stages. As an example, even though a project may be operating in a start-up phase, it may be worthwhile to think about assumptions that may be operating when the project is operational.

# How does knowledge about assumptions affect an organization?

To telegraph a finding from the interviews that were conducted, two findings are relevant to this discussion. First, everyone is able to identify assumptions, and second, no interviewee identified an assumption that he or she could do anything about. In all cases the necessary action lay at a higher level of the organization. These are extremely noteworthy findings because they speak to the process by which knowledge about assumptions can transform into action. Two principles of knowledge use are relevant. One pertains to types of use, and the other to decision making in organizational settings.

## Instrumental and Conceptual use of Information

Upon contemplating these findings, the first tendency is to think about identifying the person in the organization who can act, and to refer the discovery about the implicit assumption to him or her. But there is no such person. There is no absolute monarch who can act on his or her own accord. Why? Because the freedom of action of anyone in an organization faces a multitude of constraints. To name but a few: 1) funders' priorities, 2) organizational culture, 3) established business processes, 4) opinions of employees, 5) installed intellectual capital, 6) time to plan and act, 7) competing priorities, and 8) the momentum generated by everyday choices, both large and small. Because action is channeled by these factors, acting on knowledge of a previously implicit assumption will require a coalition, or at least, a group of likeminded colleagues, employees, and donors.

The above description of organizational life is overstated for the sake of argument. There certainly are situations where if a state of affairs is known, there is a person, or at least a small group of people, who can take action. The metaphor is knowledge as a tool. If I need to tighten an 8mm bolt, I can grab an 8mm wrench and tighten the bolt. If evaluation tells me that I need more expertise in business process for small land holders, I can hire that expert instead hiring an expert on seed variety. But there are not many such cases like this, particularly when consequential decisions are needed.

While relatively infrequent, these kinds of instrumental use scenarios are not uncommon within CRS, where at the activity level, it is aligned with CRS's principle of "subsidiarity". One aspect of this principle is the legitimacy for field staff to make adjustments to tasks if so doing would improve the effectiveness of operations and services. Such alignment fits within a broader context of successfully involving field staff in decision making. "Building relationships with both field staff and project individuals around conversations concerning the validity of assumptions that underpin ongoing interventions has been very fruitful, with field staff demonstrating their desire to contribute meaningfully to decision-making."[4]

Most of the time a different dynamic is at play. To continue the previous example, I may be in a situation where experience and belief favor reliance on agricultural experts, even though a succession of evaluations indicates that more business support is needed. I may not use that information directly in hiring decisions, but the knowledge may creep into my program theories, or affect my inclinations to consider the need for business expertise in my projects. More important, the knowledge may affect the collective beliefs of the people with whom I work. In this scenario, I and the people I work with are using the information to change how we conceptualize our priorities. It may be impossible to point to any discrete decision, but the knowledge has had a powerful effect on what we believe and what we do.[5]

---

[4] (Archibald, Sharrock, Buckley, & Young, 2018) page 88.
[5] This description leans heavily on the work of Carol Weiss: (Farrell & Coburn, 2016; Weiss, 1977)

## Decision Making in Organizational Settings

It is misleading to think that there are well defined boundaries that mark the time when information should be assessed and a decision made. Rather, life in an organization is a never-ending succession of behavioral and psychological micro-decisions that accumulate to constrain the range of choices that are viable when it comes time to make a formal decision. Often, we are not even aware that such a micro-decision has been made. Rather, it is a continual and subtle process of "knowledge creep and decision accretion".[6] It is possible to make this process more transparent, as for instance, with CRS's practice in Zambia, where it uses a checklist during supervisors' monthly meetings to make sure that assumptions are scrutinized. Still, the process of micro-decisions affecting formal decisions cannot be eliminated. It's presence must be treated as a fact of organizational life.

## How can knowledge about assumptions be used?

Considering the above, we know that: 1) People can identify assumptions that they are personally powerless to act on. 2) Conceptual use of information favors collective action, or at least, collective agreement. 3) Willingness to commit to action is determined by a process of continual, incremental inclinations to act. Taken together, these understandings imply that it does not matter that individuals identify assumptions they personally cannot act on. What matters is widespread general agreement that knowledge about particular assumptions *should* be acted upon.

Knowledge about assumptions can also serve an organization's purpose if patterns and trends are observed over time. What assumptions come up most frequently? Which seem most problematic? The answers to questions like these may have implications that cut across specific projects. Thus establishing a data base on implicit assumptions that have been revealed might be worth the effort. Maintaining a database, however, should not imply an effort at tight coordination among whatever people or groups are exploring assumptions for their own purposes. People need to be free to solve local problems.

# Some Promising Places to Seek Implicit Assumptions

Interviews with CRS personnel revealed several regions where failure to recognize assumptions played major part in misunderstanding what consequences a program was having.

- Interface across partners
- Range of near-term impact
- Perverse consequences
- System dynamics

## Interface Across Partners

Project plans and TOCs often call for collaboration between the program implementer and other organizational entities, e.g. government agencies, health care providers, schools. It is common for programs to have an overly simple view of how to make this collaboration happen. It is too easy to assume that just because an entity agrees to collaborate, that it is able to collaborate. The problem is particularly acute when collaboration stretches over time, or there is a requirement to transfer responsibilities.

---

[6] (Weiss, 1980)

A beginning assumption on the part of the program may be along the lines of: They agreed to participate, so they will." But consider some of the embedded assumptions that quickly spring to mind: 1) the people I am negotiating with in the partner organization are in fact able to deliver active and willing cooperation, over time, from the organization's personnel. 2) Participation will not have negative consequences for my partner's normal operations. 3) Collaboration will remain a priority despite the possibility that other outside demands will be made on my partner. 4) The culture of our organizations is compatible. 5) I have done an adequate job of explaining what is needed.

The starting assumption in the above example was: "They agreed to participate, so they will." That assumption may be correct, and it probably is in many cases. But it can be a mistake to take that assumption for granted.

## Range of Near-term Impact

TOCs often identify a small number of short term impacts. As examples: 1) the near-term outcomes of a program designed to provide small farmers with the ability to negotiate with middlemen will be higher income and improved material well-being. 2) The short term impacts of a program designed to make village councils more effective will improve governance. Building on the above examples, consider some other outcomes that may also arise soon after implementation. 1) Farmers who become better at negotiating in business may use that ability to advocate more effectively with government agencies. 2) In addition to improved governance at the council level, members of those councils may use their newly acquired skills in other settings, or for personal gain.

Not identifying impacts means that an evaluation mechanism to assess those impacts will not be established. Eventually the omission may be noted and evaluation begun. However, waiting for the effect to be obvious implies a short time between realization that evaluation is needed, and the time when evaluation must begin. Shorter preparation time leads to weaker evaluation.[7] Short preparation time is problematic for any outcome, but it is the short term outcomes that organizations need to report to their sponsors.

## Perverse Effects

Program designers assume that undesirable outcomes will not appear, or at least, they do not deem the possibility of such outcomes important enough to require a systematic monitoring mechanism. The "no undesirable effects" assumption is never stated explicitly, but it is clear from the TOCs that are developed. Those TOCs always contain only desirable outcomes. Omitting undesirable consequences may be necessary to satisfy funding and political considerations, but it also produces evaluation results that are limited in their ability to guide policy. What makes this assumption so problematic is that given the nature of how complex systems evolve over time, it is impossible to know about some kinds of outcomes in advance, but it is reasonable to assume that undesirable outcomes will appear. It is precisely for this reason that an ongoing detection mechanism is so important.

Another aspect of this problem is that most TOCs identify only highly correlated outcomes. For instance, an AIDS prevention program may identify outcomes such as AIDS awareness, use of counseling services, safe sex practices, medication adherence, and incidence of AIDS. Narrowing the focus of the TOC to

---

[7] Jonathan A. Morell (2010) discusses this issue in detail. See Chapter Five, "Shifting From Advance Planning to Early Detection" and Chapter Six, "Agile Evaluation".

these outcomes is akin to assuming that the success of the program will not limit the success of other programs that are operating in the same ecosystem.

This assumption may not be true. As a simplified example, consider a health care system that provides four services: AIDS prevention and treatment, tertiary care, primary care, and prenatal care. Imagine that a disproportionate amount of resources are pumped into special programs to deal with AIDS. What will happen to the career choices that health care professionals make, or to the attention of health policy planners, or to informal relationships among health care professionals? They will all gravitate toward the AIDS program. As a result the AIDS metrics will improve, but the other programs may suffer. Another type of perverse effect may emanate from inequalities that arise when benefits are spread unevenly across a population. In such cases potential recipients of a benefit may act in such a way as to become eligible for those benefits. A woman may decide to get pregnant if she will then receive various types of assistance. A town may twist its sanitation statistics to become eligible for assistance with programs that assist with WaSH (Water, Sanitation, and Hygiene.

## System Dynamics

"System dynamics" refers to a methodology for modeling system behavior in terms of causal loops, stocks, and flows.[8] In its rigorous form models are run on a computer. It would be foolish to apply a rigorous system dynamics methodology to a TOC. It would simply not be worth the effort, and in any case, a good model requires more precise data than a TOC could provide. On the other hand, TOCs almost never acknowledge that system dynamic factors matter. The implicit assumption is that they do not. This assumption may not be true.

Consider some examples. Most TOC do not specify timelines. As a result, it may take longer for an outcome to appear than the lifecycle of the program. For some outcomes that may not be a problem because the time lag is obvious and expected. But that may not be true for other outcomes. Imagine a two-year program designed to improve agricultural yield. The outcome chain might be: make program known → technical assistance →adoption of new farming methods → improved yield → higher income → improved quality of life. A TOC will almost never specify which of these outcomes might realistically be observed within two years of program start up. Will it take a month to start training farmers, or a year? Will the program begin a few months before the growing season, or after planting has begun? Will farmers adopt the new techniques immediately, or will they think about it for a while and wait a growing season? These questions are consequential because it may affect whether the program evaluation will be able to demonstrate improved quality of life. Even absent a formal systems dynamics model, a systems dynamics perspective would lead program designers to consider these kinds of timing behaviors.

A second example of taking a system dynamics perspective is "capacity". Again, drawing from the above example, the TOC says nothing about how quickly farmers can be recruited versus the capacity of the program to do the training. That is knowledge that can have a profound effect on expectations for program success. It is not necessary to have precise knowledge of the recruiting and training rates, but it would be helpful to have a general sense of the pace of events.

---

[8] https://en.wikipedia.org/wiki/System_dynamics

## Event and Time Driven Scheduling for Questioning Assumptions

Efforts to identify assumptions can be scheduled with respect to significant events and to the calendar. Each has its own uses.

### Event Driven Process

"Event driven" refers to a process of combining assumption questioning with routine activities. "Routine" does not have to mean "frequent" or "regular". It does mean "incorporated into accepted practice and deployed as situationally appropriate". The goal is to include a consideration of assumptions with all the other considerations that go into planning discussions, i.e. when discussions take place about schedules, program contact, budgets, staffing, choices among activities, priorities, and so on. It is not necessary to *always* pay attention to assumptions. Just as it may be unnecessary to consider budgets or staffing, it sometimes may be unnecessary to discuss assumptions. But the possible relevance of budgets and staffing will always be latent in whatever discussions people have, and they have the mindset to know when budgets and staffing should be part of a discussion. Moreover, an appreciation of budgets and staffing exists at a group level. Any single person who brings up these topics can be confident that the legitimacy of talking about these subjects will be accepted by all. Also, people have the technical and experiential knowledge needed to discuss budgets and staffing in a meaningful way. So too should it be with the topic of "assumptions".

### Time Driven Process[9]

As has been recognized by USAID Food for Peace, it is important to conduct a formal assumption questioning exercise at regular intervals, regardless of whether there is any obvious need to do so. This tactic is important because programs tend to change and evolve over time. Often any particular change may be insignificant, but the cumulative effect can be dramatic. Also, even if a program is stable, the setting in which it is operating may have changed. The frequency of this exercise depends on local conditions. Every six months feels too frequent except for very fast changing situations. More than two years seems too infrequent, even if the program and its setting seem stable.

## Eliciting Information from People and Groups

It is wise to assume that conversations about assumptions will be more fraught with disagreements and sensitivities. Caution is needed because any assumptions discovery exercise has considerable potential to:

- threaten cherished beliefs,
- engender disagreement, and
- challenge established process.

One implication of the sensitivity of discussing assumptions is that care is needed when working with groups because of their potential to yield untrustworthy insight. For instance: Status difference among group members may stifle opinion. Group members who speak frequently or first can have an outsize influence on deliberations. Paradigmatic differences may impede communication, as for instance if a

---

[9] The argument presented in this section draws on a line of reasoning concerning the use time driven data collection as a tactic for using project schedules as evaluation logic models (Jonathan A. Morell, 2018).

yield-oriented agriculturalist ignores a nutritionist's observation that people do not like the taste of a new crop variety. Difficult or protracted argument may be avoided, resulting in seeming agreement on minimally acceptable solutions.

One approach to avoiding the snares of group dynamics is to invoke any of a variety of tactics that are practiced by experienced group leaders. As examples: As part of deliberations, group members can be asked to submit opinions to the group leader, who can then use the information to guide ongoing discussion. Large groups can be broken into smaller groups who then report back to the whole. Members of the group can be informed that one of them has been secretly designated the devil's advocate, with the responsibility of taking a contrary view. Because nobody knows who the devil's advocate is, all might be more willing to express dissent. Individual opinions can be collected first, and that information used by the group leader to conduct the group's deliberations. Ideally, all this would be set within an organizational culture of "psychological safety in the workplace", thus increasing people's willingness and motivation to express their opinions.[10]

A more intense approach would be to employ a Delphi methodology.[11] This process begins with a neutral/trusted party collecting individual opinion. It continues with an analysis of what respondents seem to disagree about, which is then fed back to all participants for their reaction. Several rounds of this process can take place, as necessary. Using this technique, members of the group can interact with diverse opinion without the bias of group process intruding.

Choices about the mechanics of obtaining information need to include a judgement about the need for consensus. The greater the need for consensus, the more care and effort is needed in eliciting opinion. However, often it is not important to achieve consensus. It is only important to have an array of informed opinion.

Also, a judgement must be made about the amount of diverse opinion that is desirable. Diversity is valuable, but it is also costly in the sense that effort is needed to recruit people who are removed from the activity under consideration. The broader the range, the further removed people will be from commitment to whatever program is being studied, the harder it will be to schedule them, and the greater the likelihood of having to contend with disagreement.

## Types of Questions

Two broad categories of queries are possible – questions that ask people to talk about what their lived experience and asking people to discuss possibilities that are outside the scope of their activities. Both are important. The second is more difficult.

### *Asking People about their Lived Experience*

Several different types of questions are useful for helping people perceive the assumptions that are operative in their work lives. People find all of them intriguing and have little difficulty in providing thoughtful answers. As a practical matter, starting with any of these questions can easily transition to another. Thus, the choice of a starting question should be regarded as entry into a process that can range across many ways of revealing assumptions.

---

[10] For more information on achieving a culture of psychological safety in the workplace see the work of Amy Edmonson at https://www.youtube.com/watch?v=LhoLuui9gX8
[11] https://en.wikipedia.org/wiki/Delphi_method

Ask the 5 Why's:[12] This technique was has its origins in the quality improvement efforts of the Toyota corporation. It is adapted and modified here to serve the purposes of revealing assumptions. (In its pure form the third column is absent.) The method consists of beginning with an observation and then tracing a causal path. "Five" is a rule of thumb. In any particular situation more or fewer levels will suffice. Table 2 shows a simple example of how this method can be applied.

| Table 2: Simple Example of a Modified 5-why Approach to Revealing Assumptions | | |
| --- | --- | --- |
| **Question** | **Answer** | **What must our assumption have been?** |
| Why are we having difficulty transitioning program activities to our government partners? | They are not putting in enough time working with us. | |
| Why are they not putting in enough time to work with us? | They are busy. Working with us is a low priority | When we started the program we thought they would work with us because what we were doing was mission relevant for them and it would help them achieve some of their major goals |
| Why is it a low priority? | ▪ They don't have the resources<br>▪ Compared to everything what they are doing, this is really not such a high priority | ▪ Resources would not be a problem.<br>▪ Compared to other things they are doing, this would be a high priority. |
| And so on, following each part of the answer. | | |

Of course, there is always the possibility that information developed for the second and third columns of Table 2 will be subject to debate. Table 3 shows an example of such a possibility. It is not important to reach a consensus about what the correct information is. It is important to capture the range of possibilities and to follow the causal paths leading to each.

| Table 3: Example of Debate Over the Correct "Why" | |
| --- | --- |
| **Question** | **Answer** |
| Why are we having difficulty transitioning program activities to our government partners? | <u>Answer #1</u><br>They are not putting in enough time working with us.<br><u>Answer #2</u><br>There is resistance in the higher echelons of the organization |

---

[12] https://en.wikipedia.org/wiki/5_Whys

Create a causal (fishbone) diagram:[13] This is another method that is borrowed from the quality improvement methods found in Industrial Engineering. The approach is to construct a deterministic model of the inputs and conditions needed to achieve a particular goal. Although these diagrams are not used much in the field of Evaluation, they are a way of depicting a theory of change.[14] In this case, it is a form that is particularly amenable to identifying assumptions. In its simplest form the diagram consists of an arrow with an objective at the far right, and major requirements for success intersecting the arrow. The model is then elaborated with each requirement decomposed to show its own requirements. The process can be driven to whatever level of detail is appropriate. Figure 1



**Figure 1: Example of a Fishbone Causal Model**
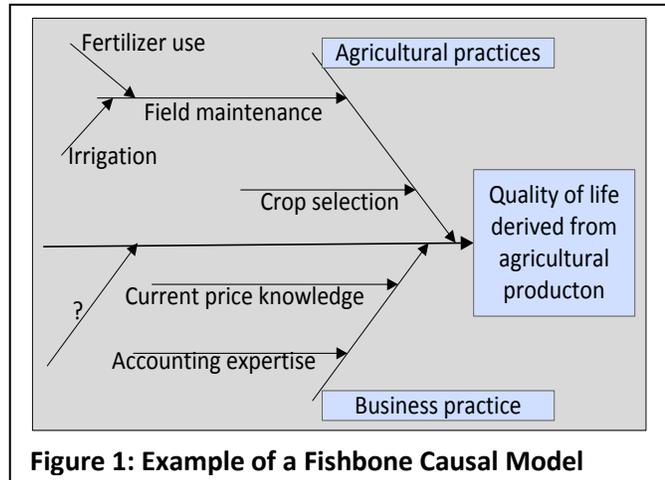
How do we know that the choice of inputs is correct? For instance, Figure 1 omitted inputs for the general socio-economic and political environments in which the program is operating. Was this omission a correct assessment of the causal structure, or should it have been included? What else might be missing? That discussion itself will surface a multitude of assumptions. Also, once the model is constructed, the knowledge foundation underlying each element can be rated. It is a good way of differentiating what we know from what we think we know.

Finally, for the purposes of exploration and analysis, there is no reason to construct only one model. Consensus is not needed. What is needed is a range of opinion about assumptions. In fact having several models might be revealing because knowledge about assumptions exists not only in the details of the model, but in its overall structure as well.

Ruminate on success and failure: Given the chance, people like to be thoughtful and reflective. Ask people any of the following questions and you are likely to get elaborate and well-reasoned answers:

▪ What's going well?
▪ What's not going well?
▪ What will need to be changed in the near future?
▪ What will need to be changed in the longer term?

From there it is but a short jump to assumptions.

▪ Why are those things going well?
▪ Why are those things not going well?
▪ Why will those things need to be changed in the near future?
▪ Why will those things need to be changed in the longer term?

---

[13] https://en.wikipedia.org/wiki/Ishikawa_diagram
[14] The question of depicting causal relationships is the subject of extensive treatment in many different fields For a discussion of the characteristics of model forms, and many examples, see (Ritchey, 2012). Ishikawa diagrams are a common form that has a rich history in the quality improvement field.

The reason for having the positive version goes beyond the niceties of group process and facilitating discussion. Knowing assumptions underlying success can provide guidance for recognizing opportunity.

Ask about negative and unexpected outcomes: Questions about negative outcomes, or unexpected outcomes whether desirable or undesirable, unfailingly elicited thoughtful responses. Once those responses were expressed, it was a short stretch to the assumption revealing follow-up question: "Why do you think that happened?"

Ask about multiple outcomes: No matter what specific questions are asked, it is prudent to focus on more than a single outcome. Figure 2 illustrates why. There are three sets of assumptions at play. The first explains the relationship between job training and employment. The second, between employment and quality
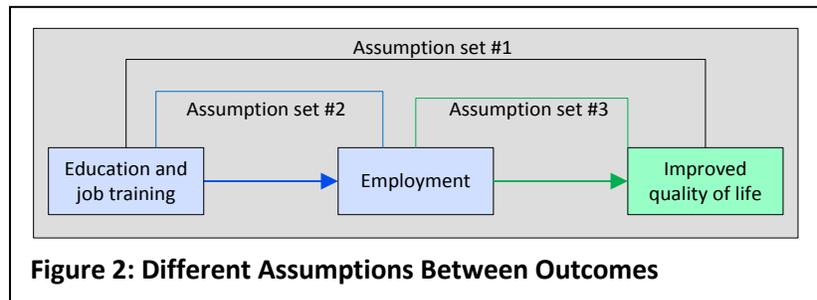


Figure 2: Different Assumptions Between Outcomes

of life. The third, the entire span between training and quality of life. It seems quite plausible that these assumptions will not be the same. For instance, the job market will play an important role in training → employment, but not between employment → quality of life.

## *Exploring Outside the Scope of Normal Activities*
Unlike the previous questions, the ones in this section ask people to engage in what they usually find to be a difficult and sometimes uncomfortable stretch of imagination. They might not be appropriate for routine use, but it is critical to include them on occasion.

Focus on outcome, ignore the program: Imagine an outcome without a program theory. With the outcome as a focus it becomes possible to pose the question: What is the best way to achieve this outcome? Combined with some of the approaches discussed above (e.g. causal diagrams and 5-whys), a focus on multiple paths to the same outcome will reveal deep insight on implicit assumptions. As an example, a program may have as its proximate goal: teach kids skills that will help them stay in school and gain competencies that will lead to meaningful employment. Why do this? Do it in order to attain the subsequent goal of actually "achieving meaningful employment". Would such an intervention be the one chosen if the focus began with employment and explored different ways to achieve it? Or at least would skill training be the only component of such a program?

Exploit skepticism: Imagine the opinion of skeptics. Pick any aspect of an organization's functioning – mission, strategic initiatives, particular programs, particular outcomes, a program theory linking action and outcome, and so on. Whatever the choice, it comes with the assumption: "This is a good idea". Turn the statement around. Make a case for the assertion that "This is not a good idea". As an example, CRS engages in training members of civic councils as a way of improving the quality of local governance. What revelations might result from seriously taking the assertion: "Training council members is not a particularly effective way to improve the quality of local governance?" Addressing that question might lead to some insight about the relationship between individual skill and group behavior, or the local social dynamics of civic behavior in the communities where the councils are active. Perhaps the idea of

changing the membership of the councils, or their number, or relationships among them, or their mission statements and scope of activity, or the way people become members, might be considered.

Even if actual skeptics cannot be recruited to the cause, it may be possible to elicit skepticism from an organization's or personnel. Some people like doing that. Or perhaps, they are true closet skeptics who have never spoken out before. This exercise would give them a chance to do so without revealing their true feelings.

# Artifacts

Table 1 identifies various artifacts in which assumptions are embedded – budgets, proposals, mission and goal statements, schedules, and histories represented by collection of these documents. (Theories of change are a special case that will be considered in the next section.) All of these contain assumptions that lie at or just below the surface. These are easy to identify. What are the stated objectives? Where is time spent? Where is money spent? What expertise and skills are brought to bear? What activities and services are provided? What is the timing from intervention to outcome? What are the milestones and tasks in project plans? Why are some tasks on a critical path while others are not? What geographical locations are chosen? Which partners are chosen? What links are chosen to develop with other activities?

What is required is a process that will reveal the assumptions behind these assumptions. Techniques for doing so can be drawn from the same methods outlined above, as illustrated in Table 4. Even though not all methods will always be applicable to all types of artifacts, Table 4 is instructive, as illustrated by the numbers in some of its cells. These numbers refer to questions that might arise from scrutiny of the numbered cells. The questions themselves are shown in Table 5.

| Table 4: Methods to Query Assumptions in Artifacts | | | | | | |
|---|---|---|---|---|---|---|
| | Assumption Revealing Technique | | | | | |
| | 5 Whys | Causal diagram | Success / failure | Negative & unexpected | Focus on event not precursors | Skeptical view |
| | | | | | | |
| Where is time spent? | 1 | | | | | |
| Where is money spent? | 1 | | | | | |
| Partners are chosen? | | | | | | |
| Stated objectives? | | | | | 3 | 3 |
| Expertise and skills are brought to bear? | 1 | | | | | |
| Activities and services are provided? | 1 | | | | | |
| Geographical locations are chosen? | | | | | | |
| Milestones and tasks in plans? | 3 | | | | | |
| Timing from intervention to outcome? | | | | | | |
| Links chosen to other activities? | | 2 | | | | 2 |
| Why are some tasks on a critical path? | | | | | | |

Note that there is not a 1:1 relationship between questions that may reveal assumptions and cells in Table 4. Rather, it is a cluster of assumption-revealing methods and questions that come together to direct attention to important issues. Deciding which cells are relevant in for any given need is itself an exercise that can reveal much insight about programs and outcomes.

**Table 5: Examples of Questions Posed by Cells in Table 4**

| Table 4 Cell # | Question posed |
|---|---|
| 1 | Why is so much more attention given to improving agricultural yield than to assisting with business skills? |
| 2 | Why do we believe that collaboration with local government health services is a critical activity, and what is the case for thinking the collaboration might not work? |
| 3 | Why did we make completion of all training a specific milestone that had to be achieved before proceeding? Did we need to? |

# Theories of Change

Because TOCs play such an important role in CRS' activities, it is worthwhile to pay special attention to the kinds of implicit assumptions that may exist in models. One dimension of assumptions in TOCs is the reasoning behind any particular relationship (or group of related relationships) articulated in the model. Another dimension of assumptions in TOCs comes not from the semantics of labels used to describe model elements, or from the characteristics discrete connections among model elements. Rather, this dimension relates to the nature of the model, or the modeling process, as a whole. Methods for identifying these assumptions are presented above in the section titled: "Artifacts".

It may be important to appreciate the implicit assumptions in a TOC, but it is equally important to feel comfortable ignoring them. Throughout the process of building and using TOC models, two principles rule.

- If a model serves your purpose nothing else matters, it's a good model.
- All models are wrong but some are useful[15].

## Assumptions Specific to Model Elements and Relationships among Them

Each assumption in this section focuses on what may be occurring with respect to particular elements in the model, or particular relationships that are hypothesized among those elements. Dealing with these assumptions can be a daunting task because the number of permutations and combinations among elements and relationships is so large. There are two practical ways to make this work manageable.

One method is to simplify the model by decreasing the number and specificity of hypothesized relationships among model elements. This subject is dealt with below in the section titled: "It is possible to specify relationships unambiguously."

The second tactic is to add a task to the work of TOC development. The new task would be to flag relationships for which the assumptions detailed below *might make a significant difference*. Such flagging would best be done twice. First, as the TOC is developed. Then, as an overview of the TOC once it is developed. It is important to agree on a definition of the phrase: "*might make a significant difference.*" For instance, the model builders might agree on a definition such as: "We will only flag a relationship for further consideration if it has a ninety percent probability of making a difference in whether the model will explain how the intervention leads to an outcome." Of course there is no

---

[15] (Box, 1979)

objective way for model builders to know the precise probability. Still, using ninety percent as a guideline will channel a narrower range of disagreement or estimation among the raters.[16]

Assumption: There is no consequential difference between "and" and "or" relationships:

Consider the three scenarios depicted in Figure 3. The first is the common version that we all use. The second specifies "and" relationships, the third specifies "or" relationships. These three models may be structurally the same, but they represent radically different theories of change. In the first we have no idea whether and/or relationships matter. The implicit assumption is that they do not, or at least, that they do not matter enough to be concerned about. The second is a strict model. Both agricultural yield and market development are required to increase quality of life. This model demands a high level of success by the people running the program. One miss and they fail. The third is a relaxed model. Presumably it would be desirable for both yield and markets to improve, but either alone would suffice to improve quality of life.

Figure 3: Comparison of Models with "AND", "OR" Relationships
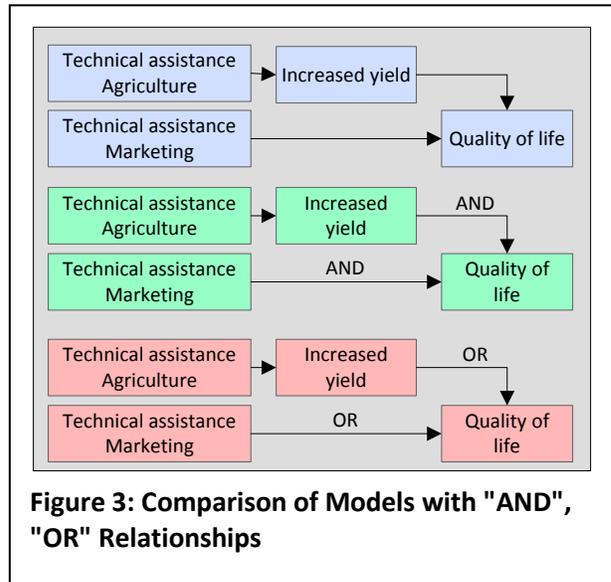
Assumption: We are equally certain of all relationships in the TOC: How do we determine the elements in our TOCs and the relationships among them? We do so with some combination of knowledge from the research literature, experience, and expert judgement. But we never specify our level of certainty in each judgement. The picture we end up with "looks" as if we are sure of it all. This can lead to all sorts of sub-optimal decisions and expectations if we act as if we believe the entire model. Figure 4 depicts the situation. It categorizes

Figure 4: Models With and Without Specification of Certainty of Relationship

relationships by our certainty that the result will occur. In the scenario at the top, all connections are equal. We assume that each is trustworthy and can be depended upon. The scenario at the bottom classifies relationships by "high confidence" and "low confidence". There we see that even if we do an excellent job of implementing the models elements, we stand a considerable risk of failing to achieve a high quality of life.

---
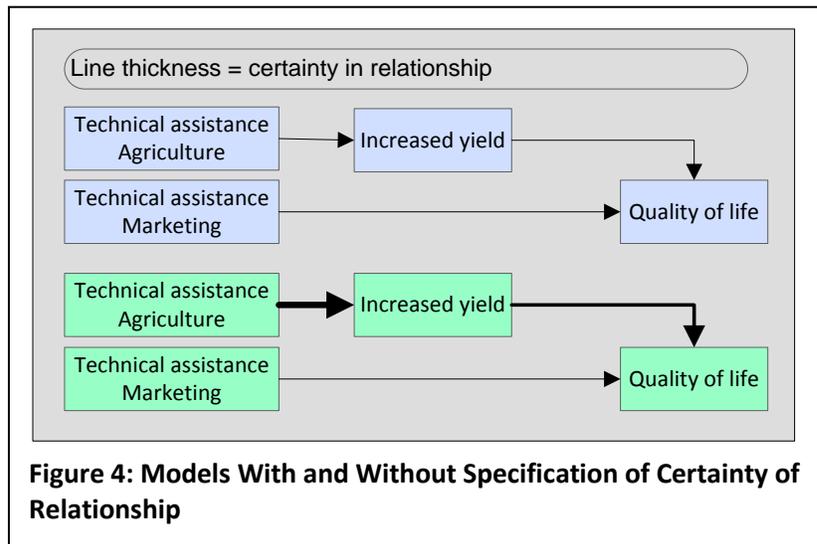
[16] To appreciate why this is so, consider how the conversation might differ if a 50% criterion was used instead of 90%. For an in-depth treatment of criteria and forecasting, see: (Tetlock & Gardner, 2015).

Assumption: All causal connections are of equal strength: Imagine a different interpretation of line thickness in Figure 4. Instead of "certainty", line thickness reflected beliefs in the strength of relationships. The top scenario depicts the way almost all TOCs represent programs. The ability of all model elements to influence each other is equal. Equality is the default assumption in almost all TOCs. There is nothing necessarily wrong with this assumption. In the absence of a greater degree of knowledge than is likely available, assuming equal strength may be the safest assumption to make. The problem is not that TOCs assume that all relationships are of equal strength. The problem is that making this assumption is so automatic, so unquestioned.

Assumption: It is possible to specify relationships unambiguously: The assumption in the first scenario in Figure 5 is that we are comfortable specifying relationships at a fine level of detail. The bottom is modest. Its message is that "if a lot happens here", then "a lot will happen there". Employing models with ambiguous relationships has two advantages. First, it reflects what we know, or at least, have good reason to believe. Second, it conveys the notion that each time we implement the program, the outcomes may be predictable, but the precise mechanisms through which those outcomes are manifest are unpredictable. This view is consistent with what is known about complex systems.
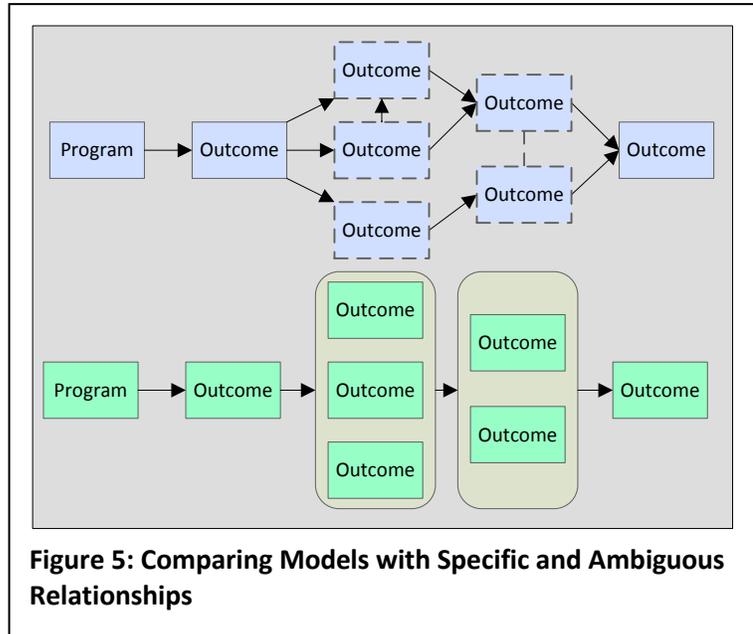


**Figure 5: Comparing Models with Specific and Ambiguous Relationships**

Assumption: Time and rates do not matter: The scenario at the top of Figure 6 depicts a common form of a TOC. The scenario at the bottom adds just a small bit of information about timing and the capacity of each element to support what follows. The logical relationships are the same, but the bottom scenario conveys much more information about what to expect, what to measure in an evaluation, and why a program may succeed or fail. Omitting



**Figure 6: Adding Time and Rate Information to a TOC**

this information is tantamount to claiming that it does not matter. It may in fact not matter, but it would be a mistake to assume that it does not matter.

## Assumptions Based on the Whole Model or Modeling Process

Assumptions in this section deal with whole models, or the way in which models are built.

Assumption: It is possible to specify an outcome chain beyond near-term outcomes: The dominant style of TOC in evaluation is to present an unambiguous chain of outcomes from the near to the far term, with many intermediate outcomes between them. (See the top scenario in Figure 7.) Whenever this is done, there is usually an understanding that in practice; neither the program nor the evaluation will reach into the far future. But the very act of constructing such models contains the assumption that it is *possible* to specify the outcome chain. That belief may affect programming and policy, and it is wrong.[17] The realistic scenario is depicted in the second scenario.
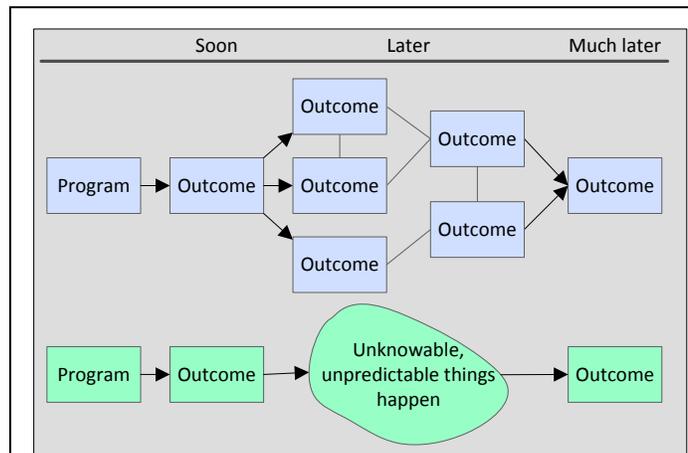


**Figure 7: Specific vs. Ambiguous Outcome Chains**

Assumption: If a model is correct locally it is correct globally: Figure 8 is an example of a common form of TOC. It consists of an aggregation of deterministic relationships of the from: "A" leads to "B", with both the "A" and the "B" clearly specified. Each of those in turn, may be related in a similar manner to other model elements, e.g. "C", "D", and "E".
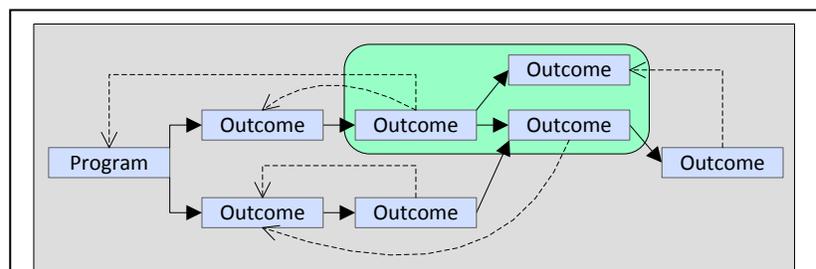


**Figure 8: Local vs. Global Correctness in a Model**

Each of these is a deterministic hypothesis, and each one is probably correct.

The complication is that each dyadic deterministic relationship is embedded in a set of many other relationships, complete with feedback loops and multiple causal pathways. Together, those relationships combine to form an aggregation that *may* exhibit a lot of complex behavior, e.g. emergent network effects and sensitive dependence conditions. As a result, the model as a whole *cannot* be understood in terms of the individual relationships among any adjacent elements, *even though* each dyadic relationship is correct. Imagine that the area of the ellipse in Figure 8 roamed over the model.

---

[17] The reasons have to do with the behavior of complex systems. For brief overviews of the relevant issues, see the following blog posts:

1-     A complexity perspective on a theory of change for long term program effects
2-     Emergence: Part 1 of 6 Posts on Evaluation, Complex Behavior, and Themes in Complexity Science
3     Applying Complexity to Make Practical Decisions about Evaluation

Any hypothesis among elements within the ellipse might be trustworthy and deterministic, but aggregate model behavior could not be explained in terms of any of those adjacent relationships.

<u>Assumption: One version of a TOC will suffice</u>: Just as one would use different map projections for different reasons, program designers and evaluators should contemplate the different reasons that a TOC can guide their actions, and construct appropriate models for each. As Patricia Rogers puts it:

> "For a program, the trap is to develop a program theory, draw a logic model, and then present it as if it can meet all possible needs for all time. It is unlikely that any one model will be able to simultaneously provide an overview of all important aspects and important details. It is much more likely that different versions might be useful, each highlighting a particular aspect – a stage of the program, or how it works in a particular context, or how it is viewed from a particular perspective, for example".[18]

Models can vary in both terms of the level of detail and the information they contain. For instance, imagine a program whose theory contains the relationship: train farmers –> new seed variety planted. "Train farmers" can be decomposed into a detailed model of how the curriculum is developed, what is in the curriculum, what training methods are used, how farmers are recruited into the program, and so on. With respect to information in the model, the relationship between training and planting can be characterized by factors such as the model builders' certainty in the relationship, its strength, its criticality (maybe the availability of the new seed variety is sufficient to assure its use), and so on.

As a general guide to making these decisions, it is useful to consider who is building the model (particular stakeholder or group of stakeholders), and why the model is being built. There are three broad reasons for building a model.

- <u>Explanation</u>: What is the program and why can it be expected to have the impacts that it does? These models need to contain rich detail –far more than could ever be incorporated into an evaluation.
- <u>Evaluation</u>: What methodologies and data are needed? Here the emphasis is on what can actually be observed, characterized, and measured. These models need to contain the logical essence of an explanatory model, but will inevitably have less detail.
- <u>Advocacy</u>: How can the program be "sold" to relevant stakeholders? These models need to emphasize only the most important relationships between program and outcomes.

A useful way to determine what models may be needed is contained in Table 6, which cross references users of models with types of model use. Marking a cell indicates that it might be worthwhile to construct some combination of types of models with some group of stakeholders. While useful, this table needs to be employed with caution because to be at all useful, most cells need to be blank. A collection of a few different models is valuable. Consuming too much time building diverse models is wasteful.

---

[18] (Rogers, 2017)

| Table 6: Guide for Building Multiple Models | | | |
|---|---|---|---|
| | **Reason to Construct Model** | | |
| **Stakeholder** | Explanation of program operation and impact | Evaluation of program operation and impact | Advocacy for program |
| Funder #1 | | | |
| Funder #2 | | | |
| Funder n | | | |
| Implementer #1 | | | |
| Implementer #2 | | | |
| Implementer n | | | |
| Service recipient group #1 | | | |
| Service recipient group #2 | | | |
| Service recipient group n | | | |
| Others… | | | |

Assumption: Outcomes stem only from program action: Most TOCs begin with a program and trace the impact of program activities with respect to various outcomes. The very existence of a program in a community, however, can also have an effect. Consider three examples. 1) By focusing on a set of activities, resources may be pulled from other activities. (Where do the nurses want to work if the best paying jobs are in AIDS prevention?) 2) On a local level, staff spends money in the communities where they live. 3) On a national level, the presence of an NGO, with its funding and priorities, may affect government policies. In a sense the "program" can be treated as an intervention separately from the intervention that the program is propagating. Most TOCs do not do this.

## Making a Special Effort

A theme running through this report has been that efforts to reveal implicit assumptions should be incorporated into routine work. That is true. It's the only way to make sure that over time, an organization as a whole, its parts, and its staff, incorporate understanding of assumptions into the ongoing process of knowledge creep and decision accretion.[6] It is also true, however, that there may be times when a special effort is called for. For instance, suspicion may build over time that opportunities are being missed, or that priorities are misplaced, or that the operating environment is changing and needs to be reassessed.

In cases like this it may be worthwhile to engage in a dedicated effort to question assumptions. An effective way to do this is to borrow from methodologies used in the field of Planning. Assumption based planning is organized around the assumptions that need to be in place to achieve a goal. It asks questions such as: What assumptions can be identified that are critical to achieving a goal?[19] Which of these are brittle? What needs to be done to shore up brittle assumptions? Backcasting projects a desirable future and asks: "How did we get here?"[20] Multiple scenario planning asks the question: We think we know where we want to go, but where are the various places we may end up? Or in an

---

[19] (Dewar, 2002)
[20] (Drenborg, 1996)

alternate version: "We think we want to go here, but where are all the places we might want to go? Followed by: For each of these places, if we are there, how did we get there?[21]

The value of these methodologies is open to considerable debate, as is the entire question of how accurately one can predict complex events. (The consensus is "not very well, but it's worth doing anyway".[22]) Accuracy of prediction notwithstanding however, all of these methodologies involve structured activity that (among other things), reveals the assumptions that underlie choices. Engaging these planning methods is a commitment not to be taken lightly. If the need is there though, these methodologies are well developed and available.

## Concluding Overview

This report presented a great deal of detailed information on what types of implicit assumptions there are, how they can be revealed, and the circumstances under which the attempt should be made. This detail matters because without it, an effective and practical approach to revealing assumptions cannot be designed or implemented. Attention to that detail, however, will not be worthwhile unless several principles are observed.

- Revealing assumptions must be done as a social process that pervades the organization.

- Most implicit assumptions do not matter. The challenge is to find those few that are worthy of attention.

- Assumptions are not unique or random. They are likely to repeat over time, and group together in clusters. Thus much knowledge can be gained by tracking assumptions over time and across programs.

- Diversity matters because no single point of view, or person's observations, can be sufficient for understanding assumptions.

- It is counterproductive to try to tightly coordinate all assumption exercises, but some knowledge of what is being done does need to pervade the organization.

- Principles of information use dictate that understanding assumptions must: 1) be a continual process and 2) exist as a common understanding among coalitions and groups.

- One approach to revealing assumptions is to make the inquiry a routine part of decision making, just as would be the case with topics such as budgets, schedules, staffing, or objectives. A second approach is to engage in dedicated assumptions exercises based on time intervals and noteworthy events or trends. These two approaches are complementary, and both are needed.

---

[21] (Godet, 2000; O'Brien, 2003; Raynor, 2007)
[22] (Watts, 2011)

# References

Archibald, T., Sharrock, G., Buckley, J., & Young, S. (2018). Every Practitioner a "Knowledge Worker": Promoting Evaluative Thinking to Enhance Learning and Adaptive Management in International Development. *New Directions for Evaluation, 2018*(158), 73-91. doi:doi:10.1002/ev.20323 https://onlinelibrary.wiley.com/doi/abs/10.1002/ev.20323

Box, G. E. P. (1979). Robustness in the strategy of scientific model building. In R. L. Launer & G. N. Wilkinson (Eds.), *Robustness in Statistics* (pp. 201–236): Academic Press.

Dewar, J. A. (2002). *Assumption-Based Planning: A Tool for Reducing Avoidable Surprises*. New York: Cambridge University Press.

Drenborg, K. H. (1996). The Essence of Backcasting. *Futures, 28*(9), 813 - 828.

Farrell, C., & Coburn, C. (2016). What is the Conceptual Use of Research, and Why is it Important? Retrieved from http://wtgrantfoundation.org/conceptual-use-research-important

Godet, M. (2000). The art of scenarios & strategic planning: Tools & pitfalls. *Technological Forecasting & Social Change, 65*, 3 - 22.

Morell, J. A. (2010). *Evaluation in the Face of Uncertainty: Anticipating Surprise and Responding to the Inevitable*. New York: Guilford.

Morell, J. A. (2018). Linking Management and Evaluation: Project Schedules as Program Models. *American Journal of Evaluation*, 1 - 18. doi:https://doi.org/10.1177/1098214018784198

Nkwake, A. M., & Morrow, N. (2016). Volume overview: Working with assumptions. Existing and emerging approaches for improved program design, monitoring and evaluation. *Evaluation and Program Planning, 59*, 94-96. doi:10.1016/j.evalprogplan.2016.05.016 https://www.scopus.com/inward/record.uri?eid=2-s2.0-84977618174&doi=10.1016%2fj.evalprogplan.2016.05.016&partnerID=40&md5=3358093ab1ddfb2fb4387ebc702bfabd

O'Brien, F. A. (2003). Scenario planning – lessons for practice from teaching & learning. *European Journal of Operational Research, 152*, 709 - 722.

Raynor, M. (2007). *The Strategy Paradox: Why Committing to Success Leads to Failure*. New York: Doubleday.

Ritchey, T. (2012). Outline for a Morphology of Modelling Methods: Contribution to a General Theory of Modelling. *Acta Morphologica Generalis (AMG), 1*(1), 2 - 20. http://www.amg.swemorph.com/

Rogers, P. (2017). Develop Programme Theory. Retrieved from http://www.betterevaluation.org/en/plan/define/develop_logic_model

Tetlock, P. E., & Gardner, D. (2015). *Superforecasting: The Art abd Science of Prediction*. New York: Crown.

Watts, D. J. (2011). *Everything is Obvious Once You Know the Answer: How Common Sense Fails Us*. NY: Crown Business, Random House.

Weiss, C. H. (1977). Research for Policy's Sake: The Enlightenment Function of Social Research. *Policy Analysis, 3*(4), 531 - 545.

Weiss, C. H. (1980). Knowledge Creep and Decision Accretion. *Knowledge: Creation, Diffusion, and Utilization, 1*(3), 381 - 404.

Yin, R. K. (2014). *Case Study Research: Design and Methods 5th ed.* Thousand Oaks, CA: Sage.