MONITORING & EVALUATION

ShortCuts

Guidelines on Monitoring and Evaluation Planning

Monitoring and Evaluation Planning

September 2008

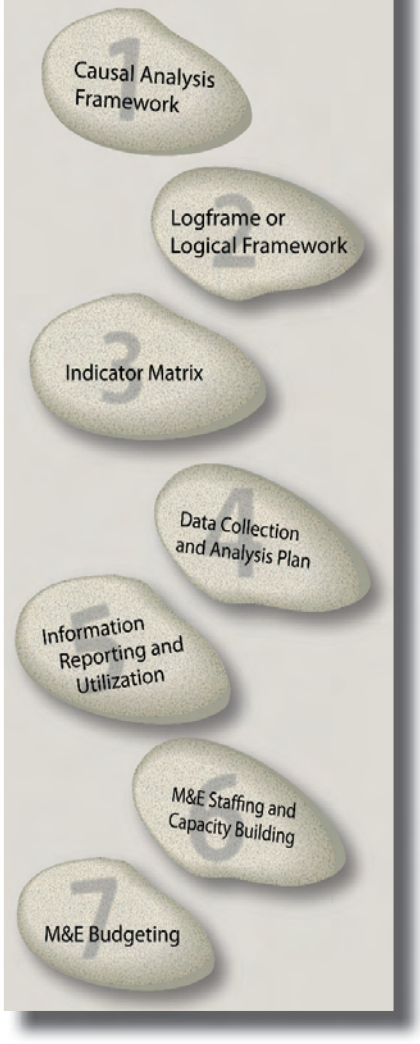
Introduction

This edition of *Short Cuts* is intended to provide concise guidance needed to develop a comprehensive monitoring and evaluation (M&E) system for international humanitarian relief and development programs. It covers the key planning documents and processes needed to set up and implement an M&E system for project planning, implementation, and evaluation. It is designed for use by M&E specialists, managers of humanitarian and development programs, and decision makers who are responsible for program oversight and funding.

The first four key components of M&E planning trace a logical train of thought, from hypotheses on how the project will bring about change in a specific sector, to the specific objectives needed for these changes, methods for measuring the project's achievement of its stated objectives, and protocols for collecting and analyzing data and information used in the measurement. The latter three components of M&E planning are key considerations for implementing an M&E plan.

Keep in mind that M&E planning should begin during or immediately after the project design stage and should involve stakeholders. Early planning will inform the project design and allow sufficient time to arrange for resources and personnel prior to project implementation. Involvement of project staff and key stakeholders will ensure feasibility, understanding, and ownership of the M&E system.

Seven Key Components of M&E Planning



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1 Causal Analysis Framework

The causal analysis framework seeks to identify the following:

1. The major problem and condition(s) that the project seeks to change
2. The factors that cause the condition(s)
3. The ways to influence the causal factors, based on hypotheses of the relationships between the causes and likely solutions
4. The interventions to influence the causal factors
5. The expected changes or desired outcomes (see Table 1).

Table 1: Causal Analysis Framework

Causal Analysis	Hypothesis Development	Project Design
Cause/Conditions Mothers do not know that unclean water will make infants sick (knowledge).	**IF** mothers are aware of the dangers of unclean water	**Interventions** Educate mothers about the dangers of unclean water
Mothers believe that breastmilk alone does not satisfy infants younger than 6 months (attitude).	**AND** that breastmilk is nutritionally sufficient for infants younger than 6 months	Educate mothers about the nutritional value of breastmilk for infants younger than 6 months
Mothers are giving breastmilk substitutes to infants younger than 6 months (practice).	**THEN** they will breastfeed their infant exclusively to avoid exposure to unclean water	**Desired Outcomes** Increased breastfeeding of infants younger than 6 months
Problem High diarrhea rates among infants younger than 6 months	**THEREBY** contributing to reductions in diarrhea among infants younger than 6 months	Reduced diarrhea among infants younger than 6 months
Consequence High rates of infant mortality	**THEREBY** contributing to reductions in infant mortality	**Overall Goal** Reduce infant mortality

Source: Author.

The framework presented in Table 1 hypothesizes that mothers will breastfeed their infants once they learn about the dangers of unclean water. However, if mothers are not breastfeeding for other reasons, such as cultural norms or working away from home, then different interventions are needed. In effect, the M&E system tests the hypotheses to determine whether the project's interventions and outputs have contributed to the desired outcomes.

Causal analysis should be based on a careful study of local conditions and available data as well as consultation with potential beneficiaries, program implementers, other stakeholders, and technical experts. Such information may be available in needs assessments, feasibility studies, participatory rapid appraisals, community mapping, and other forms of analysis.

Other forms of analysis include problem analysis, such as problem trees, to isolate conditions and consequences that help identify objectives and strategies, and theory of change analysis, which uses backwards mapping to identify conditions required to bring about desired outcomes.

2 Logframe or Logical Framework

A logframe or logical framework shows the conceptual foundation upon which the project's M&E system is built, identifying what the project is intended to achieve (objectives) and how this achievement will be measured (indicators). Other frameworks can be used (such as a results framework). The logframe is a valuable M&E planning tool and is widely used for development projects. Table 2 defines the key terms and components of a classic logframe matrix. Note that different organizations in the development community use different formats and terms for the types of objectives.

Indicator selection is critical. Indicators should have validity (be able to measure the intended concept accurately) and reliability (yield the same data in repeated observations of a variable); be easy to interpret and explain; and be timely, cost-effective, and technically feasible. Indicators should also be developed with consideration of donor requirements and any recognized industry standards.

It is also important to understand the logframe's hierarchy of indicators. For instance, it is usually easier to measure lower-level indicators such as the number of workshop participants, whereas the higher-level indicators, such as behavioral change, typically require more analysis and synthesis of information. This affects the M&E data collection methods and analysis and has implications for staffing, budgets, and timeframe.

Table 2: Logframe Definition Table

Project Objectives	Indicators	Means of Verification	Assumptions
Goal Simple clear statement of the impact or results that the project should achieve	**Impact Indicator** Quantitative or qualitative means to measure achievement or to reflect the changes connected to stated goal	Measurement method, data source, and frequency of data collection for stated indicator	External factors necessary to sustain the long-term impact, but beyond the project's control
Outcomes Set of beneficiary and population-level changes needed to achieve the goal (usually knowledge, attitudes and practices, or KAP)	**Outcome Indicator** Quantitative or qualitative means to measure achievement or to reflect the changes connected to stated outcomes	Measurement method, data source, and frequency of data collection for stated indicator	External conditions necessary if the outcomes are to contribute to achieving the goal
Outputs Products or services needed to achieve the outcomes	**Output Indicator** Quantitative or qualitative means to measure completion of stated outputs (measures the immediate product of an activity)	Measurement method, data source, and frequency of data collection for stated indicator	Factors out of the project's control that could restrict or prevent the outputs from achieving the outcomes
Activities Regular efforts needed to produce the outputs	**Process Indicator** Quantitative or qualitative means to measure completion of stated activities	Measurement method, data source, and frequency of data collection for stated indicator	Factors out of the project's control that could restrict or prevent the activities from achieving the outcomes
Inputs Resources used to implement activities (financial, materials, human)	**Input Indicator** Quantitative or qualitative means to measure utilization of stated inputs (resources used for activities)	Measurement method, data source, and frequency of data collection for stated indicator	Factors out of the project's control that could restrict or prevent access to the inputs

Source: Author based on an example from Caldwell (Project Design Handbook, 2002, 130).

Indicator Matrix

The indicator matrix expands the logframe to identify key information requirements for each indicator and summarizes the key M&E tasks for the project. The indicator matrix—also known as a data collection plan or M&E plan—may have different formats, but the overall function remains the same. Table 3 provides a sample format for an indicator matrix, with column definitions in the first row and a sample indicator in the second row.

It is critical that the indicator matrix be developed with the participation of those who will be using it. Completing the matrix requires detailed knowledge of the project and context to be provided by the local project team and partners. Their involvement contributes to data quality because it reinforces their understanding of what data they are to collect and how they will collect them.

Table 3: Indicator Matrix Example

Indicators	Indicator Definition	Methods / Sources	Frequency / Schedules	Person(s) Responsible	Data Analysis	Information Use
Indicators can be either quantitative (numeric) or qualitative (descriptive observations) and are typically taken directly from the logframe.	Define key terms in indicator for precise measurement and explain how the indictor will be calculated, i.e., the numerator and denominator of a percent measure; also note any disaggregation, i.e., by sex, age, or ethnicity	Identify information sources and data collection methods/tools Indicate whether data collection tools (surveys, checklists) exist or need to be developed	Identify how often the data will be collected, i.e., monthly, quarterly, or annually List start-up and end dates for data collection and deadlines to develop tools	Identify the people responsible and accountable for data collection/ analysis List each person's name and position title to ensure clarity in case of personnel changes	Describe process for compiling and analyzing data, i.e., statistical analysis	Identify intended audience and use of data, i.e., monitoring, evaluation, or reporting to policy makers or donors State ways the findings will be formatted and disseminated
Sample Indicator **Outcome 1a** percent of target schools that successfully conduct a minimum of one disaster drill per quarter	1. "Schools" refers to K-12 in Matara District. 2. Criteria of "Success": unannounced drill through early warning system; response time under 20 minutes, school members report to designated area per the School Crisis Response Plan 3. Numerator: # of schools with successful scenario per quarter 4. Denominator: total # of targeted schools	1. Pre-arranged site visits during disaster drill 2. Complete disaster drill checklist & entered into quarterly project report 3. School focus group discussions (FGDs) (teachers, students, administration)	1. Checklist data collected quarterly 2. FGD: every 6 months 3. Begin data collection on 4/15/06 4. Scenario Checklist completed by 3/8/06	School Field Officer (SFO): Shantha Mande	1. Post-drill meeting with School Disaster Committee, facilitated by SFO 2. Project management team during quarterly reflection meeting	1. Project implementation with School Disaster Committees 2. Monitoring school outreach training with management with Sri Lankan Red Cross Society 3. Tsunami Recovery Program management 4. Impact evaluation to justify intervention to Ministry of Disaster Relief, donors, etc.

Source: Author.

4 Data Collection and Analysis Plan

The data collection and analysis plan expands upon the information provided in the indicator matrix, typically with a detailed narrative that explains how each type of data will be reliably collected with sound research practices. Key plan components include: the unit of analysis; the link(s) between indicators, variables, and questionnaires; the sampling frame and methodology; data collection timing and mode; research staff responsibilities; enumerator selection, training and supervision; fieldwork timing and logistics; data quality checks; data entry and storage; hypothesized relationships among the variables; data analysis methods; and any special analyses, such as disaggregating data by gender, age, or location and socio-economic status.

It is important to provide the rationale for the data collection and analysis methods. This includes the triangulation of methods (quantitative and/or qualitative) and sources to reduce bias and ensure data reliability and completeness. Planning should be informed by standards that guide good practice of project evaluation and ensure ethical, accountable, and quality evaluations.

Some major data sources that should be described include any secondary data, sample surveys, project output data, qualitative studies, checklists, external assessments–midterm and final evaluations–and participatory assessments.

Practical considerations in data collection planning include:

- **Prepare data collection guidelines to ensure standardization, consistency, and reliability** over time and among different people
- **Pretest data collection tools** to detect problematic questions or techniques, verify collection times, identify potential ethical issues, and build the competence of data collectors
- **Train data collectors** to reliably understand the data collection system, collection techniques, tools, ethics, and culturally appropriate interpersonal communication skills
- **Address ethical concerns** by identifying and responding to any concerns expressed by the target population; ensure that the necessary authorization has been obtained, that customs and attire are respected, and that confidentiality and voluntary participation are maintained
- **Plan for data management**, including the set of procedures, people, skills, and equipment needed to systematically store and manage data to ensure that the data are reliably recorded.

A data analysis plan should identify:

- Timing of data analysis: The data analysis is not an isolated event at the end of data collection, but an ongoing task from project start; it can be structured through meetings and other forums to coincide with key project implementation and reporting benchmarks.
- The extent to which analysis will be quantitative and/or qualitative, and any specialized skills and equipment required for analysis
- Who will do the analysis – i.e., external experts, project staff, beneficiaries and/or other stakeholders
- If and how subsequent analysis will occur, i.e., to verify findings, or to inform future programming.

An important consideration in planning for data collection and analysis is to identify any limitations, biases, and threats to the accuracy of the data and analysis. Data distortion can occur due to limitations or errors in design, sampling, field interviews, and data recording and analysis. To avoid data distortion, it is best to monitor the research process carefully and seek expert advice, when needed.

5 Information Reporting and Utilization

Collecting information on project activities and achievements can serve many important functions, such as improving the quality of services; ensuring accountability to beneficiaries, donors, and other stakeholders; and advancing learning. Project reporting is closely related to M&E work, since data are needed to support the major findings and conclusions presented in a project report. Often the focus and frequency of M&E processes are determined by reporting requirements and schedules.

Practical considerations in information reporting and utilization planning include:

- **Design the M&E communication plan around the information needs of the users**: The content and format of data reports will vary, depending on whether the reports are to be used to monitor processes, conduct strategic planning, comply with requirements, identify problems, justify a funding request, or conduct an impact evaluation.
- **Identify the frequency of data reporting needs**: For example, project managers may want to review M&E data frequently to assess project progress and make decisions, whereas donors may only need data once or twice a year to ensure accountability.
- **Tailor reporting formats to the intended audience**: Reporting may entail different levels of complexity and technical language; the report format and media should be tailored to specific audiences and different methods used to solicit feedback.
- **Identify appropriate outlets and media channels for communicating M&E data**: Consider both internal reporting, such as regular project reports to management, and progress reports to donors, as well as external reporting, such as public forums, news releases, briefings, and Internet Web sites.

6 M&E Staffing and Capacity Building

Staffing is a special concern for M&E work because it demands special training and a combination of research and project management skills. Also, the effectiveness of M&E work often relies on assistance from staff and volunteers who are not M&E experts. Thus, capacity building is a critical aspect of implementing good M&E work. (See the *Hiring M&E Staff, Preparing for an Evaluation*, and *Capacity-Building Guidance ShortCuts* and modules for further information on this topic.)

Suggestions for ensuring adequate M&E support are to:

- **Identify the various tasks and related skills needed**, such as adequate data collection systems in the field, research design, and data entry and analysis
- **Assess the relevant skills** of the project team, partner organizations, and the community beneficiaries themselves
- **Specify to what extent local stakeholders will or will not participate in the M&E process** (Table 4 identifies some of the potential advantages and disadvantages in participatory M&E.)
- **Assign specific roles and responsibilities to team members and designate an overall M&E manager**
- **Recruit consultants, students, and others to fill in the skill gaps and special needs** such as translation, statistical analysis, and cultural knowledge
- **Identify the topics for which formal training is needed and hold training sessions**
- **Encourage staff to provide informal training** through on-the-job guidance and feedback, such as commenting on a report or showing how to use computer software programs
- **Give special attention to building local M&E capacity.**

Table 4: Participatory M&E

Potential Advantages	Potential Disadvantages
• Empowers beneficiaries to analyze and act on their own situation (as "active participants" rather than "passive recipients") • Builds local capacity to manage, own, and sustain the project as people are likely to accept and internalize findings and recommendations that they provide • Builds collaboration and consensus at different levels—between beneficiaries, local staff and partners, and senior management • Reinforces beneficiary accountability, preventing one perspective from dominating the M&E process • Saves time and money in data collection compared with the cost of using project staff or hiring outside support • Provides timely and relevant information directly from the field for management decision making to execute corrective actions	• Requires more time and cost to train and manage local staff and community members • Requires skilled facilitators to ensure that everyone understands the process and is equally involved • Can jeopardize the quality of collected data due to local politics; data analysis and decision making can be dominated by the more powerful voices in the community (related to gender, ethnic, or religious factors) • Demands the genuine commitment of local people and the support of donors, since the project may not use the traditional indicators or formats for reporting findings

7 Budgeting for M&E

A key function of planning for M&E is to estimate the costs, staff, and other resources that are needed for M&E work. It is important for M&E specialists to weigh in on M&E budget needs at the project design stage so that funds are allocated specifically to M&E and are available to implement key M&E tasks.

Program managers often ask what proportion of a project's budget should be allocated to M&E. There is no set formula; various donors and organizations recommend that between 3 to 10 percent of a project's budget be allocated to M&E. A general rule of thumb is that the M&E budget should not be so small as to compromise the accuracy and credibility of results, but neither should it divert project resources to the extent that programming is impaired.

Suggestions for building a realistic budget:

- **List all M&E tasks and overall responsibilities, analyze the necessary items associated with each task, and determine their cost**
- **Budget for staffing,** including full-time staff, external consultants, capacity building/training and other human resource expenses
- **Ensure that the budget includes all capital expenses,** including facility costs, office equipment and supplies, travel and lodging, computer hardware and software, and other expenses
- **Determine whether all tasks are covered in the overall project budget**, such as support for an information management system, field transportation and vehicle maintenance, translation, and publishing M&E documents/tools
- **Review the donor's requirements to determine whether there are any extra items that need to be budgeted,** or conversely, that the donor can fund directly
- **Allow for unexpected contingencies** such as inflation, currency devaluation, equipment theft, or the need for additional data collection/analysis to verify findings
- **Write a narrative explaining each line item** to clarify or justify expenses; this budget justification may help to guard against arbitrary budget cuts.

This edition of Short Cuts was produced in 2008. Please send your comments or feedback to: m&efeedback@crs.org.

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The M&E series is available on these Web sites:

- www.crs.org/publications
- www.foodsecuritynetwork.org/icbtools.html
- www.redcross.org

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