

Integrated Monitoring, Evaluation, & Planning Handbook

A guide for monitoring and evaluation of research and
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at The McKnight Foundation

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**COLLABORATIVE
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Introduction to the Guide

This guide is intended to orient project, regional, and program teams to the integrated monitoring, evaluation, and planning (IMEP) process of the Collaborative Crop Research Program (CCRP) at The McKnight Foundation. This framework is used to guide the program's strategies for grantmaking, grantee support, and shared learning at the project, regional, and program levels. For more information, see the CCRP [Theory of Change](#).

The guide

- defines integrated monitoring, evaluation, and planning in the CCRP
- explains the theory behind the approach, and
- outlines how project, regional, and program teams use IMEP, including the documents that project teams produce as part of the grant implementation process.

This document is one of many CCRP resources available to support project and regional teams in working efficiently and effectively. For other resources see: <http://ccrp.org/how-we-work/imep>

Section I: Introduction to IMEP

How IMEP Helps Measure Complex Systems Change

Change in agriculture systems happens through complex interactions between farmers, markets, research institutions, and other entities as technical and social innovations are developed *in* and adapted *for* local needs. Because of the non-linear, interrelated nature of agriculture research and development, the CCRP uses a **systems approach**, which considers the relationships among a wide range of components, from biophysical to social to structural.

IMEP draws from an "adaptive action" cycle¹ (Figure 1) as an approach for **guiding action in a complex system**. Teams first identify the "what" of a project – the context, goals, participating partners, timeline, and methods. Then, teams ask "so what?" about a project's results to analyze progress towards those goals and why the methods are or are not resulting in the expected changes. From that analysis, teams then ask "now what?" to inform the ongoing revision and development of the project's plans.

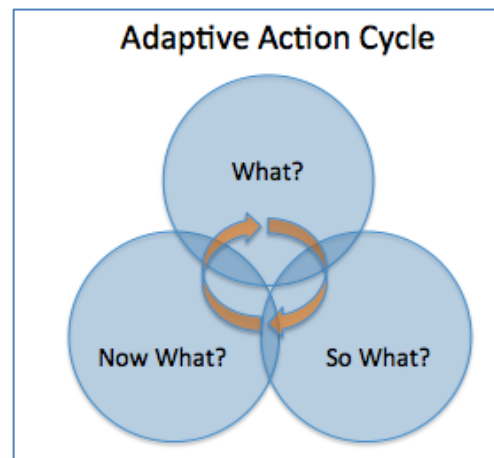


Figure 1

Completely understanding a complex system, where there are multiple interactions and ongoing change is the norm—, like a farm, a family, a community, or a landscape—is challenging, if not impossible. To help navigate our work within these complex systems, **IMEP uses evaluative information in real time to make decisions and**

¹ The adaptive action cycle is explored in greater detail by Glenda Eoyang of the Human Systems Dynamics Institute. For more information see: http://wiki.hsdinstitute.org/adaptive_action

to keep an eye on emergent issues. IMEP is informed by [Developmental Evaluation](#), which provides a framework for working in complex systems.

How IMEP facilitates learning beyond individual projects

IMEP not only allows for continuous learning at the level of individual projects, but also provides a **framework for synthesizing results across contexts**. This synthesis can lead to the development of broader knowledge and other public goods that will increase the reach and impact of local findings and evidence.

“Evaluation processes include asking evaluative questions, applying evaluation logic, and gathering real-time data to inform ongoing decision making and adaptations. The evaluator is often part of a development team whose members collaborate to conceptualize, design, and test new approaches in a long-term, ongoing process of continuous development, adaptation, and experimentation, keenly sensitive to unintended results and side effects.”
-Michael Q. Patton Developmental Evaluation

Integrated Monitoring, Evaluation & Planning (IMEP) Pathways

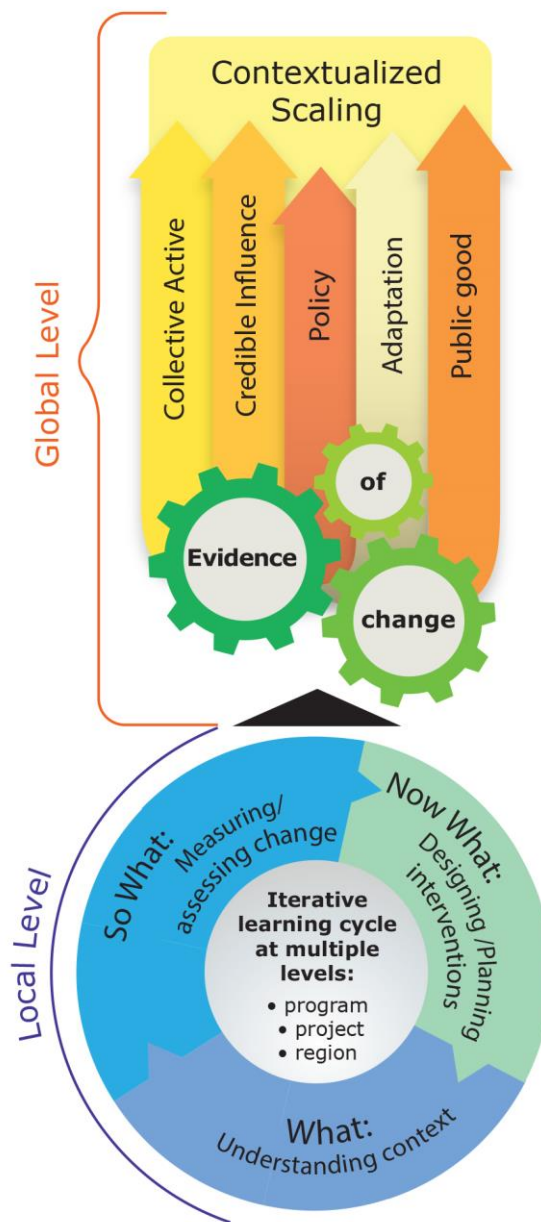


Figure 2 illustrates how change occurs within projects, the program, and beyond. The lower portion of Figure 2 in blue illustrates how IMEP provides a framework for gathering data, analyzing it to produce “evidence”, and using it to support iterative learning and planning within and among projects, regions, and the program in general.

WHAT?, SO WHAT?, NOW WHAT?: If a project team **understands local context** and harnesses existing knowledge *before* designing interventions, it becomes more likely that their project will be successful. An understanding of local context leads to increased interest from stakeholders, which encourages more participation in the development of the products. By engaging in

iterative cycles of **measuring and analyzing interventions**, project teams can continuously **improve their responses**, instead of basing them on short-term trends or pre-conceived ideas.

CONTEXTUALIZED SCALING: the upper portion of Figure 2 illustrates how **evidence** may be used through various channels to effect large-scale change. There are two major approaches to how organizations can make an impact on a large scale: a “universalist” approach and a “contextualist” approach.² The universalist approach replicates an intervention (or idea or technology) across different contexts. Organizations and individuals working in a universalist framework define “scale” by the number of people, or different communities, using the intervention, emphasizing how broadly a specific intervention has been replicated. The Green Revolution or Industrialized Agriculture paradigms use a universalist model. CCRP researchers Nelson and Coe write (2014), “The modern research systems serving commercial agriculture focus on improving and delivering technologies that contribute to smoothing performance, and on technologies with wide adaptation that can be distributed by relatively centralized providers.” The CCRP, however, utilizes the contextualist approach, because that is the reality of the smallholder farmers it works with:

Smallholders are more numerous and diverse than large-scale farmers, and serving the needs of smallholders is therefore trickier. Their resource limitations often prevent them from investing in inputs that would make their holdings uniform and highly productive. The AEI options, such as diversification or germplasm management that could reduce their losses and increase their productivity, are more context-specific than inputs like synthetic fertilizers. (Nelson & Coe, 2014)

By defining “scale” as more than just aggregated numbers of adoption, **IMEP considers the multiple ways in which an intervention has been adapted by others**, how it has served as an inspiration for other interventions, and/or how it has contributed more generally to the broader public good for example, by influencing policy across contexts. That’s why most evaluation questions in the CCRP ask: **For whom? How?**

The Importance of Collaboration, Participation, and Utilization in IMEP

Though project teams often conduct Monitoring & Evaluation (M&E) activities with the goal of sharing results with stakeholders, stakeholders (whether donors, constituents, or others) do not usually participate in M&E activities. In some situations, this distance is appropriate, particularly if the problem being addressed is one that can be solved through a linear approach and there have been ethical considerations related to end users’ involvement.

However, many issues that project teams tackle with CCRP funding are complex. These sorts of complex problems require collaboration in order to develop deeper levels of meaning through **multiple perspectives**.³ Bringing different stakeholders together, all with different perspectives,

*“The core aspects of systems thinking are gaining a bigger picture and appreciating other people’s perspectives on an issue or situation. An individual’s ability to grasp a bigger picture or a different perspective is not usually constrained by a lack of information. The critical constraints are usually in the way the individual thinks and the **assumptions** that they make – both of which are usually **unknown to that individual.**”*
-Jake Chapman as cited in Utilization-Focused Evaluation

² Hancock, 2003.

³ Cousins, J.B, Whitmore, E, and Shula, L (2012).

experiences, networks, and resources, generates more information about an issue than could be obtained by a single individual or group working in isolation. The collective knowledge created through this process can help to develop ways to address a problem or bring about change that would be very difficult to achieve otherwise.

Collaboration is also essential for increasing **utilization** or broadening the impact of innovations. Multiple stakeholders representing various constituencies can combine their financial or human resources, connections with policy-makers, and relationships with communities or consumers to facilitate communication among large numbers of farmers or institutions who might adopt or adapt new technologies or methods. **Communication and collaboration advance innovation.**

Most importantly, because IMEP is primarily focused on learning, reflection, and incorporating learning into continuous improvement and planning, everyone – from researchers to M&E specialists to end users - needs to be part of the IMEP process. Participation in this process, then, has an **ethical dimension**, because people have the right to be consulted and involved in activities conducted on their behalf. Making decisions about the provision of goods and services, supporting the development of crucial community networks, and taking advantage of important but often short-lived opportunities to contribute to society all require the involvement of diverse stakeholders. Collaboration among project teams and multiple stakeholders is not simply an "add-on" for IMEP; rather, this feature is essential to the success of IMEP methods. (Figure 3).

Integrated Monitoring, Evaluation & Planning (IMEP) Pathways

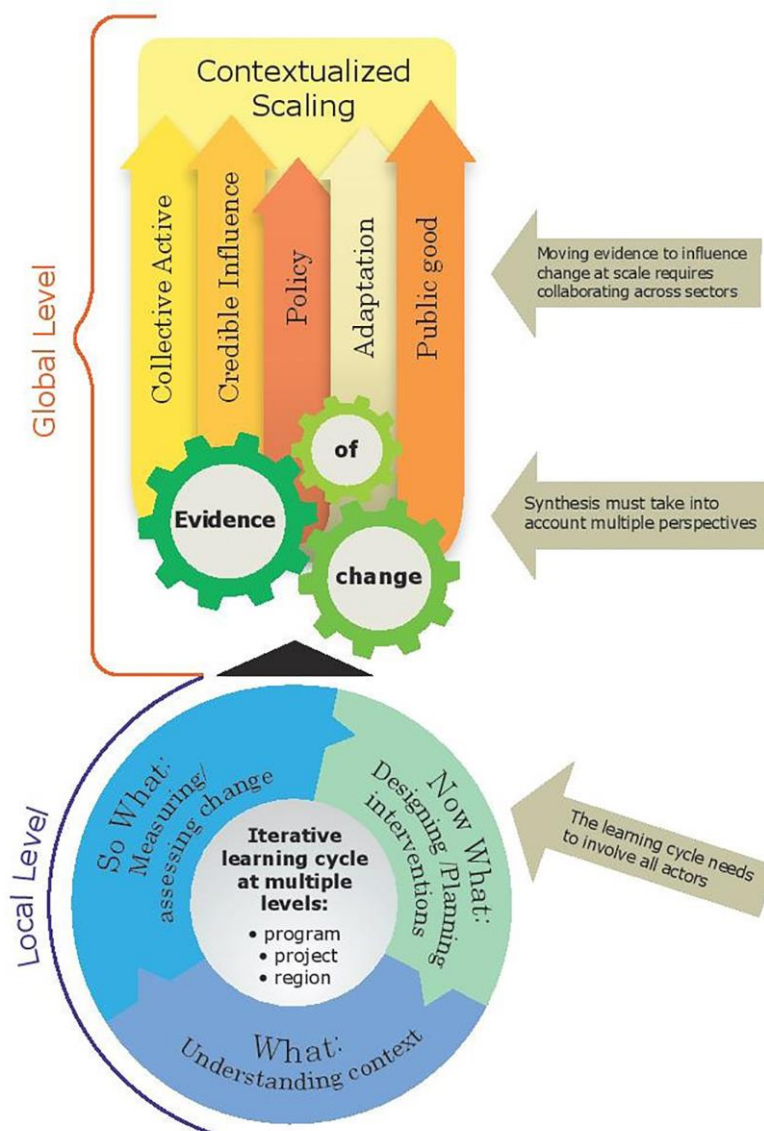


Figure 3 shows how collaboration and participation can interact at various levels of IMEP.

The CCRP believes it is important to consider the **range of stakeholders** affected by a project. Beyond those participating directly in the project, there are many external stakeholders, including other farmers, their families and communities, research institutions, consumers, policy makers etc. Project teams are encouraged to collaborate with all of these stakeholders to the extent possible, in order to benefit from the diverse insights these groups may contribute to the IMEP process, as well as to increase the end-users' ownership of the evaluation, which helps ensure utilization.

Of course, collaborations create unique M&E challenges and opportunities. For instance, partners' experiences with monitoring and evaluation may vary. Some organizations will already be familiar with IMEP or similar approaches; for others, the process will be new. Given the range of experience, the CCRP emphasizes **efficiency and flexibility**. If a partner is currently using an integrated approach for monitoring and evaluation, then an effort should be made to merge IMEP with the project's existing approach to avoid duplicating work. Regional team members are available to help project teams facilitate discussions around how to understand and use IMEP.

Emphasizing Monitoring and Evaluation

Another important characteristic of IMEP is that it distinguishes between monitoring activities and evaluation activities, while equally valuing both. **Monitoring is essential for understanding how the project team is implementing the intervention.** Tracking if implementation is proceeding according to previously stated plans and is based on effective practice is often integral to a team's internal accountability process. Evaluation goes one step further to assess the **success of an intervention in contributing to positive change** for project stakeholders, and the factors that have contributed to or limited progress so far. For example, monitoring can track how many people are attending nutrition training sessions, key characteristics of the attendees (recognizing heterogeneity), and what their range of perceptions are of the sessions.⁴ Evaluation then goes a step further and asks how, why, and the extent to which the training has affected the knowledge, attitudes, and behaviors of the different participants, what difference this makes in their lives and the lives of others. This information will provide input into how to make the training better, or might even suggest that trainings are not an effective intervention and that something else should be done instead.

Many organizations are more focused on monitoring— they collect data on implementation and whether project milestones are being met. However, they do not routinely analyze whether accomplishing the activity, or meeting the milestones, has **contributed to the change** they were trying to bring about. For example, they know how many training events happened, but don't know if anyone learned anything new at them, much less if practices have changed. What is referred to as "M&E" is often just monitoring. Careful monitoring generates relevant, reliable data, but evaluation of outcomes must also be conducted to give a sense of a project's overall **impact**, as well as the **learning** around the impacts. Monitoring and evaluation also help determine whether an intervention contributed to the project's goals or to the way the project was implemented.

Evaluation & Research Questions

Because research and M&E share many of the same methods to sample, gather, and analyze data (e.g. surveys, interviews, focus groups, case studies, etc.), there are many synergies and overlap between the research and evaluation process.⁵ However, the objectives of research questions are different from those of M&E questions. In general, **research creates new knowledge while evaluation assesses how and whether that knowledge is used to effect**

⁴ Patton, M. Q. (2012). *Essentials of utilization-focused evaluation*. pp 123-125.

⁵ See Appendix E for a sample evaluation protocol, which is the same as a research protocol, and also refer to the introduction to [Social Science Research for Agronomists Handbook](#).

change.⁶ Research questions address the specific goals in relation to the creation of knowledge, which can take the form of new insights, technologies, and/or methods. Evaluation questions, on the other hand, address the relationship between the research outputs and project outcomes, helping to shed light on the "so what" of a project's interventions—in other words, how change did or did not occur and why. For instance, a research result may be that one variety of cowpea has a 5% higher yield than another. An evaluation *evaluates* if that is positive and for whom. Sometimes the distinction between evaluation and research questions can get blurry, and it is not always necessary to have absolute differentiation between research and evaluative research questions.

Example of a research question: What is the effectiveness of new varieties of maize in different contexts, according to farmer and other criteria?

- Research questions can include elements of farmer heterogeneity, participation, and systems thinking. Just because a farmer is involved doesn't make it an evaluation question.

Example of an evaluation question: Are farmers using the new variety? Why? How? In what contexts? Does it increase their productivity, food security, income, health, or other desired increase in well-being?

- How do end users *value* this variety?
- Are the assumptions explicit and being explored? *E.g.* that the problem is access and availability of nutritious foods, that farmers eat what they grow or sell it and use it to purchase more nutritious food etc.

⁶ Sometimes research and evaluation do overlap. For example, the CCRP also conducts research about development (Why do people use a practices or technology? What works, how and why?) and evaluation of research (What happened during the research process? Was it truly participatory?)

Section II: IMEP Project Documents

Three documents, which are required for all CCRP grants, form the core of what the project teams will develop and use for IMEP:

- Theory of Change (ToC)
- M&E Plan/ Evaluation protocols
- Workplan

These documents help project teams and regional teams:

- maintain a continuous cycle of planning, monitoring, and evaluation to incorporate new knowledge and improve results (*Figure 1 lower portion*)
- collect evidence for how new technologies, methods, and ideas can be scaled in other contexts (*Figure 1, upper portion*)

These documents are usually refined by the end of a project's **inception period** (discussed in section 3), when project teams are reviewing literature and data, meeting with relevant stakeholders, and generally gaining a more thorough understanding of bio-physical and socio-economic contexts, needs, barriers, and opportunities of the project. Planning should be completed before any extensive field work or implementation (experiments, surveys etc.) begins because the plans that the teams devise will guide the research, ensuring overall alignment with a strategic vision. Planning can and should be done even for **exploratory** or grounded research, to clarify researchers' biases and working hypotheses, and ensure ethical issues are addressed.⁷

As research begins, project teams should remember that IMEP is an on-going process. These are **living documents** that may be used in multiple ways by project, regional, and program teams, as well as McKnight Foundation staff. As research designs change during implementation, those adaptations/ modifications/revisions will be reflected in IMEP documents.

What Is a Theory of Change?

In the CCRP all levels--programs, regions, and projects--have a theory of change (ToC). A theory of change uses visual mapping to document **shared understanding and strategic thinking**. The ToC is represented by a diagram (and sometimes an accompanying narrative) explaining how a group of outputs or products can lead to early and intermediate effects or outcomes, which in turn lead to long-term impacts.⁸ The ToC diagram should be revisited and revised on a regular basis as project teams continue to collaborate, gain new information, and interpret the results of their work.

As explained below, a basic theory of change depicts **outputs, outcomes, and impacts**. A more complete theory of change also details the assumptions about the process through which change will occur and specifies the ways in which all the required early and intermediate effects that lead to the desired long-term change will occur and be documented.⁹ Project teams,

⁷ See the CCRP's [Social Science Guide for Agronomists](#) for more information.

⁸ From ActKnowledge.org, Center for Theory of Change.

⁹ Adapted from Anderson, A.

regional teams, and multiple stakeholders should **discuss these assumptions during the creation of the ToC**, ideally during the inception period. The assumptions can be included in a narrative that accompanies the ToC diagram. (See Appendix A for more information.)

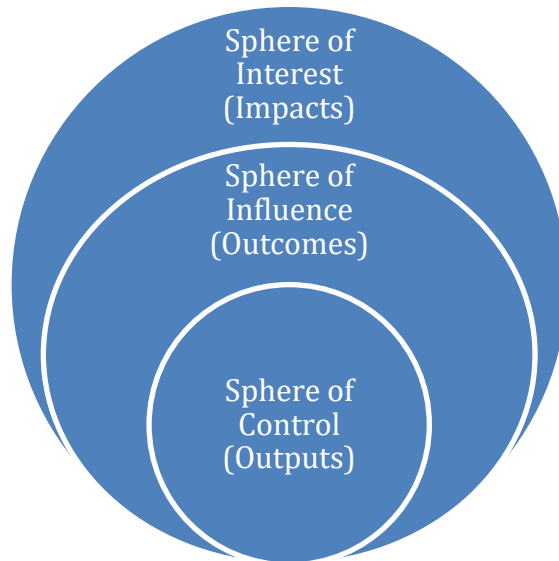
A ToC is different from a logic model or log frame in that it attempts to explain the anticipated **mechanisms of change**, rather than delineate a logical sequence of events. Unlike approaches that emphasize linkages such as outcome mapping or impact pathway analysis, the ToC makes **explicit theories, hypotheses, and assumptions** that can be tested to not only describe if change took place, but also why.¹⁰ It is important to remember that no model can *definitively* state how and whether change will happen. The ToC represents the team's best thinking at the time.

Basic Components of a ToC

Impacts are broader, longer-term changes in the livelihoods of farm families and communities as well as in the environment to which the project has helped contribute.¹¹ **Often it will be beyond the scope of the project to measure longer-term impacts**, but it is important to consider them during strategy development. For example: a project aiming for the long-term impact of reducing childhood iron deficiencies discovers that consumers are not interested (outcome) in the iron-fortified crop developed by the project (output). Therefore, the project should adapt their strategies, perhaps by adding a publicity campaign to increase awareness of the crop (output) or by thinking through other methods of getting more iron-rich foods to children.

Figure 4: Nested spheres diagram adapted from IDRC

Outcomes are changes in knowledge, skills, attitudes and practices, and other factors as a result of stakeholders' use of one or more outputs. The outcomes, which should be related to CCRP outcome areas (productivity, livelihoods, and/or nutrition), are the **changes for farmers, communities, markets, institutions, etc. that the team hopes to contribute to** through the project. The project will



probably try to measure, with varying levels of certainty, the short-term outcomes. The outcomes should be specific enough to reflect what the project is trying to accomplish without getting into unnecessary detail. For example, a chickpea integration project's goal of "increased production of legumes" (outcome) would be too general; "increased integration of chickpeas in

¹⁰ Patton, M. Q. (2012). *Essentials of utilization-focused evaluation*, pp. 236

¹¹ Paz, Rodrigo. (2011).

rotation with existing crops among project stakeholders (n=340)” is preferable. The latter example strikes the right balance between detail and brevity while differentiating between knowledge creation and actual product use.

Outputs: tangible results or products of the activities that are **under direct control of the project**, such as new knowledge or technologies the project has created.¹² For example, “new variety of drought tolerant chickpeas with farmers’ desired characteristics” would be considered a “product.”

Contribution vs. Attribution of an intervention

A common challenge with monitoring and evaluation is how to “prove” that a particular outcome or impact is the direct result of a given intervention or output. Often, it is not possible to show complete certitude about the cause-and-effect relationship between outputs and outcomes in complex systems. Because there is no way to create controlled experiments, this research is often observational. It is even more difficult to show relationships between products and impacts, which are longer-term and usually affected by factors outside a project's control.

Rather than assigning attribution solely to the work of the projects, IMEP instead analyzes contribution of an intervention to identify and articulate how the intervention influenced long-term changes for stakeholders.¹ Contribution analysis focuses on determining the likelihood that the intervention had an influence on impacts observed and on minimizing uncertainty (Mayne, J., 2001). Contribution analysis also takes into account that changes take time to fully manifest; it is counterproductive to force programs to show proof of impact before that proof can be realistically expected (Kotvojs, S. 2007.)

Showing contribution toward change rather than definitive attribution does not affect the quality of analysis. Indicating how a project’s outputs interact with a number of other factors to contribute to change can be a much more powerful and thorough way to understand how complex problems are solved. Given the complex, interconnected nature of agriculture and R+D systems, the CCRP is more concerned with contribution to change rather than attribution of change to an intervention.

What Is the Purpose of a ToC?

In the process of diagramming a path to find solutions to complex problems, the ToC serves a number of other important functions. The discussions involved in developing the ToC are as follows:

- *Create shared understanding among project stakeholders*¹³ about how products (or outputs) contribute to meaningful change. Understanding the relationship of products to change is especially valuable in projects that bring together diverse forms of knowledge.

¹² Paz, Rodrigo. (2011); Eoyang, Glenda (December 2010). From the CCRP IMEP handbook.

¹³ Funnell, S.C., and Rogers, P.J. (2011).

- *Articulate assumptions.* The process of creating a ToC requires stakeholders to be explicit about assumptions, which helps project teams recognize barriers and opportunities and respond to them more quickly.
- *Help manage expectations.* ToCs illustrate how much and what type of work should be done to achieve desired outcomes so project teams can determine what resources will be needed for that work.
- *Build consensus for how change should be measured.* A shared understanding of the relationship between products, outcomes, and impact helps project teams create evaluation plans to measure change.
- *Communicate key ideas quickly.* As a visual depiction of change, the ToC helps internal and external actors see at a glance the most salient components of a project and how they fit together.

Characteristics of a Good ToC

Collaboration is key to the creation of a successful ToC, which reflects a negotiation and mutual agreement among the project team, stakeholders, and the regional team on the project strategy. A successful ToC is:

Adaptable. *Because IMEP is an iterative process, the ToC needs to reflect new learning and information that the project team and stakeholders acquire as the project is implemented. In the course of project implementation, assumptions will be reconsidered or made obsolete because conditions change, and new challenges and opportunities emerge. The ToC evolves to reflect this process.*

Concise. *Products, outcomes, and impacts should be described clearly and succinctly. the ToC can then effectively be used as a guide for planning, monitoring, and evaluation as the project progresses.*

Enlightening. *A good ToC reveals the connections among outcomes, products, impacts and sometimes objectives, and it shows how these components may be combined to discover pathways to change.*

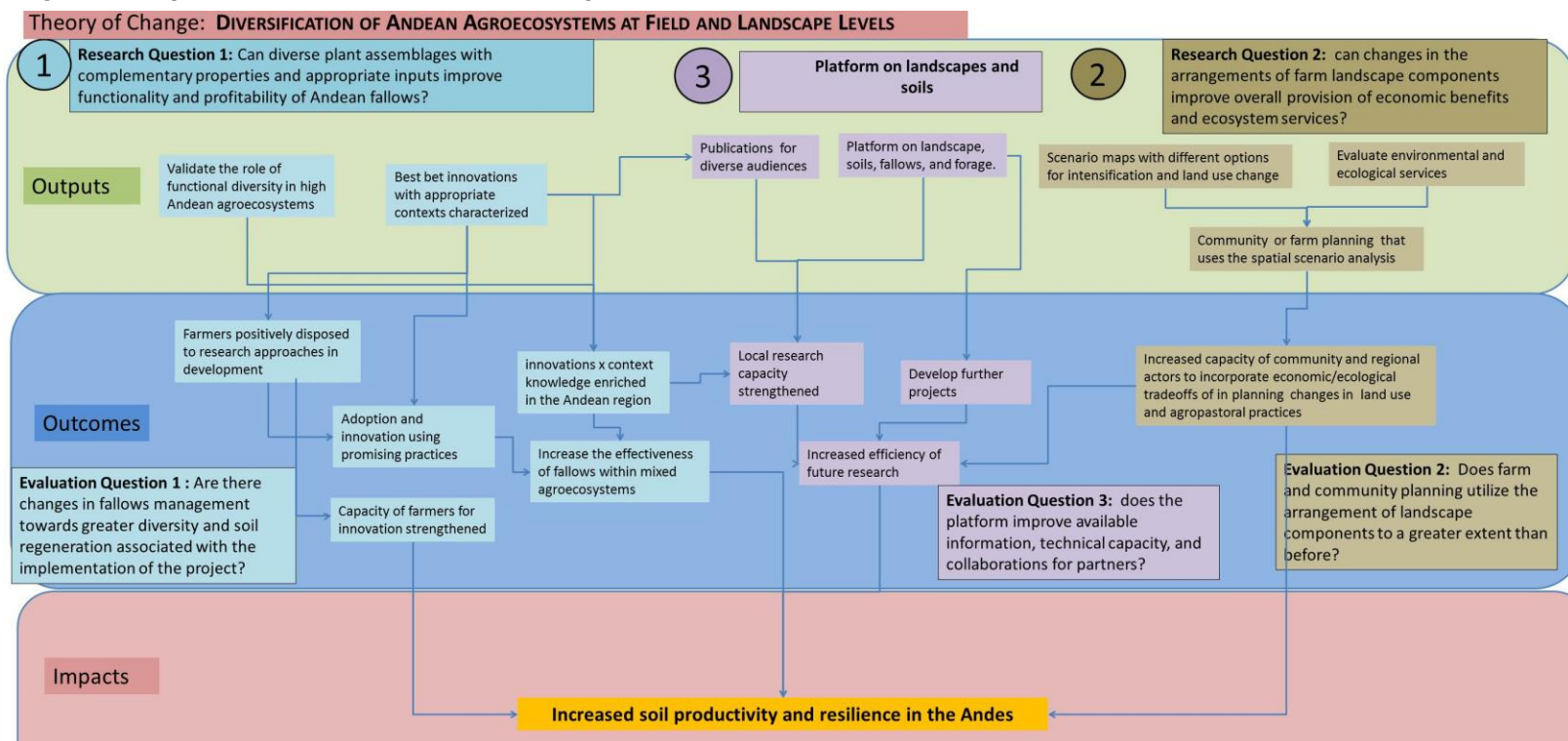
Evidence-informed. *The hypotheses and other elements that make up the ToC should be based on evidence.*

Plausible. *The connections among products, outcomes, and impacts also highlight assumptions and help teams examine whether the plan is realistic.*

In the case of the CCRP, the ToC is particularly useful for **understanding how research and development are connected**. The ToC demonstrates how the research process is expected to lead to research outputs (e.g. new knowledge, new technologies, new processes), and then how these outputs are expected to contribute to development outcomes--i.e. positive changes for people.

The ToC helps project teams prioritize research and evaluation questions for any given problem or objective, to choose the most important and attainable, and to answer them well. It also provides a way to situate the research questions and the evaluation questions within a broader context and to understand how they relate to each other (see Figure 4). Research questions are usually drafted when project teams write their proposal, but evaluation questions should emerge as teams work together to create the ToC. Placing both the research questions (or hypotheses) and evaluation questions in the ToC helps clarify how research and evaluation relate to the overall project strategy, bringing focus and coherence to the project.

Figure 4: Sample ToC with evaluation and research questions



The **ToC Assessment Tool (ToCAT)** was developed to help projects, regional teams, and others to self-assess their own ToC, to improve the quality and effectiveness of this process, and to enable groups to peer review ToCs developed by other organizations. (See appendix B.)

M&E Plan/ Protocols

After a project team is finished with the first version of its ToC, the next step is to develop an M&E plan. The M&E plan includes: 1) a project's evaluation questions; 2) important stakeholders; 3) indicators; and 4) means of verification (how data on those indicators will be collected).¹⁴ Hypothetical relationships are depicted in the ToC; whereas the M&E plan lays groundwork to explore whether and to what degree the ToC's hypotheses hold true.

Evaluation questions explore key connections between outputs, outcomes, and impacts in the ToC. They ask

- if a change occurred
 - Why, how, and to what extent
- if that change was positive
 - for whom

Key evaluation questions are overarching and a project should aim to have a manageable number of questions, usually between 3-6.

Stakeholders can be direct or indirect stakeholders, e.g. individual farmers, farmer associations, businesses, research and development institutions. An evaluation question may pertain to multiple stakeholders, but it is important to be as specific as possible about which changes are associated with which groups.

Indicators are variables or factors used to measure change. The CCRP team is interested in outcome or impact indicators in the M&E plan, not output or activity indicators, which are tracked in the annual reports.

Means of verification are the tools or instruments that will be used to gather the data (these are sometimes called *measures*). The M&E plan should provide some key details on the means that will be used. If a specific method is involved, a separate planning document or protocol should be developed.

¹⁴ Monitoring questions usually help track activities a level of detail that is unnecessary for annual reports or other IMEP documents. Project teams can include monitoring questions in their M&E plan as long as they are labeled as such and do not replace evaluation questions. Monitoring data will often be integrated into the analysis of evaluation data—for example, outcomes for farmers (evaluation) might be analyzed by the types of trainings the farmers participated in, or by gender (monitoring data).

Sample M&E Plan

The following is a fictitious example where the evaluation seeks to measure if relevant stakeholders i.e. farmers and food manufacturers, have been impacted by the interventions pertaining to the production of the variety “Golden Maize”.

What change is there for a specific stakeholder? (<i>evaluation question</i>)	We expect to see change in what groups of people? (<i>stakeholders</i>)	How will we know if change occurred and why it occurred? (<i>indicators</i>)	How will we know or measure if that change occurred? (<i>means of verification</i>)
Are smallholder farmers planting Golden Maize variety? Why or why not? Which farmers?	<ul style="list-style-type: none"> 100 farm households in the communities of Farville, Nearville and Middleville (direct stakeholders) The province of Provance (indirect stakeholders) 	<ul style="list-style-type: none"> Use of Golden Maize variety by farmers: kilos of seed planted each year in comparison to other varieties and total cropping areas Farmers' perceptions and reasons for using Golden Maize variety or not 	<p>A short evaluation will take place at the end of every training event where participants will be asked what they have learned and how they will apply it. The next training session will follow up on if and why that happened. (see attached protocol A)</p> <p><i>and/or</i></p> <p>A targeted subsample of 40 farmers per village will be visited and interviewed 6 months after the end of the intervention to see if they are using Golden Maize variety or not and why. Farmer sample selection will seek to take into account diversity of agroecological conditions and farmer types (men/women, amount of time spent farming, participation in workshops, overall income, etc.) based on income mapping exercise during workshops. (see full protocol A)</p> <p><i>and/or</i></p> <p>A baseline and endline survey of 375 farmers, selected randomly in the province of Provance on the crops and varieties they plant (see attached protocol A)</p>

The M&E plan is usually more of an overview document, but as can be seen in the “Means of verification” column, often a full protocol is needed to establish what is already known; what methods will be used with which sample population; how the results will be analyzed; and how results will be shared with or adapted by stakeholders, or otherwise used to move towards the hoped for project outcomes. Usually instead of having a simple protocol for each method, it is better to have **one protocol for each major evaluation question**. This way each method can be listed and the analyses across methods can be combined in a mixed methods approach to triangulate results.¹⁵ For a template on what a protocol should contain, see Appendix E. If the M&E questions are incorporated into full protocols and the annual workplan, it is no longer necessary to have a separate M&E plan every year. Protocols need to be developed before M&E activities in the field are conducted (such as baselines), but if diagnostic work is being done, protocols can be developed sequentially so that exploratory findings informs evaluation design.

Rigor, Credibility, Utility, and Audience

In the CCRP, all data collection, regardless of purpose, should be rigorous. The methods and goals for collecting the data should be clear, explicit, documented, and meticulous so that the project team's conclusions about the data can be adequately supported by the methods for collecting the information. **Rigor** is not about using a specific method, but rather choosing the appropriate methods to support the claims that are to be made, and implementing those methods with fidelity to the situation.

"Whether an evaluator uses case studies, observational methods, structured or unstructured interviews, online or telephone survey research, a quasi-experiment, or a randomized controlled experimental trial to answer the key evaluation questions is dependent on discussions with relevant stakeholders about what would constitute credible evidence in this context, and what is feasible given the practical and financial constraints."

--Stewart Donaldson

How a given audience balances credibility and utility will greatly influence which methods and approaches will be used. The degree of **credibility** that is useful for an academic audience, for example, may not be useful to a group of farmers.

The level of credibility depends on the **expectations and needs of different audiences**. Teams should discuss this issue during the planning process. For example, if the goal is for the project team to check how a technology is working in the field for rapid learning and improvement, they can probably achieve a satisfactory level of credibility without investing a lot of time and resources. Observing if women can handle a new seeding machine for instance would probably be sufficient to tell them whether they are on the right track.¹⁶ If, on the other hand, the goal is to evaluate if a handheld seeder increases women empowerment with an aim to influence national policy, a higher level of credibility will be necessary.

Often the use of methods such as randomized control groups and large representative samples are assumed to produce credible results; however, just as rigor is not defined by the use of

¹⁵ See the [Social Science Handbook for Agronomists](#) for more information on mixed methods.

¹⁶ See [Human Centered Design](#)

specific methods, **using specific methods does not guarantee credibility if the research design or assumptions are flawed.** For example, it doesn't matter how representative a sample is if the wrong questions are being asked or the respondents aren't answering truthfully.

Increasing the level of credibility can often be easier than it might first appear. During the **evaluation planning process, stakeholders can often make simple improvements through peer review and more thorough discussions of the methodology.** Sometimes asking questions in a slightly different way, thinking more deeply about the audience and participants, or looking for synergies with other project activities can yield better information without a large investment of time, money, or social capital.¹⁷

The following **principles**, along with support from the regional team, can help project teams, take a pragmatic approach to determining the appropriate level of certitude:¹⁸

- Less certain data that is available in time for decision-makers to act on it is better than more certain data that isn't available until after the deadline for making decisions.
- "Softer" or less certain data on important questions is better than "hard" data on less important questions.
- Less is often more when data is focused on priority questions and uses; the less-is-more approach helps avoid information overload. Having data that has been analyzed and can provide evidence for action and learning is more useful than having volumes of high quality data that has not been analyzed.

For more information, please refer to the [CCRP's Social Science Research for Agronomists handbook](#).

Baselines and Diagnostics

Although "diagnostics" and "baselines" are sometimes used interchangeably, there is an important distinction between these activities. **Diagnostics obtain information about the broad context** within which a project is working to understand the need and provide guidance for research design. Diagnostic activities can include literature reviews, preliminary focus groups, review of national research data, etc. **Baseline data collection, on the other hand, refers to gathering data on specific indicators that are predicted to change.** Often the degree to which project teams can address credibility and show how products contributed to overall change depends on baseline and endline evaluation data.

"(Baseline surveys) are not an objective, inductive data-gathering process. They are informed by assumptions we all carry with us about causes and effects, and the motivations for human behavior....these assumptions are more often than not incorrect. As a result, we are designing broad survey instruments that ask the wrong questions of the wrong people. The data from these instruments is then interpreted through often-inappropriate lenses. The outcome is serious misunderstandings and misrepresentations."
--Edward Carr

¹⁷Donaldson, S.I. *Program theory-driven evaluation science: Strategies and applications*, pp 11.

¹⁸ Westley, F, Zimmerman, B., Patton, M.Q. *Getting to maybe: How the world is changed*, pp. 395.

Most projects will have diagnostic activities and baseline data collection activities in the inception phase. But it is important to emphasize early in the process that how the data is collected (whether for diagnosis, baseline, or endline data purposes) can affect not only the usefulness or accuracy of the information, but also the relationships with and between stakeholders. Poor and unnecessary data collection can be detrimental to both research quality and social capital with participants.

Many project teams are tempted to begin comprehensive baseline data collection without considering the cost-benefit of the work or the local contexts. Without proper planning, including literature reviews and analysis of secondary data (see template for developing a protocol in Appendix E.), this early data collection may be a waste. Extensive field work requires financial, social, and human capital, none of which should be spent without a clear goal of what data is to be collected, how, and for what purposes. As the baseline data collection is planned, it is important to recognize that no data collection instrument can be completely objective. Instruments are based on inherent assumptions about causes, effects, and human motivation,¹⁹ making it important to be as thoughtful as possible in designing baseline tools.

Before undertaking a baseline, it is necessary to have good knowledge of the local context.

This knowledge can provide an understanding of the general population, and then can contribute to planning an evaluation strategy for a specific population. Baseline and endline data can come from many sources, including already existing baseline data for the population from previous studies. For this reason, the CCRP strongly encourages project teams to carefully plan the methods and goals for baseline data collection before beginning field work.

Workplan

The workplan, reflecting the goals and strategies expressed in the ToC and M&E plans, is the annual guide to implementing a project. It is also required for all grant proposals and annual progress reports. Project teams can create plans that meet their specific circumstances and research needs; however, plans should contain these basic elements:

- Objectives
- Related research question (there might be none for a given objective, for instance a development objective, or multiple ones, see below)
- Related evaluation question (there might be none for a given objective, for example one that is concentrating on more basic research, or multiple ones, see below)
- Activities (including who will participate and what tools or methods will be used)
- Responsible, timeline and location
- Cost calculation: Identify type of units, number of units, and other thinking that went into calculating cost of activity. This can be a rough calculation.

¹⁹ Carr, E. (2013)

Sample Workplan

Below is a sample workplan with just one objective and two activities to illustrate how these components are organized. An actual workplan will have several objectives and many more activities. See Appendix D for a blank template. Please note that the objective and questions correspond to the ToC shown in Figure 4.

<p>Objective 1: Develop improved and diversified fallows to enhance the restoration of soil fertility, increase plot level productivity and profitability, and contribute to agroecosystem resilience in the face of climate change at a representative site with typical hillslope soils in the Central Andes.</p> <p>Associated Research Question: Can designing plant assemblages with complementary properties and supplementing them with small amounts of fertilizer and/or microbial inoculants significantly improve the functionality and profitability of fallows via increases to biomass production, forage nutritional quality, and nutrient mobilization in soils.</p> <p>Associated Evaluation Question: Are there changes in fallows management towards greater diversity and soil regeneration associated with the implementation of the project among the 3 intervention communities?</p>		
Planned Activities	Responsible parties, place, time	Cost Calculations
1. Introductory and input-gathering workshop for experimentation using PRD methodology	September 2013, Project agronomists: S. Smith, A. Wells; Quillcas and Castillapata communities (n=120)	Yanapai agronomist, 20 days Other Yanapai Staff 10 days Ground Travel, two communities, workshop team, \$700 Workshop supplies and food, 2 workshops: \$600 Materials for community visits, \$100 Miscellaneous, \$100 TOTAL: \$6980
2. Literature and institutional review	September 2013, S. Smith and A. Wells, other partners	Consultant fees/travel: Other Yanapai Staff, 1 days TOTAL: \$1660
3. Best bet trials phase one in Quillcas and Castillapata, Peru, starting in the first year	October 2013- September 2014 (and continuing beyond) NGO staff and communities, Researchers Farmers (n=23)	Yanapai agronomist 10 days Other Yanapai Staff 8 days Consultant fees/travel: Student support and field labor, 16 days x \$100 Visit supplies and food, 2 communities: \$400 Ground Travel, two communities, field sampling, \$2400 Field equipment and supplies, \$1000 Laboratory analyses, \$100

Section III: Key CCRP Moments for IMEP Processes

Internal project reflection, learning, and improvement happen informally throughout the project cycle and as part of the IMEP process. It is important to also have formal moments where insights can be consolidated, discussed, acted upon, documented, and shared.

Inception Period

The inception period can last from a few months to a year depending on the nature of the project. This early process gives project teams and regional teams the time to understand the local context and current state of knowledge, to reflect on what the project intends to produce and the change it hopes to achieve, and then to develop appropriate planning documents such as the ToC, M&E plan, workplan, and protocols, which will be sent to the RT at the end of the inception period. By the end of the inception period, the documents that project teams create should map out a clear direction for implementation. By the end of this period, the project team should be **more grounded in the local and global contexts of their work and be aware of opportunities and challenges**. As a result, the project design should reflect a clearer and sharper plan for achieving better outcomes.

Mid-Year Review

Though called the ‘mid-year review,’ this process can occur at any point in the project year depending on stakeholders’ schedules. The purpose of this review is to step back and consider the project in its larger context. The mid-year review is not only designed to review the budget, check progress on activities, or make plans for accomplishing other day-to-day tasks—it is also the opportunity for project stakeholders to exchange knowledge, explore ideas, reflect on successes and challenges, and plan. In other words, it is **a moment for adaptive action**: to ask “what?” (project’s results), ask “so what?” (utilization and learning), and “now what?” (updating plans.)

Since the **ToC** represents the project’s implementation and the changes stakeholders would like to see, participants in the mid-year review will want to use this document as a springboard for conversations and creative ideas about what is working, what should be modified, what new information or factors can or should be considered moving forward, etc.

Project teams **do not need to produce extensive reports** on the results of the mid-year review. The RT will need a brief email explaining what occurred during the meeting, and any changes that were made that should be reflected in subsequent revisions to the ToC, M&E plan, and workplan. The project team should also complete a Project Research Quality Self-Assessment, that should be submitted with the annual report.

The [Research Quality Assessment \(RQA\)](#) is filled out by both the regional team and project team once a year. While the ToC reflects the project’s strategy, the RQA helps the regional team and project team to reflect on quality research as defined by the CCRP: e.g. research that is participatory, agroecological, and rigorous. The ToC is about “doing the right thing” while Quality Research is focused on “doing things right” to produce rigorous and relevant research. The regional team fills out the RQA once a year for each project in order to track their perception of the project quality. The project team is also expected to fill out the RQA once a year, ideally as a group during the mid-year review. More important than the final score is the

reflections on quality and process that the RQA initiates. This tool allows for the assessment of the contribution of the CCRP to project-level research quality, the diagnosis of areas of strength or weakness, and the analysis of trends in the grant portfolio as a whole or in different configurations over time.²⁰

Community of Practice (CoP) Meeting

IMEP is an on-going process that happens at all levels in the CCRP-- community, project, region, and program. At the annual CoP meeting, project teams gather, along with regional team members and other stakeholders, to reflect, learn, and brainstorm from a regional perspective. Like the mid-year review, the **CoP meeting is also a moment for adaptive action** -- to ask “what?”, “so what?”, and “now what?” -- as well as an opportunity for team members to network and collaborate. The project teams mostly measure change at the farm and community level, **synergies, learning, and evidence will emerge** in regards to Agriculture Systems. The regional and program teams are looking primarily at **change in Research + Development Systems**²¹. Through exposure to multiple perspectives, everyone working in the region can see how their efforts are or are not converging to create change.

During the CoP meeting, participants collect and analyze information and insights about change across projects to develop and refine strategies. Useful tools for this process include: the regional ToC, the program-level evaluation questions, the RQA and Mini Impact Studies (see below), any external evaluations or case studies, and evaluations from CoP workshops and other events that happened during the year.

End of project reflection

At the end of a project phase a [Mini Impact Study](#), also known as a mini case study should be developed. The purpose of the MIS is to quickly show whether research results lead to development impacts. The idea is to pick a pathway or narrative and piece together research and evaluation results around that topic. The contributions of the CCRP approach along the way are in yellow. Project teams can map these out in Google Drawings or a PPT slide, and then the regional team will help with the final design and graphics.

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²⁰ To learn more about how rubrics like the RQA and TOCAT can be used in evaluation see: http://betterevaluation.org/en/resources/guides/rubric_revolution

²¹ See the program theory of change for more detail on Ag Systems and R+D Systems: <http://ccrp.org/program-essentials/theory-change>

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ADDITIONAL RESOURCES

Actknowledge: Center for Theory of Change: <http://www.theoryofchange.org/>
Better Evaluation: <http://betterevaluation.org>
Hivos Knowledge Programme Theory of Change Resource Portal
<http://www.hivos.net/Hivos-Knowledge-Programme/Themes/Theory-of-Change>
Human Systems Dynamic Institute
<http://www.hsdinstitute.org/index.html>
IMEP/ CCRP: <http://ccrp.org/how-we-work/imep>

Appendix A: Suggestions for Facilitating a Theory of Change Brainstorm Session

Who should participate

Developing a theory of change offers the opportunity to focus on the project's overarching goals rather than the day-to-day activities and other narrow details. The ToC diagram, a visualization of the changes the project team thinks will occur and how those goals might be achieved, should always be **created as a group**. The multiple perspectives make the diagram and the ideas it represents more complete, leading to a richer understanding of how project success will look while creating buy-in and shared meaning among stakeholders. If there are more than 8 active participants, or participants from very distinct backgrounds, it can be helpful to **construct the ToC over multiple sessions with different groups**, to increase participation and comfort. At the end of the sessions, the ToC should be compared to the previous one and adjustments made based on new learning. Some groups may find it easier to have a conversation rather than a structured mapping exercise.

The Dual Role of Facilitator and Participant

Because a ToC brainstorming session brings together a variety of stakeholders who may have a wide range of opinions and ideas, it is important to designate a facilitator. The facilitator's level of involvement may change throughout the course of the session, as described in the steps below. Regional team members usually act as *de facto* facilitators of this process even though they play a much more active role than "true" facilitators. These team members make ideal facilitators because they are able to ask important questions based on their content knowledge and interest in the project. However, balancing the role of facilitator and participant can be tricky. The same concerns may apply when a Principle Investigator or project leader facilitates the TOC meeting. In these cases, it is crucial to consider power dynamics between and among the various participating stakeholders. Full and equal participation can be encouraged by:

- having participants write their own ideas on cards,
- requiring facilitators to indicate when they are speaking as a participant and when as a facilitator
- repeatedly inviting participants interact with and modify the diagram,
- and allowing for some uncomfortable silences to encourage other people to speak, especially during the latter portion of the meeting.

Facilitation can involve initiating the ToC brainstorm session, writing down what people say, and building consensus around how concepts are grouped and described. Participation includes raising questions or concerns, helping the group think through their ideas, and identifying assumptions. This appendix gives some tips on how to handle the facilitating role to maintain general consistency across the program and to give new facilitators ideas. You will quickly develop your own style with a great deal of variation across groups. Most importantly, adapt to the specific situation.

Getting started

Often the impulse is to start with the proposal and workplan as a jumping off point, which can work with certain groups. However, it is usually more productive to start with bigger picture conversations rather than with the proposal's list of products and activities. Often people are tempted to "jump to the solution": they fixate on a preconceived solution because they want to reassure donors (and sometimes themselves) that they have a winning strategy. But in many cases the solutions won't actually solve the problem because they are based on unexamined assumptions about a vision of success that may not have been thoroughly explored.

It is recommended to start with brain-storming the diagnosis of the current situation, reflecting on the current situation, and then transitioning into ideas about what needs to be changed and the medium and long-term vision(s) of success. Often used in **participatory monitoring and evaluation**, this approach easily translates into a visual facilitation technique for participants who connect more to pictures than words.



A farmer in front of a past, present and future drawing that can inform ToCs. Photo credit: Steve Vanek, Grupo Yanapai, Casillapata, Peru. 2013

When conversation begins with a vision of success, the group is more likely to scrutinize the assumptions around how change will happen. The idea of a ToC brainstorming session is to help people examine the vision and work backwards to see if the products still apply. This approach can help uncover serious weaknesses in project design that otherwise might have stayed hidden had the conversation started with products or activities. Focusing first on the vision of success can also reveal areas of consensus upon which the group can build.

Suggested Steps for the Facilitator

Reflection takes time. Plan for the session to take a **whole day**, Dedicate the morning to developing and discussing the ToC and the afternoon to focus on drafting evaluation questions and re-visiting research questions for the ToC.

It is helpful not to over-structure conversation and activities; rather, by allowing participants to examine a wide range of ideas and topics, the facilitator will help to develop a comprehensive theory of change. It is important to dedicate time and energy to this process because the ToC serves as the anchor for each project. You can use a whiteboard or butcher paper as a backdrop. We recommend using large, colored notecards (10 cm x 17cm, 4-5 different colors) that can be easily moved around and grouped in different ways as necessary.

Phase 1: ToC

1. As participants are taking turns talking about what they think the project will accomplish, **listen for products, outcomes, and impacts**, which are the main focus. Use different colored card for each category. Participants will probably also mention some

activities. Write these on a separate color; later you'll explain that these are organized differently, as discussed in the next step. Also, keep track of **Diagnosis/ Context**, **Assumptions**, **Actors/ population**, **Definitions**, **Key questions**. These can be organized on different pieces of paper or on the main wall if there is space.



In this session, the diagnostic issues are in pink, outputs in green, outcomes in yellow and impacts in blue. Research and evaluation questions are on white cards.

2. As certain pathways of change become evident or the same ideas are repeated, **start taping the cards on the wall** so participants can visualize what's being said and the channels of change that are emerging. You can group products on the top, then outcomes, then impacts, or you can position them from left to right, like a familiar logframe. Each technique has pros and cons. Showing the temporal relationships between outcomes and impacts is important. Some outcomes will be short term, while others will be longer term; impacts, however, are almost always long term. Often it is helpful to place outcomes and impacts in such a way to represent the time frame--the farther they are from products, the longer time to achieve them. Likewise, the products can have a spatial representation to indicate timeframes. If people mention specific activities, arrange them above the products but let them know they don't have to include activities in their final ToC, which doesn't need that level of granularity.
3. When the time seems right, you will want to pause the conversation to **explain what you're doing: mapping out how the group is saying change will occur**. Explain that though some of the impacts won't happen during the life of the project and the project team doesn't intend to measure them, you are grouping impacts along the bottom so everyone remembers what the group is trying to accomplish in the long run, allowing everyone to see how different components flow into each other. Explain that outputs and outcomes are more or less flexible, and everyone should keep in mind that if something isn't working as the project unfolds, they should try something else, and update the ToC accordingly. The important thing is to keep an eye on what success looks like as it is represented by the impacts.

4. **Point out the 2-4 main channels of change emerging.** These channels usually end up corresponding to the project objectives. You can use symbols, other colors, or simply placement of the cards to illustrate the channels. We also recommend using arrows to make connections between and among outputs, outcomes, and impacts. As the conversation continues, you will find it necessary to rearrange cards, take some out, add some, indicate where more thinking is needed, etc. However, don't act unilaterally; always work with the group to arrive at a consensus about how ideas relate to each other. Careful thought about the grouping of ideas around pathways or channels is important for the ToC to add clarity and focus to a depiction of reality. Likewise, try not to overburden or oversimplify the cards, they should have around 5-6 words.
5. As people start to see how the process works, you can **pull back as the facilitator and let participants start using the diagram to explain or modify their thinking.** Different participants will have different views, so you should encourage them to write their own ideas on the appropriately colored cards and place them on the diagram. Further discussion can lead to some consensus. Participants should also feel invited to rearrange the cards that you placed. If participants don't start interacting with the diagram, you'll need to continue writing and placing cards to make sure the ToC is reflecting the conversation. This is where the **discussion will become more critical**, examining “miracles”, where a modest outcome magically leads to the most ambitious of outcomes. Also, **explore alternative scenarios** – what ifs about different research objectives or areas of work -- even if the objectives are unlikely to change, it is good to explore different options to make sure the plan that emerges is solid.

Phase II: Evaluation questions

6. Use an asterisk or some other symbol to **indicate places in the ToC where outputs or outcomes will need corresponding research questions.**
7. As the conversation begins to wind down and people feel comfortable with the direction of the ToC, **direct the discussion toward evaluation questions**, e.g. “If we think this product leads to this immediate outcome, how are we going to know that happened?” Then examine the arrows between the products and the outcomes. You want to help people think about the questions that will ultimately be asked (e.g. did farmers’ knowledge or practice change because of the introduction of this technology/ product?) and how they’ll be answered. During this time, introduce the general framework of the M&E plan. The group should decide on the evaluation questions, and brainstorm some initial ideas about methods, indicators, means of verification, and implications for the budget and team.

The ToC belongs to the group, so they should be encouraged to take a photo of it to refer to as the project continues. The project team will need to transcribe it and send it to the RT along with M&E plan and revised workplan. At the end of the discussion, make sure everyone agrees on a convenient date (two-four weeks later is usually sufficient) by which they can deliver the documents’ information.

Google Drawings is one software that can facilitate the drawing and sharing of a ToC.

Appendix B: ToCAT

Theory of Change Assessment Tool (ToCAT)

The following rubric with criteria is a tool for projects and others to assess and improve the quality and effectiveness of their ToCs.

Aspect	Check box	Criteria	Comments
Clarity and insight: Are there clear channels or pathways that lead to impacts?		Weak: A confusing mess of arrows and boxes AND/OR language has too many abbreviations and/or jargon and/or too wordy to be understood by key stakeholders.	
		Underdeveloped	
		Good	
		Excellent: The arrows are used judiciously to indicate key moments of change. There are 2-4 clear channels of action and impact that correspond with objectives and questions. Wording is clear and succinct. There is focus without oversimplification.	
Realistic depiction of the key factors and processes that will effect change		Weak: Overly simplistic and linear with “magic” jumps from one box to another without indicating mechanisms and conditions for change, or the inherent risks and assumptions. No connections among pathways to indicate interconnections.	
		Underdeveloped	
		Good	
		Excellent: The arrows, boxes, and questions implicitly or explicitly indicate what are the assumptions, levers, and conditions necessary for change. There is an understanding of the system within which the project is embedded, without losing focus.	
Relationships between research and impacts are clear		Weak: The research elements of the project are not clear or are disconnected from a large part of the ToC	
		Underdeveloped	
		Good	
		Excellent: The research objective/ questions and/or products are clearly visualized in the ToC including the potential to contribute to the outcomes and impacts.	
Evaluation questions are addressing the most important and feasible learning		Weak: The evaluation questions address only process indicators related to accomplishing the Workplan (activities and products). AND/OR are overly ambitious and/or larger than the project’s scope, and cannot be adequately answered or addressed by the project. AND/OR The questions are overly generic, they could apply to any project, not specific enough to this one and its possible contribution AND/OR there are too many and	

		don't prioritize the most important learning to key stakeholders.	
		<i>Underdeveloped</i>	
		<i>Good</i>	
		<i>Excellent:</i> There are a manageable number of evaluation questions that correspond to the ability and scope of project. The questions are covering the basic learning priorities of the stakeholders (including the CCRP). The questions are testing key hypothesis or mechanisms of change specific to the project. The evaluation questions likely to provide insight into the relationships between the research, the broader systems, and the changes the project is hoping to contribute to.	

Appendix C: Monitoring and Evaluation Plan Format for CCRP

This is a suggested format. The evaluation questions should coincide with those listed in the workplan as should any activities mentioned in the means of verification should be in the workplan as well.

Evaluation Questions: What change is there for a specific stakeholder?	Stakeholders: We expect to see change in what groups of people?	Indicators: How will we know if change occurred?	Means of verification: How will we know or measure if that change occurred?
<i>Evaluation Question #1</i>			
<i>Evaluation Question #2</i>			
<i>Evaluation Question #3</i>			

Appendix D: Workplan Template

Project teams are required to submit a workplan in their proposal and annual reports. This is a suggested format.

Objective #1: <ul style="list-style-type: none">• Related research questions(s) (if any)• Related evaluation question(s) (if any)		
Activities	Responsible, time line and place	Cost calculations (\$US)

Add other rows/tables for more activities and objectives

Appendix E: Protocol for Research or Evaluation Questions

In-depth evaluation requires the same rigor, structured data collection, analysis, and interpretation as other types of research. For more complex evaluation questions, project teams will need to develop a protocol and share it with peers for feedback. A protocol, which can be used for research or evaluation questions, should contain the following components:

Background, context, problem statement and research question

State the question first. Then describe the site and participants, including the geographic, ecological, social, cultural and institutional factors that can influence the study and how they interact. Secondary information can and should be used, including a literature review.

Research methods

Describe methods and why you have chosen them. Include the following areas:

Sampling strategy

Describe how and why the participants or units of analysis were chosen. Describe the scale, scope, and characteristics of the population. Domains of inference should be defined and covered by sampling scheme. The sampling strategy does not have to be representative or statistically calculated, it just has to be clearly explained. For more information on sampling see pages 9-10 in the [Social Science Guide for Agronomists](#).

Data collection methods

Discuss the role and protocol of the researcher(s) in data collection; how the data relates to the research or evaluation question; how and where the data will be stored; with whom it will be shared; and how it will be shared. Include formats or description of tools in the appendix.

Data analysis approach

Once you conduct the research and collect the data, your report should discuss how you have analyzed and interpreted the data to answer the research or evaluation questions. If there are any irregularities in the data, explain how you discovered them and what impact they have on the analysis. Make sure your data is complete, reviewed for errors, and made available in a comprehensible format. You should analyze results before the next round of data collection.