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# Program Evaluation Workshop

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## 2. OVERVIEW OF EVALUATION

### 1.1. WHAT IS EVALUATION?

Evaluation is the process of measuring and analyzing the results of a development project, program or policy, to assist managers in making well-informed decisions about future operations, plans and policies.

The measurement, analysis, and interpretation undertaken during evaluation cover:

- What happened (or what changed), and how did this outcome compare with what was expected?
- Why and how did it happen? (Or why and how did the change occur)?
- What is the significance for future decision and action of the answers to these two questions?

Whatever the programmatic scope of an AID-sponsored evaluation -- e.g., a single project or program, several projects, a sector program, an overall country development strategy, or a specific concern that cuts across projects, programs or strategies -- the measurement, analysis and interpretation during an evaluation usually focus on questions that are related to the following five key issues: relevance, effectiveness, efficiency, impact and sustainability. The evidence obtained through a systematic assessment of these issues enables AID and its borrowers/grantees to improve the performance of on-going programs and to build on experience in designing new programs.

Evaluation is an integral part of AID's programming and management operations. In the AID context, evaluation has several characteristics that highlight its use as a management tool. First, AID makes plans for its evaluation needs, and undertakes different kinds of evaluations depending on the uses for which evaluative information is needed. Second, evaluation is carried out with reference to the specified objectives of a project or program, against which progress and achievements can be measured. Third, evaluation of ongoing projects and programs is closely linked to their implementation and monitoring. And fourth, AID staff collaborates with AID's borrowers and grantees in carrying out evaluations.

These last two characteristics in particular help support AID's efforts to transfer evaluation as a "management technology" to its partners in developing countries. While AID encourages formal technical training support the use of evaluation development in program management, the evaluation

process itself is a major opportunity to encourage counterparts to apply evaluation concepts and to use information in improving program performance.

## A. Types of Evaluation in AID

As the practice of systematic program evaluation has developed over recent years in public and private sector organizations, the "types" of evaluation have multiplied. This is a healthy sign of management efforts to investigate and use experience to improve operations in a world of changes and challenges. But it can also lead to confusion and problems of communication between managers of specific activities and evaluators asked to investigate those activities. By the early 1980's, over 100 types of evaluation (more or less "legitimate") had been identified and given discrete labels. For many years, AID itself tried to capture a wide range of evaluative efforts into three designated types: "regular" or "routine" evaluation, "special" evaluation, and more recently "impact" evaluation (the only label that still has substantive meaning). Inevitably, the "routine", "regular" and "special" nomenclature ceased to be meaningful, and AID abandoned it in 1980 (this change is formally reflected in the revised "AID Evaluation Summary" form).

In current AID practice, an evaluation is an evaluation, period. Instead of requiring its operating units to label evaluations according to a predetermined typology, AID requires these units to state clearly the purpose, scope and main questions which an evaluation will address, and to indicate when in the authorized "life" of a project or program an evaluation is undertaken: during the project (interim), toward the end (final), or following completion (ex-post), or some combination of these (in cases of multi-project, sectoral or country program evaluation).

Depending on the reporting requirements of individual AID Bureaus (as issued in separate guidance), the type of monitoring reviews that focus primarily on whether various activities, practices and interventions have been undertaken as specified in project or program designs or adjusted implementation work plans, as well as the problems being encountered in adhering to these designs and plans, may not necessarily be reported as evaluations. Investigations that examine whether the outputs of a project are in fact reaching a targeted area or a targeted population, that try to illuminate the factors that are persistently handicapping implementation and that go beyond these factors to examine the issues of project effectiveness, efficiency, relevance, sustainability and impact are always considered as evaluations and should be reported as such.

Earlier literature on evaluation distinguishes between "formative" and "summative" evaluations. This distinction is still a useful one in thinking about evaluation as a management tool.

Formative evaluation asks the question: "How can we improve an on-going project or program?" An analysis of what has happened, and why it happened, is used to guide implementation and possible redesign as a project or program is being implemented, while there is still time to make changes. It is particularly helpful when the strategy for achieving certain implemenation benchmarks is especially problematical, or when the project is likely to be affected by some major change in the environment or in the assumptions on which the project is based. Such conditions are endemic to most AID-supported projects and programs. Formative evaluation usually involves some project staff (and possibly both beneficiaries and higher officials) in a self-learning, self-correction process.

By contrast, summative evaluation asks the question: "Given what we've achieved, should we continue the project or program and, if so, at what level?" As the term implies, the evaluation analysis attempts to "sum up" the actual effects and impacts achieved, and relate them to initial expectations and to costs. Summative evaluation is especially appropriate toward the end of a project or program or after completion, and focuses on a measurement of overall program performance and an explanation of this performance. It is particularly useful for planning follow-on activities, whether as a subsequent phase or in the same sector. Usually, the evaluators are not directly associated with the project or program, partly to maximize opportunities for a fresh perspective and partly to obtain the multi-disciplinary skills that are usually necessary for this kind of evaluation.

This distinction, however, is not helpful to AID or to AID's counterparts if it is used to limit the scope of analysis or to narrow the range of factors to be examined at any given time in the life of a project or program. The AID programming cycle, and associated discussions within AID and between AID and its borrowers and grantees, cannot wait for some final "summing-up" of achievements. Decisions have to be made and funds authorized for new and continuing activities before the totality of ultimate effects and impacts can be added up and analyzed.

Similarly, to be most useful, "formative" evaluation needs to pay attention to interim impacts and their trends, to changes in underlying assumptions, and to events in the broader environment beyond the project that may affect final performance. It cannot be limited solely or even mainly to "internal" project benchmarks, pre-established implementation plans, and management processes. AID's previous experience in formative evaluation demonstrates that it is all too easy to overlook the forest for the trees, and to generate "status reports" or descriptions or management problems rather than evaluations.

Moreover, what a project manager sees as a summative evaluation is seen as a formative evaluation by more senior managers, directors and administrators who are concerned with broader programs and strategies.

Based on more than a decade of experience in program evaluation, AID now prefers to see evaluation as a dynamic, incremental activity through which the gathering of information on implementation, effects and impact begins very early in the life of a project or program and becomes increasingly comprehensive and cumulative as time goes on. Managers do not wait until the end of an activity to evaluates effectiveness and impact. Information is systematically gathered on leading indicators of the direction of effects and the potential for impact, and an effort is made to adjust implementation strategies and activities accordingly.

When this incremental view of evaluation is applied in practice -- especially by building requirements into project design, implementation practices and overall program management systems -- AID gains the following additional benefits:

-- empirical quantitative and qualitative information that can inform imminent programming decisions, and that can be used in later assessments of a more purely "summative" nature; and

-- a richer explanation of "why" and "how" summative achievements were obtained, enabling AID to identify patterns in circumstances and contingencies that influenced these achievements, and to build this knowledge into AID's "lessons learned" and into agency policy.

Evaluation is only one of several sources of information about AID project and program performance. Other sources include audits, project completion reports, state-of-the-art research, feasibility studies and sector assessments. A good evaluator will review these sources for data, analytical concepts and useful ideas that can sharpen the focus of an evaluation and build on what is already known. Requirements for such a review should be built into an evaluation scope of work, and evaluators should be directed to AID's library and automated "memory" of program and research documents.

In AID, audit is an investigation of the degree of compliance of policies, procedures and practices with stated rules, regulations, directives, guidelines and laws. It assesses the adherence of staff and programs to these predefined management standards. Since AID procedures require program and project evaluation, auditors may examine the extent to which this requirement has been fulfilled and the extent to which actions have been taken to implement the recommendations of an evaluation. While audit tends to focus on the disposition and control of funds and other valuable resources according to these standards, modern auditing practice also requires attention to the relationship of such disposition and controls to the objectives of the activity for which funds have been appropriated and expended. This latter kind of evidence can provide evaluators indicative evidence of real world priorities, behaviors, constraints and opportunities.

AID's Handbook 3 ("Project Assistance") requires project managers to prepare standard Project Completion Reports. These reports contain factual descriptions of final project inputs and outputs and, to the extent that evidence from evaluations was available, of the accomplishment of broader results and impacts. State-of-the-art research, supported by AID grants and agreements, sometimes contain broad-based syntheses and operations research about experience in applying new technologies, or development strategies, and, more rarely, in developing and testing new program evaluation methods. Feasibility studies and sector assessments, in identifying areas of possible new program or project initiatives, often contain detailed data, information on recent trends, and analysis useful as baseline or contextual data for evaluation. Other sources of information on broad program experience and factors bearing on this experience are country-specific Country Development Strategy Statements and Social and Institutional Profiles.

One of the characteristics that distinguishes evaluation from these other information sources is its overall purpose -- informing future decisions and actions by systematically analyzing past program experience. AID's definition of evaluation includes the phrase: "... to assist managers in making well-informed decisions about future operations, plans and policies." AID includes this qualifying phrase deliberately, to highlight the fact that, in AID, evaluation is not carried out for its own sake, but to be used. Evaluation is undertaken by different parts of the Agency for specific purposes, to address the specific information needs of those who have to make operational, programming and policy judgements and decisions. The information pulled together during an evaluation helps AID and counterpart management to reduce the degree of uncertainty about the future, and gives managers somewhat wider latitude, and hopefully greater confidence, in working toward shared development objectives.

## B. "Evaluation" and "Monitoring

AID project officers have assigned responsibilities regarding the implementation of project activities, and regarding AID monitoring and evaluation of projects during implementation. By cooperating with borrower/grantees in monitoring and evaluating projects, officers support the effective management of these projects. In adddition, AID officers report regularly to higher management on the status of project activities and their results.

AID officers sometimes ask about the difference between monitoring and evaluation. AID has found that as a pratical matter, the difference is less important than the relationship between these two management tools. This relationship focuses on the fact that an AID-supported project or program is not simply a set of activities that require regular tracking and careful control, but is a development effort undertaken to accomplish desired outcomes, defined in terms of the "purpose" and "goal" of a project.

To assist borrowers/grantees to manage projects most effectively, as well as to meet their own implementation and reporting responsibilities, project officers must be able to "monitor" two aspects of a project:

- implementation of projects activities, according to an agreed workplan or schedule; and
- the results of these activities, according to an agreed set of outcomes that define the purpose of the project.

Such monitoring is undertaken to support two principal management needs.

- "Controlling" project activities, to meet both AID's rules and regulations, and to fulfill workplans.
- "Redesigning" and replanning" activities as may be necessary to take every practical opportunity to achieve a project's purpose in changing circumstances and with greatest efficiency.

The second need would not arise for perfectly-designed projects undertaken in a perfectly-ordered world. This has never been the case. AID always anticipates the need for mid-course corrections in projects, and consequent modification in workplans.

From time to time, moreover, the concerns of higher management may change. Thus, AID project officers may be required to examine and report on elements and results of a projects that are not of immediate interest to the AID officer or counterpart manager, but which are of very great interest to higher management. These may subsequently become part of the officer's "monitoring" responsibilities.

To monitor these aspects of a project, AID officers and counterparts require information. This information consists of data and its analysis. For example, data are normally gathered and recorded on the current status of project activities and related tasks; comparing current status to planned status in an implementation workplan requires some analysis. Similarly, measuring results or outcomes is one thing; comparing them with expectations is another matter. Furthermore, in both cases, additional investigation and analysis are usually necessary to understand the following:

--Why any discrepancies have emerged between actual implementation status and planned status, or between actual results and anticipated status;

--What the consequences are for anticpated results of any discrepancies in implementation results;

--What the consequences are for implementation plans of any discrepancies in results.

These constitute the information required for monitoring. Without a regular flow of such information, and its use in discussion and eventual action, project "management" becomes a hollow term.

In a similar vein, higher management also needs information to "monitor" broader programs that constitute a development strategy for the achievement of higher-order and longer-term objectives, to "control" these programs, and to "redesign" or "replan" them. In many cases, the information needs of project officers and higher management overlap. That is, the some of, information an officer needs to help keep a project on track toward its purpose in the most efficient way is the same information that higher management needs to assess the contribution the project is making to a broader strategy. Nevertheless, there are differences as well, and these may impose specific data and analysis demands which can often be most efficiently handled within a project. Unless they are very carefully identified, managed and supported, however, these higher management needs for information may impose an unrealistic burden on AID officers and counterpart managers and staff.

Where does this information come from? Information doesn't generate itself; it has to be deliberately acquired. One major source of information to support monitoring is evaluation. To obtain this information in the most efficient and useful way, AID emphasizes:

- The development of monitoring and evaluation (M&E) plans for projects; and programs; and
- An annual evaluation planning process for adjusting the needs of project management with those of higher management.

These topics are discussed later in this handbook.

## C. Prerequisites for Evaluation

To meet the mandate of the Foreign Assistance Act, as well as the requirements of good program management, AID has to ensure certain basic prerequisites for evaluation. These are:

- A management system that will pose meaningful questions and then accept and use evaluation findings; and a corresponding evaluation system that generates information about actual experience, gets this information to managers in a way that answers management's questions in a timely manner, and surfaces new questions or even challenges management's assumptions.

- "Evaluability" of a problem. In AID, this requires reasonably clear statements of project and program objectives, or, alternatively, empirically stated questions and concerns of interest to managers, decisionmakers and policy-makers.

- Objectivity and fairness, in both the concept and focus of evaluation, and the process of evaluation itself.

- The fullest possible participation by borrowers and grantees in determining the scope of the evaluation, the interpretation of findings and the development of specific recommendations for future action.

This list does not single out a precondition for evaluation that is almost always regarded by evaluators as the most urgent requirement, and one that is often ignored or considered too late by program managers -- availability of empirical quantitative or qualitative data to support evaluative analysis. Evaluators invariably bemoan a dearth of "data" in developing countries, and the lack of data is in fact one of the most critical practical problems faced by evaluators in the field. This is, however, a problem that has to be confronted on its own merits, not as a prerequisite for evaluation. AID has to take special measures to deal with this problem.

When managers pose meaningful questions about projects and programs, and believe that evaluative information will be useful to them, they will be more likely to pay attention to, and invest in, data required for later analysis. They will also be more likely to use the information generated by evaluation. The system AID has devised to relate evaluation to management use, decision and action is a highly decentralized one. This system attempts to place evaluation work most closely to the potential user, and places responsibility for evaluation on managers at all levels of AID operations rather than on a single central unit.

A second prerequisite is "evaluability" -- the practical and conceptual feasibility of subjecting program objectives, questions, concerns and issues to actual measurement, analysis and testing within a required period of time, at an acceptable level of accuracy, and within a reasonable budget. In AID, the evaluability of any problem posed by management depends partly on clearly specified questions, and partly on the current state-of-the-art in evaluation research methods.
AID requires that the projects and programs it supports must

have specified objectives, to guide action and to serve as an initial point of departure for evaluation. The present state-of-the-art in evaluation no longer assumes that such specification is always necessary to do a good and useful evaluation. However, as a practical matter, it certainly helps to know where you are going, the road blocks along the way, and if and when you've reached your destination. AID's legislative mandate further requires specification of objectives. To use evaluation jargon, evaluation in AID is rarely "goal-free".

Clearly specified objectives help to focus most kinds of evaluation in AID. Even in cases where an evaluation is exploratory, as distinct from an effort to measure actual achievements against an explicit yardstick established before evaluation is undertaken, the exploration customarily uses the intended objectives as a point of departure.

In designing projects, and some program and non-project activities as well, AID uses the Logical Framework, or "logframe" (see Chapter 2 and Annex 1). This is a matrix that summarizes and displays a logically related hierarchy of activities and expected outcomes -- "inputs", "outputs", "purpose" and "goal". The targets at each level are also expressed in a form that can be objectively verified according to suggested indicators, or measures. The logframe for any given project includes only <u>one purpose</u> during its authorized life; changes in the project at this level require AID to notify Congress. In sum, the logframe for a project or program expresses an hypothesis that if certain inputs and outputs occur, <u>and</u> if certain assumptions hold true, certain purposes and goals will be achieved. And it provides a way for managers to "manage by objectives" as the project is implemented.

The logframe, either as initially constructed or subsequently modified, gives evaluators reference points, or benchmarks, that they can use to help answer such questions as: "How are we progressing?" or "To what extent did we achieve what we wanted to achieve?" The "objectively verifiable indicators" provide suggestions on how improvements can be measured, how much improvement is expected and in what period of time.

Much of AID's evaluation work is not undertaken to measure the attainment of specified objectives. Instead, an evaluation may focus on other kinds of questions or concerns that managers have about projects and programs. For example:

> "Is the stated project purpose still relevant to the needs of the intended beneficiaries or to our revised development strategy?"
>
> "I'm worried about the possibility that village health huts won't recover costs and sustain themselves after the project ends."

"We're not really sure if small farmer decisions about what to produce are going to be affected by these reforms."

Managers may call for an evaluation because of an impending decision; a problem requiring immediate attention; a potential handicap raised by some change in US or host country policy or the project environment; or some major change in Mission program strategy. Here the prerequisite is that the questions, concerns and issues have to be stated in such a way that they are empirical and "evaluable", and that the answers will be useable. Evaluations that address concerns or issues may require different analytical approaches. For example, measuring changes in farm production and attributing these changes to a specific project are likely to require research techniques that differ from those used to ascertain sustainable changes in institutions or management behaviors.

A third prerequisite is objectivity and fairness -- a concern for both candor and propriety. This condition applies to the focus of the evaluation -- the matters that will be investigated, the questions addressed -- as well as to the process of carrying out the investigation itself. It is sometimes tempting to negotiate the focus of an evaluation down to the least meaningful denominator, and then proceed with an evaluation that avoids asking the hard questions, including the question of whether or not a project or program is making a sustainable change in the development problem. The findings will be equally meaningless -- and virtually useless. Candor in evaluation means asking the hard questions, imposing meaningful criteria, and collecting and interpreting evidence in a way that minimizes or at least balances bias. Candor does not mean bluntness, arrogance or insensitivity in how evidence is collected and findings are presented -- qualities to be avoided.

A final prerequisite for evaluation in AID is agreement between AID, counterparts and evaluators on all the above. Unless such agreement is obtained, the evaluation process will be a very rocky road indeed, and the resulting findings will probably not be used. Agreement reduces the chance that evaluation will be viewed as an adversary procedure, and increases the chance that even unpalatable findings will be acted upon. Agreement is greatly facilitated when the constructive purpose of an evaluation is clear to all parties and is mutually accepted. The next section discusses the general purposes of evaluation.

In sum, these prerequisites call for an explicit and mutually agreed way of focusing, or conceptualizing, the research and analytical tasks to be undertaken.

## 1.2. PURPOSES OF EVALUATION

The specific concerns of managers and decisionmakers are as varied as the projects, programs and policies for which they are responsible, but these concerns typically require information to serve one or more of the following general purposes:

- improved project, program and policy performance
- knowledge gain
- accountability

AID has found that a single evaluation study or series of studies can rarely if ever satisfy all three purposes, simultaneously. Often, a good evaluation study, while focusing primarily on one purpose, will surface information pertinent to the others as well. Nonetheless, the three purposes are not always mutually compatible, and the AID sponsor of an evaluation has to be clear about which purpose is being served.

Achieving any one of these purposes requires the application of systematic methods for gathering information, analyzing it, and recording or "documenting" the information. Managers often act as informal evaluators in their day-to-day work, and over time they acquire a large store of personal knowledge and experience. But achieving the above purposes of evaluation requires much more than occasional personal observation by managers. It requires a systematic approach, supported by verfiable, empirical facts and deliberate analysis. By participating in the evaluation process, managers can refine their skills in observation and the quality of their knowledge.

## A. Improved Program Performance: Evaluation in Action

Projects, programs and policies hardly ever predict what will actually happen. Because resources for development are scarce, AID devotes careful analysis to the initial design of projects and programs -- e.g., refining overall country development "strategies" and broad sectoral "tactics"; selecting among alternative approaches by applying cost-effectiveness and cost/benefit analysis; considering social, institutional and economic variables that will likely affect the success of a project; and constructing an initial Logical Framework.

However, strategists and designers cannot perfectly diagnose the present nor predict the future. AID's experience demonstrates that most projects will require mid-course modifications. Some of these are major, involving amendments; others are minor, e.g., changes in a contractor's scope of work. Managers have to learn as implementation proceeds. Empirical information gathered during mid-course evaluation of strategies, programs and projects helps the managers to guage progress, assign priorities to the use of resources, and generally redesign activities to direct them toward desired outcomes.

For managers of specific AID-supported projects and programs, this purpose of evaluation is not served if an evaluation focuses primarily on testing the validity of the initial design, and the hypothesis represented by this initial design. Managers are not particularly interested in testing

hypotheses, nor in verifying how wise the strategists and designers were in predicting the future -- they have to confront the relentless fact that the future inevitably becomes the present. Instead, they want to know such things as:

-- the institutional and procedural problems that explain why certain activities aren't being performed as smoothly or as quickly as expected;

-- the extent to which changing realities and contingencies in the development environment (broadly defined) are supporting or undermining the ultimate achievement of objectives;

-- interim trends in the direction of immediate effects and broader impacts;

-- responsive implementation strategies and changes in initial design that can increase the chances that objectives can be closely approximated within reasonable resources and timeframes.

And they usually need this information right away, preferably yesterday but hardly ever a year later.

In AID, evaluation as a process is of equal, or perhaps even greater immediate value to managers than the information it provides in the form of useful findings, conclusions and recommendations. This process is an essential aspect of evaluation in action. The resulting benefits include:

- Clarifying purposes and goals. Evaluations have a way of focusing broad or vague purposes and goals. The evaluation process helps sharpen definitions, making objectives more concrete, better understood, more measurable -- and more useful as subsequent practical guides to implementation.

- Building operational content into vague designs. When, for a variety of political and practical reasons, funds are appropriated on the basis of incomplete or inadequate planning and design, evaluation can be used as a mechanism for testing and improving operational approaches.

- Accelerating implementation. Experience suggests that an evaluation, or the mere scheduling of an evaluation, frequently encourages managers and implementors to address themselves posthaste to elements known to be behind schedule or of poor quality, and to give these higher priority on their action agenda. Evaluation can sometimes breathe new life into moribund projects by more systematically examining handicaps, suggesting ways to overcome or simply circumvent them, and bringing vexing problems to the attention of higher management for the first time.

- Improving communication. The process of objectively observing, analyzing and discussing aspects of a project greatly facilitates communication between the various actors involved in the project. It helps remind all parties of what the project is all about. Technicians and contractors learn more precisely what is expected of them. Supervisors acquire a better understanding of the problems encountered by staff members. Hidden misunderstandings or areas of misinformation are surfaced; quite often the identification of hidden problems has the effect of making problems more manageable.

Finally, the use of evaluation to support discussions about policy requires specific mention. Evidence from evaluation -- especially the findings from several evaluations in a country, in a region, or worldwide -- can lend powerful support to discussions about the desirability of re-examining the assumptions that underlie development approaches and associated policies. This evidence can suggest areas where specific adjustments and modifications in policy might have the greatest beneficial impact. And it can suggest specific needs for new policy attention.

Project management is not the only level at which evaluation can help improve performance, although much of the evaluation work sponsored by AID focuses on project level concerns. There are "higher" levels of decisionmaking, in AID and counterpart institutions, where improved performance requires answers to different kinds of questions and concerns -- program development, strategic planning and policy formulation. Just as a project manager has to make decisions about the most effective use of resources to achieve project objectives, so do development planners have to decide which of several possible program approaches can most effectively contribute to broader sectorial or strategic objectives.

From the perspective of AID and counterpart managers who are responsible for program development and planning, specific projects and programs are not ends in themselves. Rather, they are tactics in a broader development strategy. For them, a "summative" project evaluation is a "formative" evaluation of a broader strategy. AID Missions overseas and Bureau offices in Washington can use the results of evaluation to help the mid-term revision of Country Development Strategy Statements (CDSS) and the annual preparation and review of Action Plans to implement those strategies.

## B. Knowledge Gain: The Long-Term Reward

For foreign assistance to be successful, it is imperative that a body of substantive knowledge and theory of social and economic development is built up from empirical evidence, and then continuously applied.

Evaluation contributes to greater knowledge about development in two principal ways:

-- by expanding the personal knowledge and insights of development practicioners; and

-- by accumulating over time documented evidence reflecting real experience, that can be analyzed, compared and synthesized.

AID and counterpart staff often report that, by participating in systematic evaluation, they learn more fully and more quickly about the environment in which they have to operate, and how this environment is affecting the activities for which they are responsible. This benefit helps compensate for the difficulties caused by staff turnover and periodic reassignment, by informing currently assigned staff and by creating a documented record of experience for reference by incoming staff. Participation in an evaluation provides an occasion for AID and counterpart staff to step back from day-to-day activities, and to consider the trends, potentials and broader consequences of these activities.

More systematic gains in knowledge are supported when AID shares experience and "lessons learned" between its operating units as well as with partner countries and other donors. A requirement for AID to share and apply broad-based experience has been reaffirmed by Congress, and by the U.S. General Accounting Office (GAO, "Experience -- A Potential Tool For Improving U.S. Assistance Abroad", June 15, 1982).

Development practicioners recognize that times change and circumstances differ, so that "lessons" have to be adapted to particular times and locales. Therefore, one of the most important elements in sharing experience is information on "why" and "how" certain achievements were obtained, not just information on the achievements themselves. At the same time, persistent or recurring problems -- handicaps to implementation, failure to achieve objectives -- alert senior management to the need for broad-based actions, ranging from relief from regulatory constraints on implementation all the way to reconsideration of fundamental development strategies and assumptions.

Through evaluation, AID acquires evidence about achievements and the factors that limit or support these achievements. Patterns or themes that emerge from this evidence can, in turn, be used to inform the following kinds of decisions:

-- refining the design of specific types of projects and programs so that they are more likely to achieve development objectives.

-- selecting from among alternative projects and programs having the same development objective, those that can achieve the objective with the greatest efficiency, the strongest effects and positive impacts, and the fewest negative impacts.

-- changing overall development strategies and policies when cumulative evidence questions the realism of the very assumptions on which they are based. The history of AID and its predecessor agencies includes some notable cases of the last of these kinds of decisions. They are clearly the most difficult, traumatic and basic. It usually requires creative leadership before the weight of accumulated evidence has an appreciable influence on programs and policies.

How can evaluation best serve this longer-term knowledge gain?

First, when they plan an evaluation to serve any level of decisionmaking, AID and counterpart staff can start from the well-proven premise that the relative "success" or "failure" of an activity is rarely attributable to technical reasons or the adequacy of program resources, but rather to institutional, political, social and economic factors. Evaluators are more likely to surface information about how these factors are influencing a project if they keep its objectives (purpose and goal) in the forefront of their investigations and analysis. They are less likely to do so if they narrow their focus to the progress of inputs and outputs.

Second, AID can require evaluators to apply broad, fairly open, analytical constructs that can help make the most sense of the pieces of evidence gathered during an evaluation. For example, in examining specific projects, evaluators can use the hypothesis expressed in the Logic Framework (especially the assumptions underlying the logframe) as an initial construct for focusing the investigation, and then proceed to develop alternative constructs that better explain reality as suggested by the evidence. Evaluations undertaken for the specific purpose of securing information for broader program, strategy and policy purposes can apply analytical constructs that more deliberately challenge currently accepted perspectives on development problems.

Third, AID can insist that evaluators obtain and analyze even interim evidence on impacts -- positive or negative, intended or unintended. This evidence, while having immediate utility to project and program managers, is one of the richest sources of broader knowledge about development.

Fourth, AID can require evaluators to address "politicized" matters related to the policy and programming environment within which projects and programs are designed and implemented. Such issues have a strong bearing on the quality and impact of US

assistance. In AID's experience some "lessons" are well-known, to the point where their repetition in an evaluation is considered trite or naive, but they are not yet "learned" -- i.e., not yet applied through decision and action, for political reasons.More systematic attention to these political matters during evaluation can provide evidence to support arguments by AID and host country executives regarding their resolution.

Fifth, AID can require evaluators to address questions regarding the relationship between costs and effectiveness, and sustainability. A more elaborate social cost/benefit analysis may be appropriate, when the design of the project includes a social cost/benefit analysis using baseline data that can be tracked during and at the end of an activity. By recalculating these measures at the end of a project or program, based on real outcomes, evaluators can improve the realism of the projections made in future projects, and can provide a firmer basis for future selection among alternatives.

Finally, AID Missions should ensure that a written evaluation report is sent to Washington, so that other Agency staff can gain access to the findings, compare them with the findings of other evaluations, and undertake additional analysis and synthesis. AID maintains a central "memory" of evaluation reports from all parts of the Agency, and uses this as a major vehicle for feeding back the lessons of experience into future program development and design.

## C. Accountability: Managing Scarce Resources

AID is accountable to Congress, the President, and the Director of the International Development Cooperation Agency for the effective use of resources appropriated for bilateral foreign assistance. The Foreign Assistance Act and the U.S. Office of Management and Budget recognize that evaluation is an important aspect of a responsible management system. AID, like other US federal agencies, is covered by Circular 117 of the Office of Management and Budget, which states:

> "All agencies of the Executive Branch of the Federal Government will assess the effectiveness of their programs and efficiency with which they are conducted, and see improvement on a continuing basis so that Federal management will reflect the most progressive practices of both public and business management, and results in improved service to the public..."

Accordingly, all forms of assistance managed by AID are subject to evaluation to ensure their continued effectiveness and efficiency. As required in loan and grant agreements, a host country, a voluntary organization and a private business which accepts AID resources to carry out development-related activities also accept this requirement for evaluation.

This purpose of evaluation is served when AID Bureaus, Offices and Missions, with the cooperation of borrowers and grantees, do the following:

- establish management systems for planning and carrying out evaluations that apply the criteria of program and project effectiveness and efficiency.
- carefully examine the cost-effectiveness of projects and programs during evaluation, as well as issues related to their sustainability.
- take follow-up action to use the findings of evaluation, and to build on accumulated knowledge and experience.

As evidence of accountability, evaluation is incomplete unless and until the third step -- follow-up action --is taken. These actions will usually include modifications in implementation plans of on-going projects; altering the design and funding of new or subsequent phased activities; refining strategies and policies; and resolution by senior management of persistent problems that are limiting the achievement of whole classes of activities and programs.

When all three steps are taken, evaluation contributes to AID's ability to "account for" its management of assistance resources.

Within AID's decentralized management system, evaluation is one of several tools that enable Missions and offices to account for their program management and performance to Bureau administrators and senior executives. This aspect of "accountability" is discussed in Chapter 2.

## D. AID's Priorities

Resources for evaluation, like foreign assistance resources themselves, are finite. Therefore, AID has to assign priorities to the above three purposes, and to plan its evaluation work accordingly.

Of the above three purposes, AID places highest priority on the first. That is, AID supports evaluation work that will be useful to managers, planners and policy-makers -- both in AID and in host countries -- in improving program performance.

This priority has implications for evaluation planning and the types of questions addressed during evaluation.

For example, if the principal purpose of evaluation were accountability, then AID would be required to evaluate at least a carefully selected "sample" of projects at their termination or at some point following their termination. And the questions would have to focus primarily on assessing their effectiveness and efficiency. This approach, however, would not satisfy other

pressing management questions, and it would leave unsatisfied the concerns of managers whose projects were not included in the "sample".

Such an emphasis on "accounting for" the extent to which planned objectives were achieved would also tend to overlook why and how these achievements occurred. It would beg the question of whether the original objectives and their achievement still remained relevant to the development problem and strategies for overcoming the problem. And it would handicap the use of evaluation precisely where and when it can do the most good in meeting management's needs for information -- during planning and implementation, when evaluation findings can support minor and major changes in projects and programs to ensure that the continued investment of foreign assistance funds will always be directed to the real constraints on development. AID believes that these latter management needs should largely determine the allocation of limited evaluation resources.

While assigning highest priority to the first purpose of evaluation, AID requires its managers -- and strongly encourages counterpart managers -- to use evaluation <u>responsibly</u> as a management tool, by asking hard, searching and often difficult questions about projects and programs. These questions are broadly summarized in the next section ("Major Issues").

## 1.3. MAJOR ISSUES

To meet the principal purpose of evaluating AID-supported projects and programs--that is, improving the performance of projects and programs-- AID requires that its managers raise, and its evaluators consider, five classes of evaluation issues. These major issues are:

- <u>Relevance</u>: Is the problem being tackled by the project or program still a major problem? Has the problem itself changed? Does the project or program still have an instrumental role in promoting the aims of AID's development strategy?

- <u>Effectiveness</u>: Is the project or program achieving what it set out to achieve? How and why are these effects or results being achieved? Are the inputs and outputs of the project or program still plausibly linked to intended effects and impacts?

- <u>Efficiency</u>: Are the effects being obtained at least cost, and under the best possible socio-economic, institutional, technical and policy conditions? Could the project achieve its objectives at less cost, or achieve more at a given cost? What is the cost-effectiveness of the project?

- Impact: What is happening as a result of the project or program? Are these effects and consequences positive or negative? Anticipated or unanticipated?

- Sustainability: Are the positive effects of the project or program likely to continue following termination of the AID funding? In what ways, and under what conditions? Are these conditions realistic? What could be done to ensure these conditions before termination?

These issues serve as a general guide to the kinds of questions which should be addressed during evaluation. Usually, if decision-makers -- including project managers -- are using evaluation responsibly, their questions, concerns and reservations about the projects or programs for which they are responsible will already express one or more of these issues. In general, these issues require evaluators to focus their efforts on important management concerns, and beyond an examination of project inputs and outputs, a description of the history and current status of project implementation, or a litany of the handicaps that are impeding implementation.

The relative emphasis given to each issue is likely to vary from evaluation to evaluation, depending on management priorities and the characteristics of the project or program being evaluated. However, all five should be initially considered. Their systematic consideration at the beginning of the evaluation process helps guide the selection of more detailed questions appropriate to the specific or unique aspects of a project or program. During evaluation, they can help focus the analysis, findings and recommendations.

The issues are pertinent to evaluation at any time during the life of a project or program. Obviously, a full examination of some issues is only feasible toward the end, or following completion. Nevertheless, even an interim evaluation should obtain evidence on interim indicators, events, trends and tendencies relevant to the issues. Evaluators can alert managers to pay more careful attention to these key concerns, or to consider relevant project modifications.

Systematic consideration of these issues creates a conceptual link between the information needed by project managers, and the information needed by those who are responsible for planning development strategies, for choosing among alternatives that best support strategic aims, and for deciding on resource allocations to meet those aims. Many, if not most, decisions about resource allocations are forced choice decisions. Information on the five issues helps make these decisions more rational and less arbitrary.

## 1.4. EVALUATION USERS AND SPONSORS: A.I.D.'s DECENTRALIZED SYSTEM

In promoting the priority purpose of evaluation, AID places major responsibility for carrying out and acting on evaluation on managers of specific projects and programs. Together with their counterparts, these managers can use information from evaluation directly for on-going projects, and can alert their superiors to findings that require attention and action at higher management levels.

In addition to these immediate users, however, there are others who rely partly on evaluation to meet their information needs:

-- designers of new or follow-on projects and programs;

-- planners of country development "strategies" and program "tactics" (e.g., Action Plans);

-- decision-makers who must review, approve or disapprove country strategies, programs and projects, and who therefore need to know about recent experience;

-- policy-makers.

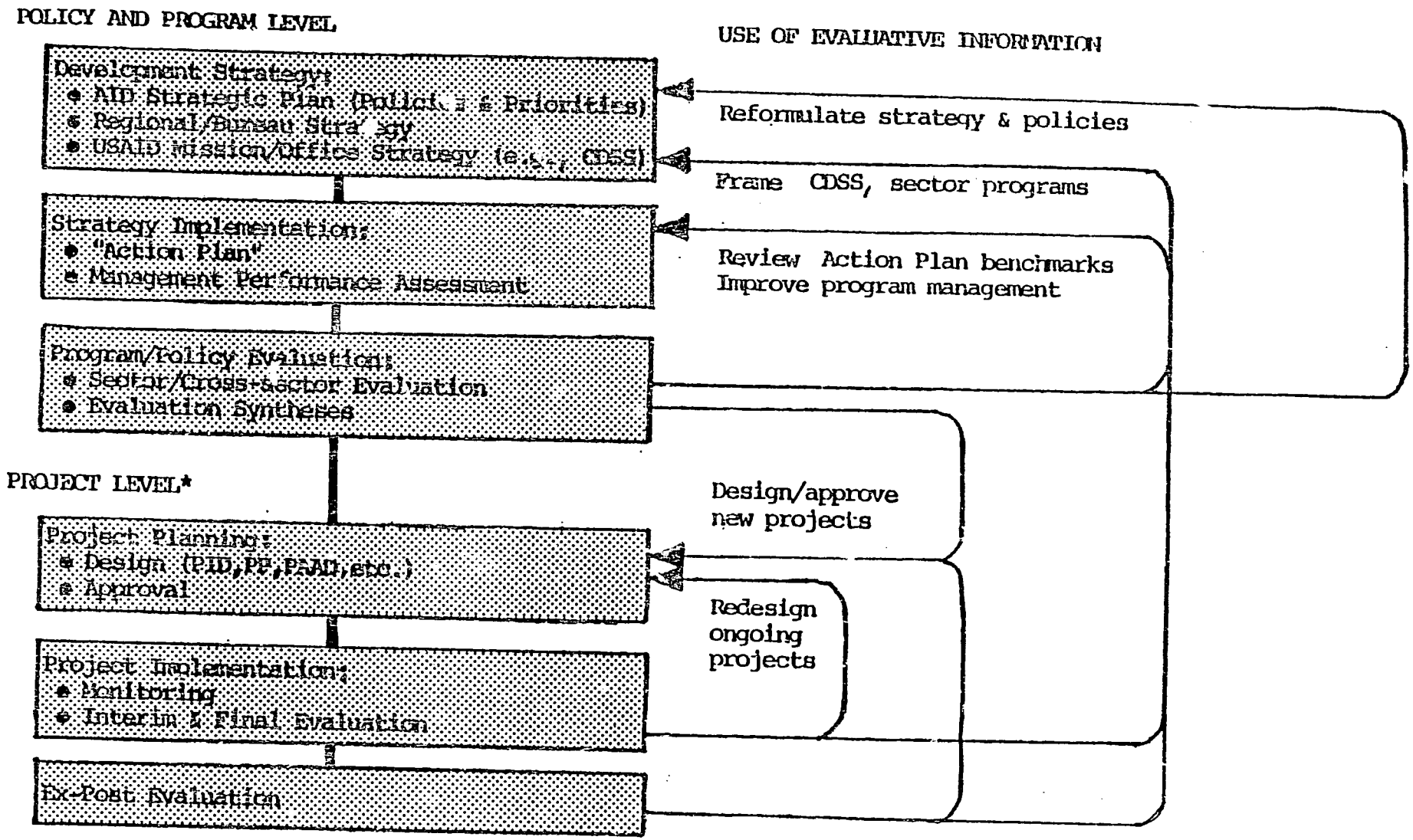
AID's programming and management system is substantially decentralized. AID delegates project and program management -- as well as strategic planning, program and project design, and most of the review and approval of new activities -- largely to its operating units: overseas missions and central offices. Accordingly, AID's evaluation system is highly decentralized. Missions and offices are responsible for planning and organizing their evaluation work in a way that makes it most responsive and informative to all the users in their respective units whose delegated functions and responsibilities are related to program performance.

The following diagram outlines how the information provided by evaluation helps AID users having different levels of responsibility in planning and implementing activities funded by US bilateral assistance.

### A. Changed Management Perspective

With the decentralization of program management and the redelegations of authority beginning in 1983, AID's operating units --missions and offices-- became accountable for their performance in meeting the higher-order development objectives they have set for themselves (as agreed to by Washington); for planning and managing the use of available assistance resources amd complementary measures to best ensure this performance; and for reporting on performance outcomes relative to higer-order objectives. Thus, the copncept of "management by objectives,"

## USES OF EVALUATION IN A.I.D. PROGRAM PLANNING AND IMPLEMENTATION




*All types of AID-assisted development activities and interventions (e.g., including "non-project" assistance, PL480, "strengthening" grants, research projects)

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which had been established at the level of an individual project in the context of its logframe, was extended to the level of overall sector or country programs in the context of broader strategic objectives.

From the perspective of AID's evaluation system, this change presents certain requirements. It is no longer taken for granted that good performance in obtaining the objectives of individual projects and programs necessarily means that broader sector or strategic objectives will be promoted. Instead, the question of whether project and program "tactics" continue to support a sector or country "strategy" and its objectives has to be tackled on its merits, and in a broader evaluation framework that permits the appropriate level of analysis.

Second, the change implies that individual managers are not the final arbiters of the questions that will be addressed in evaluations of the projects and programs for which they are directly responsible. For example, in the question "Are we doing well enough to continue funding for this project or this program", the standard of what is "well enough" requires consideration of issues that may extend beyond the domain of the single project or program. In most cases, it is too much for AID to expect individual project managers--AID or counterpart--to constantly question the very relevance of the projects for which they are responsible. Instead, AID demands of its project managers their interest and commitment to seeing that their projects succeed to the fullest possible extent.

It is, therefore, up to Mission or office management, and sometimes management at higher levels of AID, to articulate broader questions for evaluation, and influence which projects will be evaluated, and when, in ordder to obtain information bearing on the questions.

Third, the change implies the application of evaluation designs that can generate information in response to broader questions at the sector or country program level, or across several projects and programs.

Finally, when Missions and offices plan evaluations to investigate broader questions, involvement by the borrower or grantee in the evaluation process also changes. Evaluations that are planned to look into sectoral questions, for example, will normally engage representatives of higher management levels in borrower/grantee organizations, including officials who would not otherwise concern themselves so deeply with an evaluation of a single project.

The impact of this changed perspective can be illustrated by the different kinds of questions on which different management "levels" may require evaluative information, as pertinent to the scope of their decision-making responsibilities. The potential range of information <u>about a single project</u> could cover, for example:

1. Are the activities in this project still plausibly linked to the attainment of its objectives and intended impacts.

2. To what extent, in what way, and at what cost is this project achieving its objectives?

3. What can we do to make the project more effective or efficient in achieving its stated objectives?

4. What are the unintended positive and negative impacts of this project?

5. Under what conditions will this project be sustainable (or recover costs) after AID funding is terminated? Are these conditions realistic?

6. Are the intended results of this project still relevant to the development problem it is trying to resolve? Has the problem itself changed?

7. How does the progress in this project relate to other projects in the broader sectoral or regional program of our Mission/office?

8. Do the intended and unintended impacts of this project/program complement, reinforce, overlap, duplicate or work against other projects/programs--those of our Mission/office, other donors, and the host country's public and private organizations?

9. Given the overall strategic program objectives of the Mission/office, how does the approach taken in this project compare with possible alternative approaches to cost-effectiveness, maximizing positive impacts, and minimizing negative impacts?

10. Does the project still "fit" Mission/office strategy, AID policy, and overall AID experience in, and perception of the development process and its requirements?

AID project officers and counterpart managers tend to be interested primarily in the first five questions. Much of the information needed to answer these questions can be obtained through evaluation that focuses on individual projects or programs. Higher managers and administrators tend to be interested, mostly in the other questions. Getting this information requires broader analytical framework and data extending well beyond a specific project or program.

To meet its wide range of information needs, AID plans and initiates a similar range of evaluation efforts, and encourages its borrowers and grantees to do so as well, to

meet their own information needs. Taken together, these efforts can best be seen as contributing to a continuum of information requirements, and as an incremental process of securing information needed by different management and decisionmaking levels. For practical purposes, it is worth identifying some evaluation efforts that AID has undertaken to meet its information needs:

--evaluation of individual projects and programs, including "non-project" (assistance such as Commodity Import Programs).

--"multi-project" evaluations in a specific country

--assessments of "whole" sectoral or country programs

--comparative intra-region project or program assessments

--worldwide (cross-regional or cross-country) project or program assessments

While the concerns of management at given level do differ, from a programming and evaluation perspective the levels are quite permeable. For example, the objectives of a specific project and the time period in which the accomplishment of these objectives is expected are related to one or more of the higher-order goals that AID seeks to achieve in the respective country, expressed in the current development strategy. When evaluators clarify a project's objectives, and then proceed to assess progress, they inevitably surface implications for that development strategy and for its more detailed benchmarks in the Action Plan.

AID's yearly Action Plan reviews during "program weeks" are the appropriate occasions for senior managers to examine these implications. A well thought out Annual Evaluation Plan of a mission or office should have posed the kind of questions and gathered the kind of information to make this examination as useful and constructive as possible.

The permeability between levels is evident in another sense. The day-to-day concerns of a project officer in the field focus on the nuts and bolts of project or program implementation. Senior managers customarily do not concern themselves with these details. However, when patterns emerge from implementation experience across countries or across types of projects and programs, suggesting the existence of widespread problems, then senior managers do become concerned about these details, and the need for remedy or relief. The concerns of field managers and senior executives are often not so far apart as might be supposed.

To help users obtain evaluative inforamtion that draws on broader Agency-wide exprience and "lessons learned", AID's decentralized evaluation systems includes a central resource for information and evaluation. This office, the Center for Development Information and Evaluation (CDIE), maintains a partly automated "memory" of evaluation reports; prepares syntheses of program experience as a means of transfering information within and outside the Agency; and undertakes selected evaluations and and studies that help inform programs and policies.

CDIE also carries out staff functions to meet the evaluation-related needs of the Administrator of AID. As the highest management "user" in the Agency, the Administrator is responsible to the President for reporting on the effectiveness of the overall bilateral assistance program and its adherence to development-related policies.

To perform this responsibility, the Administrator needs the following: (a) assurance that the Agency's portfolio is being appropriately evaluated over time; (b) confidence that the findings and lessons learned form evaluated experience not only are being acted upon at various stages in the programming and implementation process, in each Mission and office, but also are being more widely disseminated within the Agency, its contractors, and its developing country partners; (c) confidence that standards of quality are being set followed throughout the decentralized evaluation system; and (d) assurance that AI D is regularly communicating with borrowers and grantees and with other donors on the role of evaluation in promoting shared development aims.

In tackling the problem of multiple evaluation users within a decentralized program management system, AID requires the following:

- An annual evaluation planning process that is linked to and integrated with the annual program planning and management process, and to key events in that process;

  thereby ensuring that evaluation work in a Mission or office will answer management's questions related to their delegated functions, and will adequately cover the Agency's portfolio over time.

- Planned evaluations of projects and programs that systematically consider questions of relevance, effectiveness, efficiency, impact and sustainability,

  thereby ensuring that evaluation can yield information useful for strategic planners, program developers and project designers, as well as for their respective managers.

- Information systems for projects and programs that generate information on interim indicators of purpose-level efrects as well as inputs and creation of outputs,

  thereby assisting managers and other key actors to take remedial action during implementation, and building up data for evaluation.

- Selected ex-post evaluations and studies focused on policy and cross-cutting issues in program areas of continuing Agency interest,

  thereby assisting policy-makers, and synthesizing experience and lessons to guide planners.

- Adherence to certain standards in undertaking and reporting evaluations,

  thereby ensuring that all users know about the quality of information contained in an evaluation report and can gain timely access to evaluation reports.

"Users" include both AID management and AID's borrowers and grantees. The activities AID supprorts through bilateral foreign assistance are not "A.I.D's" projects and programs; they are activities of the borrowers and grantees. A decentraliz-ed evaluation system can more directly involve and inform counterpart users as well as AID management, and can support their ability to feed back information into the decision processes of their respective institutions.

Counterpart users of evaluative information have needs that may not mesh neatly with those of AID users. For example, their annual programmming cycle may differ because their fiscal year may not be the same as the US fiscal year. They may prepare two-year or five-year development plans, which might not correspond to AID's revision of country development strategies. Their ability to act on evaluation findings may require different bureaucratic strategies and could require a different presentation of the questions, answers and evidence in the evaluation report, as well as its translation.

These differing demands for inforamtion constitute the principal challenge to evaluation sponsored by AID. Organizing evaluation work to meet the demands of different users most effectively and efficiently is the immediate practical problem. Much of this problem can be handled through careful planning.

# EVALUATION PLANNING

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   A. Elements of the Evaluation Planning Strategy
   B. Resources Available to Support Evaluation Planning

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# I. INTRODUCTION

In practice, no single evaluation of a program or project can answer all the possible questions asked by all interested parties. There will always be competing interests, differences in priorities about what kind of information is needed, and differences in the quality of the information considered necessary to support the most convincing answer.

AID tries to reconcile these differences through a planning strategy that is related partly to the needs of managers who are concerned with implementation, and partly to the needs of the broader AID programming process and its decision points.

Through thoughtful planning, AID tries to increase the effectiveness of the evaluation process--squeezing as much useful information as possible from limited resources for evaluation, and getting this information to managers, administrators, and planners when they need it.

## A. ELEMENTS OF THE EVALUATION PLANNING STRATEGY

This strategy has four distinct, but closely related, elements:

1. Evaluation planning during the initial design of projects and programs, to ensure a basic flow of information about progress and impact while the project or program is being implemented.

2. The preparation of "Annual Evaluation Plans". Every year, each AID Mission or office prepares a "rolling" evaluation plan that looks ahead two years. This is the occasion when the AID Mission or office, in close consultation with the borrower or grantee, weighs various information needs and decides on evaluations that can best meet those needs. This Annual Plan also leaves room for unanticipated needs for evaluation.

3. Planning for a specific evaluation and preparing its Scope of Work. This planning, and the steps taken to carry out the Scope of Work (AID's document which

details the terms of reference) actually puts into operation an evaluation undertaken for the purpose of securing information--that is, providing useful answers to specific questions.

4. Planning for "follow up" and "feedback" of evaluation findings and recommendations. This planning must be firmly rooted in the above three elements. It also involves consideration of some special requirements and resources.

All the elements of this evaluation planning strategy share one common principle:

PLANNING FOR THE USE OF EVALUATIVE INFORMATION AND FOR EVALUATION EXERCISES SHOULD BEGIN DURING THE EARLIEST STAGES OF DESIGNING A PROJECT OR PROGRAM, AND SHOULD CONTINUE DURING IMPLEMENTATION OF THE PROJECT OR PROGRAM.

A corollary of this principle is:

THE BORROWER OR GRANTEE OF AID ASSISTANCE SHOULD BE INVOLVED IN THE EARLY PLANNING FOR EVALUATION, AND IN SUBSEQUENT PLANS AS THESE ARE DEVELOPED AND CARRIED OUT.

An AID-supported evaluation in a developing country should never come as a surprise to the principal parties involved in a project or program funded through an AID loan or grant. It should be expected, and it should be planned for in a way that builds a management capacity for evaluation and follow-up action on the part of the borrower or grantee.

## B. RESOURCES AVAILABLE TO SUPPORT EVALUATION PLANNING

Both AID and borrower/grantee staff involved in project and program evaluation can draw on several helpful resources to support the elements of this planning strategy. Some of these resources can be contracted under AID project or program funds (as agreed to by the borrower/grantee), some through separate AID program funds (PDS), some through AID "operating expense" funds, and some through resources that are centrally-funded by AID.

The resources that can be made available include:

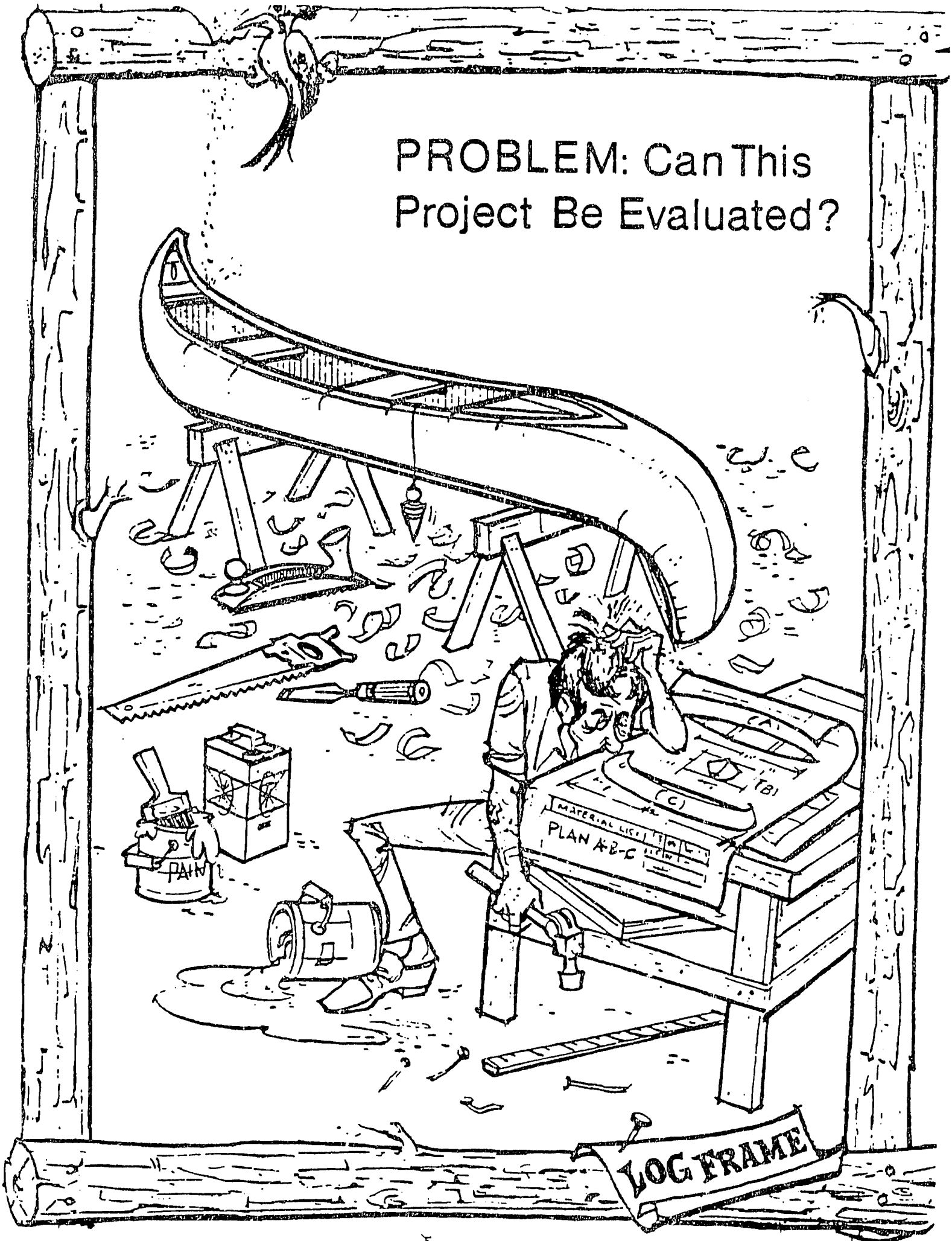
--Evaluation specialists skilled in "translating" the general questions posed by managers and administrators into evaluable terms, and in recommending feasible, useful, and cost-effective ways of gathering information to answer those questions.

# II. PLANNING AT THE DESIGN STAGE

## A. THE "LOGICAL FRAMEWORK"

The "Logical Framework", or "logframe", is a required document in every AID-assisted project. The logframe is useful as a guide to evaluation planning during the design stage; it serves as one souce of the type of information managers will probably need to determine the progress and impact of the project. The logframe concept can also be applied to other types of assistance (e.g., "non-project" assistance, sector loans, and grants), and for designing evaluations at the sector or overall program levels.

This workshop introduces the logframe technique, and the use of the logframe in design, monitoring, and evaluation.


PROBLEM: Can This Project Be Evaluated?
(A)
(B)
(C)
MATERIAL LIST
PLAN A-B-C
PAIN
LOG FRAME

# THE LOGICAL FRAMEWORK

The conceptual heart of the Logical Framework Approach is described in the paragraphs that follow. This Approach assumes that development projects are instruments of change; that they were selected from among alternative instruments as the most potentially cost-effective approach to achieving a desired, beneficial result. Our approach accepts the uncertainty inherent in all development projects by explicitly identifying the nature of the uncertainty--the development hypotheses. On the basis of demonstrated application to hundreds of social and economic development projects, we believe that the concept is both tactically and strategically sound.

## A. OVERVIEW OF THE LOGICAL FRAMEWORK APPROACH

The Logical Framework is a way of organizing information and activities so that a number of different points of view can be brought to bear simultaneously, completing rather than opposing each other. These points of view are:

- Program Management--which dictates that we manage for and hold management accountable for results.
- Basic Scientific Method--which dictates that nothing is certain, and all human activity can be viewed as the testing of hypotheses.
- Systems Analysis--which dictates that no system is defined until we have defined the larger system of which it is a part.

Given the fundamental character of the above concepts, and the essential simplicity of any tool that can simultaneously support such concepts, it is not surprising that there are many other points of view that can complement the Logical Framework. Most notable in this regard is contract law, for which the Logical Framework sharpens the "Meeting of the Minds" and orients deliverables to performance specifications.

To simplify programs we first recognize that there are three basic levels of responsibility:

- Inputs--the resources we consume and activities we undertake.
- Outputs--the things we, as good managers, are committed to produce. These must be stated as results. If we fail to produce those results, then the burden of proof is on the manager to "show cause" as to why he or she failed.
- Purpose--the reason we are producing the outputs; the higher-level objective that causes us to invest in producing outputs e.g., if our outputs are products, then our purpose may be profit. If our outputs are social services, then our purpose might be improvement in the quality of life of a target population.

Having clarified the basic management hierarchy of objectives, let us introduce basic scientific method:

> All human activities are uncertain. Therefore, we view our project as a set of interlocking hypotheses: if inputs, then outputs; if outputs, then purpose.

Note that what varies between levels is the probability of success. It is within the ability of a responsible manager to ensure that inputs result in outputs; we hold him accountable. As noted earlier, he must show cause if he fails. On the other hand, the hypothesis--if outputs, then purpose--is problematic. There is enough uncertainty in this hypothesis that the project manager is held accountable to the reasonable man rule--he must do what a reasonable man would do to realize the purpose, but he is not held accountable for that result.

Now, let us add the third viewpoint important to the Logical Framework-- a viewpoint too often neglected in both conventional management and operations research approaches: the System Analysis requirement that we have not specified a system until we have specified the relationship this system bears to some larger system.

To do this, we add to our three-level management hierarchy a fourth, superior level, called "Goal." We define "Goal" as follows:

> The higher-level objective immediately above project purpose. That is, the "then" statement for which the project purpose, plus purpose-level assumptions, must provide a plausible "if".

Goal thus relates our project aspirations to aspirations of those for whom our activities have no intrinsic interest. If our purposes are agency-level purposes, then our goal transcends the Agency and relates our program to truly national objectives--objectives that may be common to multiple agencies.

Given the many uncertainties in the connection between purpose and goal, we also view this final element of our project/program logic as a testable hypothesis (if purpose, then goal).

To increase our insight into and understanding of the project, we identify and make explicit our assumptions concerning those factors necessary for success but beyond our ability to control at each level of the project hierarchy. We further explicitly define the conditions which will demonstrate successful achievement at each level (indicators) and how we will verify their occurrence (means of verification).

Interlocking "logics" of the Logical Framework are explained further in the following paragraphs. Please remember it is not clear, nor does it matter, whether the Logical Framework is a "true innovation" in the sense that it is "different" from what has been done before. Better to view it, as does PCI, as a crystalization of best practices; a simple way to bring to bear a multiplicity of analytic and diagnostic perspectives that include but are not limited to the four mentioned above--managing for results, basic scientific method, systems analysis, and contract law.

## 1. Hierarchy of Project Objectives

The Logical Framework breaks a project down into four separate and distinct levels of objectives. At the lowest level are the Project Inputs. These are the activities to be undertaken that will in turn result in the second level of objectives that we call the Outputs. Outputs are the results that are directly accomplished by management of the inputs. For example, in an education project, we can produce trained teachers, a constructed and equipped school building and trained administrators. We do this by managing a specific set of inputs (e.g., training of teachers, construction of school building, etc.). Yet the outputs themselves are not valuable for their own sake and are not the justification for the project. What we are really interested in is an improvement in education. This then, represents a higher level objective that we call the Purpose. The purpose is what we expect to result from having achieved the outputs. The outputs are a set of interrelated objectives that, combined, are aimed at achieving the project purpose. Within the project itself we have, therefore, three levels: Inputs, Outputs and Purpose.

The fourth level in the Logical Framework is a higher order objective called the Goal. The project is one of the necessary conditions for achieving this goal, but will not be sufficient by itself to achieve the goal. Using the same example of an education project, the specific project purpose is improved education and the goal is manpower needs for local industry met. In order to achieve this goal, other projects also may have to be undertaken, such as one to motivate those with the required skills to work in the region in which their skills are needed. Just as we must identify all the outputs necessary to achieve the purpose, so we must identify all the purposes (projects) necessary to achieve the goal. The goal is usually associated with specific program or sector objectives.

Specification of outputs to achieve purpose and management to achieve purpose (hence produce these outputs) is normally the project manager's function. Specification of all purposes to achieve goal, and management to achieve goal (hence, "producing" purposes) is normally the program manager's function.

## 2. Linked Hypotheses

It is important to note that the relationship between the levels of objectives is not random or accidental; there is a definite causal relationship. When we identify our purpose, for example, and then define the outputs we will need to achieve that purpose, we are in effect saying: "If we can produce these outputs, then we should achieve this purpose". In other words, we select these outputs because we believe they can cause the purpose to happen. We are therefore making a hypothesis that if outputs, then purpose.

An hypothesis is defined as a predictive statement about a causal relationship that involves uncertainty. A simple example of this is the prediction that if one boards one's regular morning bus by 8 o'clock, then one will arrive at one's office on time. However, it is not possible to have 100 percent certainty that this will happen because many things could happen between boarding the bus and arriving at the office, such as the bus breaking down, or being involved in an accident.

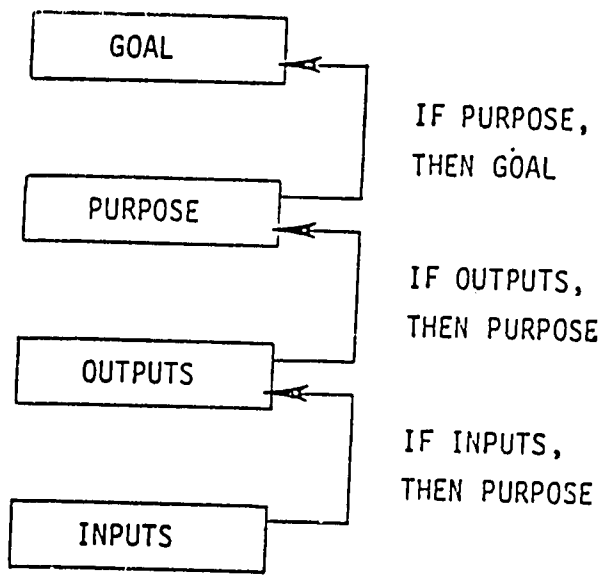
When we design a project using the Logical Framework, we make a series of predictions which we usually call hypotheses. These are:

1. IF the inputs are managed properly,
   THEN the outputs will be produced.

2. IF the outputs are produced,
   THEN the purpose will be achieved.

3. IF the purpose is achieved,
   THEN this will contribute to achievement of the goal.

This can be viewed graphically as follows:




The hypotheses as shown here are over-simplified. Each time we make such hypotheses, we have to accept that there will be a degree of uncertainty. The amount of uncertainty increases as we reach higher up the project hierarchy of objectives. It therefore becomes very important to clarify the nature of uncertainty so that we can select a design that has the highest probability of success. This is done by including in our project design factors necessary for achieving success but beyond our control. We call these additional factors assumptions. For example, when one predicts that one will get to the office on time by boarding one's regular bus at 8 o'clock, one assumes that the bus will be in good mechanical condition, and that there will be no accidents.

Because we recognize the existence of uncertainty, we need to describe the full dimensions of the hypothesis we are making.

Instead of saying:

IF one gets the bus on time, THEN one will arrive at the office on time.

We must say:

IF one gets the bus on time, AND (1) IF the bus doesn't break down,
AND (2) IF there are no traffic delays,

THEN one will arrive at the office on time.

We have then described the nature of the uncertainty affecting our hypothesis, and have expressed it in the form of assumptions. (See Figure II-1 for a set of linked hypotheses and assumptions for a Rice Production Project.)

3. Assumptions

Assumptions reflect our recognition that there are factors beyond our control that are necessary for successful achievement of objectives at all levels of the project. In the previous example, we can control getting up on time, having breakfast and getting to the bus-stop for ourselves. We cannot control the traffic or ensure that the bus company keeps its buses in good running order. So by identifying our assumptions, we have expanded our original hypothesis statement to include the specific nature of the more important uncertainties that could affect that hypothesis.

# Figure II-1:

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**LOGICAL FRAMEWORK FOR SUMMARIZING PROJECT DESIGN**

Project Title _____

Est. Project Completion Date _____
Date of this Summary _____

| | NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|---|---|---|
| If Purpose, Then Goal | Program Goal: The broader objective to which this project contributes<br><br>Farm Income Increased | Measures of Goal Achievement: | | Concerning long term value of program/project: |
| If Outputs, Then Purpose | Project Purpose:<br><br>Production Increased. | Conditions that will indicate purpose has been achieved: End of project status. | | Affecting purpose to goal link:<br>1. Prices remain stable.<br>2. Transport facilities adequate.<br>3. Storage facilities exist. |
| If Inputs, Then Outputs | Outputs<br>1. Fertilizers and HYV seed distribution system in place.<br>2. Farmers trained.<br>3. Credit system in place. | Magnitude of Outputs necessary and sufficient to achieve purpose. | | Affecting output to purpose link:<br>1. Fertilizer used where needed.<br>2. Rainfall supply adequate.<br>[Improved Assumption:<br>2. 10 inches of rain will fall between May and October each year.] |
| | Inputs: Activities and Types of Resources<br>1a. Design distribution system.<br>b. Construct storage facilities.<br>c. Training staff.<br>2a. Recruit farmers.<br>b. Develop training facilities and materials.<br>c. Conduct training.<br>3a. Hire credit specialist.<br>b. Develop system procedures.<br>c. Train staff. | Level of Effort/Expenditure for each activity | | Affecting input to output link:<br>1. Farmers receptive to new methods.<br>2. Fertilizer prices remain stable. |

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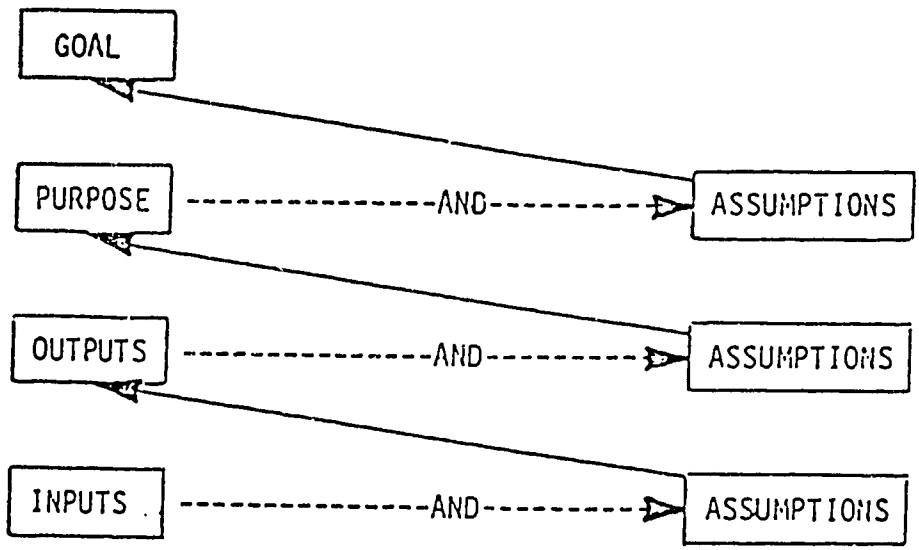
A more complete statement of the hypotheses and the uncertainties inherent in them is shown in diagram form as follows:




Having once identified the assumptions, we can then try to deal with them in such a way as to increase our probability of success and consequently our confidence in our project design. In the case of the bus example, we can get up earlier to avoid traffic delays or we could call the bus company and find out how often their buses break down. If the answer is 80% of the time, we might decide to rent a car!

The above is, of course, a simple example. But the question of assumptions can be <u>the</u> critical factor in a development project. The important point is that we must define, at any one level, all the necessary and sufficient conditions (both within our control--the central hypothesis-- and outside of our control--assumptions) that must be in place for us to achieve the next level objective.

Let us now follow this concept by looking at a more complex development project. In the case of development projects we are talking about important development objectives and scarce resources, so it is worthwhile to make the effort to assess whether our predictions in the project design are good predictions. Before we begin the project, we want to have confidence that we can achieve our objectives. We must therefore assess carefully what it is we are assuming about those factors outside our control that could be detrimental to achieving our objectives. We then record these assumptions as they are first identified in the Logical Framework in the assumption column at the same level as the "IF" portion of the hypothesis is recorded. For example:

| NARRATIVE SUMMARY | | | ASSUMPTIONS |
|---|---|---|---|
| Goal | | | |
| Purpose<br>Important Contract Signed. | | | |
| Outputs<br>1. Arrive at office on time. | ----------and | -------> | 1. Client agrees to final version of contract. |
| Inputs<br>1a. Get up in time to catch bus. | ----------and | -------> | 1. Bus in good condition.<br>2. No traffic delays. |

The Logical Framework requires that at each "level" the activities or results planned plus assumptions at that "level" constitute sufficient conditions to achieve the next higher level.

Once we have identified as many critical assumptions as possible with information at hand, it is then time to look more closely at each assumption. Let us take one assumption from the rice production example in Figure II-1 and see how it is used in the project design. Adequate rainfall is necessary for the project purpose to be achieved. This is not difficult to understand, but the project planners and managers will need more guidance if they are to assess the validity of this assumption. The first question to be answered is how much rainfall is adequate? We must find out how much rainfall the crops will need. It will not be enough to know how many inches of rain are required. We must also know when it should fall. If we find that the rains must begin in May and last through October, with a monthly average of 12 inches, the next step is to find out if it is reasonable to expect this level and pattern of rainfall. If careful analysis of climatic history in the region shows that for eight of the last 20 years, rainfall was less than eight inches for the months of June and July, our assumption of adequate rainfall would not be valid.

We could continue with the project "as is" and accept the lower probability of success, but generally when the probability of success drops substantially due to an invalid assumption, we should take some steps to rectify the situation. We must first ask if there is something the project itself can do to effect the necessary change. In the above example, perhaps an irrigation system developed by the project would bring a sufficient supply of water to the crops. The project planners should study this to determine what would be required to develop the irrigation system and whether the project would have the necessary resources. If the project cannot expand, perhaps another project could take on this task. If there are no means to rectify the problem, then two other possibilities arise: (1) the objectives of the project could be modified (the expected level of productivity in the above example could be reduced) OR (2) the project could be abandoned as unworkable, thereby freeing resources for alternative projects. If each of the assumptions in the project design are handled in this manner during the design phase and the project improved accordingly, the project manager should have a realistic idea of what the probabilities are of project success and also be able to anticipate the kind of difficulties that might arise during the course of the project.



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Assumptions are useful not only during the design stage of the project but also during the course of the project and its evaluation. Once the project begins, the project manager should monitor the assumptions regularly to assess their continuing validity. If he finds that an assumption proves to be invalid, he must take action to rectify the situation. A good project manager monitors assumptions regularly so that corrective action can be taken in a timely manner. Assumptions are also important during an evaluation because their examination can provide insight as to why the project has or has not succeeded in achieving its objectives.

To develop useful assumption statements, we ask the question: "What could happen to make this assumption invalid?" For example, if we have a very general assumption such as "equipment available on time", we would ask: "What could happen to delay the availability of equipment?" The response might be that there is a likelihood that a dock strike will occur and thus we realize we are really making the underlying assumption that the dock strike would not occur. We can then follow this with a further question: "What could happen to make the dock strike occur?" Suppose we find that the government is scheduled to sign a contract with the dock workers' union two weeks before the project equipment is due to arrive at the port, and there is a possibility that the government will not accept the union's demands. Project staff could check with the union and with the appropriate government officials to determine the probability that the contract will be signed on time. If the probability appears high, instead of the original assumption ("equipment available on time"), the following assumption would be made: "Government and dock workers' union sign labor contract by June 28, 1982 in time for delivery of equipment". The project manager will know then to keep an eye on negotiations between the government and the dock workers and, if it looks like the contract may not be signed, he can replan the project accordingly.

Clarifying assumptions allows for better communication between the project manager and his superiors. By carefully analyzing the uncertainties in a project before the project begins, it is made clear to a project manager's

superiors what factors are outside of his control and yet might affect the project. When the superiors approve the project, they accept the assumptions as being outside of the project manager's control. They have shared in the judgement with the project manager that the project has a high probability of success given the clearly stated and validated assumptions. This shared judgement frees the project manager from individual accountability for the total project design. If an assumption then proves to be invalid, thus causing a problem, the project manager can communicate openly about the situation without fear that he alone will be criticized for the misjudgement. A good manager should feel free to communicate such problems to his superiors readily, without fear that he will be unfairly blamed for poor management. If the manager hides problems, especially those caused by failed assumptions, he cuts off the possibility of corrective action by his superiors. The project manager and his superiors should work together to identify problems and find the proper solutions. While assumptions are outside the control of the project manager, they are not necessarily outside the control of the project manager's superiors. More will be said about the role of the project manager in a later section.

## 4. Objectively Verifiable Indicators

It is not sufficient to define the general intent of a project in terms of the linked hypotheses and relevant assumptions for each project level. The statements of Goal, Purpose, Outputs and Inputs, frequently are subject to misunderstanding or open to different interpretations by those involved with the project. Goal and Purpose level statements, in particular, tend to be ambiguicus. It frequently happens that a project purpose is interpreted to mean as many different things as there are people involved in the project. For example, a Goal Statement such as "improved living conditions for villagers" is liable to have very different meaning for all the different people concerned about the project. If we could visualize exactly how we will be able to recognize success at each project level, we would be able to sharpen our focus of the project objectives and have



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confidence that all those concerned with the project share the same picture. Objectively Verifiable Indicators are the means for establishing what conditions will signal successful achievement of the project objectives.

Indicators are defined as those conditions that are so strictly associated with certain other conditions that presence of or variation in the former indicates the presence of or variation in the latter. Indicators demonstrate results. They are not conditions necessary to achieve those results. For example, an increase in the temperature reading of a thermometer would indicate that we have successfully heated water to a desired level. The increase in the temperature reading, however, is not necessary to achieve heated water. For that we need the right kind of heating element.

Thus we can use indicators to clarify exactly what we mean by our narrative statement of objectives at each of the project levels (note there is a variation for input level indicators--where we are simply concerned with indicators of consumption of project resources).

As the project purpose is of major concern, the set of indicators at that level has been given a special name: End of Project Status (EOPS). This is due to the importance of the purpose--it is the main thrust of the project and the focus for programming and project dialogue. It is also due to the fact that the purpose is frequently extremely complex--involving such factors as organizational viability, net improvement in complex (e.g., human) systems, etc. For complex objectives, it is frequently true that no single indicator suffices: relevant indicators could be attributed to alternative events or our "functional specification" is multi-dimensional. Hence the rule for selection of EOPS is similar to that used by any good manager or applied scientist: if all EOPS conditions are met, then there would be no plausible alternative explanation (that is, no explanation other than the desired one--achievement/ purpose).

The Logical Framework therefore encourages the project designer to define clearly and explicitly what will indicate that the project can be considered a success. Included directly in the project design is the set of conditions that will signal successful achievement of the project purpose. An example follows:

| PURPOSE | EOPS |
|---|---|
| Rice Production increased. | 1. 30,000 farmers with 7 rai or less increase rice yields by 50 percent between October 1979 and October 1981. |
| | 2. Rice harvested by small farmers in 1981 is of equal quality (x percent cracked) to rice harvested by same farmers in 1979. |

Notice, in the above rice product example, how the indicators add depth and dimension to the purpose statement. The purpose "production increased" is vague. If we only succeed in raising production 2% for one farmer we could be considered successful--we have increased production! Without the indicators, we have no way of knowing the specific intent of the original design. Also, the way the purpose is written, it is not clear that we are aiming at small farmer production. When we specify exactly what we visualize will be in place because we have achieved our purpose, we actually clarify the purpose. It should be rewritten as follows: Small farmer rice production increased in Northeastern region. When we clarify the purpose statement we must again examine our indicators. Frequently they need further refinement. This refinement process is essential for good application of the concepts. We should not be reluctant to change the Logical Framework during design-- we should in fact expect to have to change it as use of the concepts constantly raises important questions and forces us to continually refine our design until we have high confidence in its validity. It is much better if we make our mistakes on paper. The

process of using the concepts is best undertaken collaboratively. It calls for participation by all parties to the project: programming staff, top management, project management, specialized experts and technicians, and frequently evaluation experts. Notice too that once we have added indicators to our design we are better able to judge its adequacy.

Figure II-2 shows a Logical Framework for the Agricultural example for which indicators have been added, the purpose and goal have been clarified, and assumptions made more explicit. Compare this figure to that in Figure II-1 for an illustration of how the concepts are used to build and improve the design.

Often a number of indicators will be necessary to measure success. The number of indicators that are necessary is that minimum number which gives us confidence that their existence will in fact demonstrate achievement of our project objectives and in addition, give the project manager a clear target to aim at achieving. It is only when the objectives are clearly targeted that the project manager can judge whether or not the conditions at one level in the project design are sufficient to achieve the next higher level objective.

Useful rules to remember are:

1. The narrative summary must provide a clear aiming point for all involved in the project--something they can easily remember and which they believe to be important.
2. The objectively verifiable indicators add depth and understanding--establishing a "performance specification" such that even skeptics would agree that our intended result has been achieved (when indicators are objectively verified).

Four characteristics of good indicators are discussed below.

# Figure II-2:

## Adding Indicators Further Clarifies Project Design

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LOGICAL FRAMEWORK
FOR
SUMMARIZING PROJECT DESIGN

Project Title: RICE PRODUCTION

Est. Project Completion Date _____
Date of this Summary _____

| | NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|---|---|---|
| If Purpose, Then Goal | Program Goal: The broader objective to which this project contributes<br>Small farmer income increased in Northeastern Region. | Measures of Goal Achievement:<br>1. Average farmer income raised from 100 baht per year in 1976 to 130 baht/yr. in 1978.<br>2. Small farmer income raised from 70 to 110 baht in same period. | | Concerning long term value of program/project:<br>1. Inflation doesn't exceed 12%/yr.<br>2. Sufficient "luxury" goods available for farmers to spend "Disposable" income.<br>3. Farmers protected from unscrupulous merchants. |
| If Outputs, Then Purpose | Project Purpose.<br>Small farmer rice production increased in Northeastern Region. | Conditions that will indicate purpose has been achieved: End of project status<br>1. 30,000 farmers (owning 7 rai or less) increase rice yields by 50 % between October 1976 and October 1978.<br>2. Rice harvested by small farmers in 1978 is of better or equal quality (X% cracked) to rice harvested by same farmers in 1976.<br>3. 95% of farmers buy HYV seed for 1979 planting season. | | Affecting purpose to goal link:<br>1. Price of rice does not fall below X baht/ton in 1977, and X baht/ton in 1978.<br>2. Market absorbs total increased production each harvest.<br>3. No spoilage or waste occurs in marketing/storage system. |
| If Inputs, Then Outputs | Outputs.<br>1. Functioning fertilizer and high yield variety rice seed distribution system in place.<br>2. Farmers trained.<br>3. Functioning credit system in place. | Magnitude of Outputs necessary and sufficient to achieve purpose.<br>1a. 10 distribution centers constructed by 12/79.<br>b. X tons fertilizer and X tons seed distributed to target group by 12/78.<br>c. 96% of all purchases paid for withing 2 months of purchase.<br>2a. 35,000 farmers trained by 12/78.<br>b. 98% of those trained use new planting and cultivating techniques appropriately.<br>3a. 8m baht issued in credits to 25,000 small farmers by 1978, by 30 credit area offices<br>b. Default rate does not exceed 2% of total loans.<br>c. Credit terms acceptable to local farm leaders. | | Affecting output to purpose link:<br>1. Extension agents correctly supervize farmer application of fertilizer.<br>2. 10 inches of rain falls between May and October each year.<br>3. Price of soya seed stays at 1976 levels so farmers will stay with rice project and not convert to soya. |
| | Inputs: Activities and Types of Resources.<br>1a. Design distribution system.<br>b. Construct storage facilities.<br>c. Training staff.<br>2a. Recruit farmers.<br>b. Develop training facilities and materials.<br>c. Conduct training.<br>3a. Hire credit specialist<br>b. Develop System procedures.<br>c. Train staff. | Level of Effort/Expenditure for each Activity.<br>1a. 6 manmonths $15,000 baht 600,000<br>b. 12 manmonths $1,800,000 baht 900,000<br>c. 36 manmonths $150,000 baht 1,200,000<br>2. 24 manmonths $100,000 baht 100,000<br>24 manmonths $200,000<br>3. 36 manmonths $150,000<br>TOTALS: $--------- BAHT -------- | | Affecting input to output link:<br>1. Farmers willing to accept new cultivation methods.<br>2. Fertilizer prices do not exceed $__ per ton.<br>3. Can recruit locally 150 agricultural extension agents. |

DEVELOPMENT HYPOTHESES

MANAGEABLE INTEREST

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a. Indicators Measure What is Important

The indicators must measure what is important in the objective. For example, in our statement of goal "Small farmer income increased" (Figure II-2), it will be easier to measure farmer income, but we are interested in small farmer income; thus, our indicators must reflect our interest in small farmers. And we are talking about income--but do we mean income in general or do we mean real income? If we mean the latter, this must be specified so that we can measure the important aspects of our project.

b. Indicators Must Be Plausible

The indicators we select must be so closely related to what we are trying to measure that we are confident our project was an important factor in the observable results. For example, to state that the presence of farmers making large profits demonstrates that a functional credit system has been established is not plausible. Farmers making large profits could demonstrate a number of other factors at work--successful crop production, unusually high demand and short supply of a specific crop, high levels of activity in black market products, etc. To demonstrate that we have a functioning credit system, we must look for indicators more closely related with what it means to have a functioning credit system--i.e., numbers of loans actually issued to small farmers, effective default rates, speed and efficiency with which loans are processed and administered, etc.

c. Indicators Must Be Targeted

Indicators must be targeted in terms of quantity, quality, and time (QQT). If any of these three are missing we cannot be entirely objective about whether we have been successful or not. There is a simple, step-by-step process for targeting an indicator which is described below using one of the indicators selected in Figure II-2 to signal achievement of the purpose.

| | |
|---|---|
| Step One | Identify Indicator<br>Small farmers increase rice yields. |
| Step Two | Quantify<br>30,000 small farmers (owning 7 rai or less) increase rice yields by 50%. |
| Step Three | Set Quality<br>30,000 small farmers (owning 7 rai or less) increase rice yields by 50% while maintaining same quality existing in 1979 harvest. |
| Step Four | Specify Time Frame<br>30,000 small farmers (owning 7 rai or less) increase rice yields by 50% between October 1979 and October 1981 maintaining same quality existing in 1979 harvest. |

Not every indicator can include all three factors (QQT). In the step-by-step process shown here, QQT have all been included, but the resulting indicator is somewhat awkward. In Figure II-2, however, quality has been separate and put in a separate indicator. The best method is that which simplifies. The question of quality is extremely important, but is frequently overlooked. In this example, the concern is clear--if we produce more rice at the expense of quality, we will have failed. In setting targets we must ask: "How much is enough to achieve next level objectives, what quality should it be, and by when do we need it?"

In order to answer these questions, of course, we must know the targets at higher levels. In our example, we know what farmer income currently is; we know how much basic necessities (food, seed, clothing) cost him now and can estimate what they will cost him three years from now. We therefore can estimate how much income he will have to earn in order to have a real income that sufficiently increases to make the project worth his time and effort. From this, we can derive how much rice he will have to sell at what price (hence, our assumptions about rice prices) by 1981, and in turn, we can then derive how much rice he will have to produce. This process is used for deriving targets for all components of the project. Beginnning at the highest level to determine what we need--all the way down to calculating how much it will cost us to finance the project. Then, given that we rarely get what we need, we have to look at the available resources and work our way back up the project, testing whether we can in fact accomplish the desired levels of results, and whether, once achieved, they would prove to be worth the cost ("cost effective").

d. Indicators are Independent

Indicators that demonstrate the achievement of an objective at one specific level cannot be used to demonstrate achievement at the next higher level. Although this appears to be one of the simplest concepts of Logical Framework methodology, it is also one of the most common weaknesses in Logical Framework designs. There is a common tendency to demonstrate achievement of a result by measuring the means used to achieve the result. It is frequently claimed that "school building constructed" and "teachers trained" (outputs) demonstrate improved quality of education in the school (purpose). Or "health center constructed", "medicines supplied", and the "medical staff hired", (outputs) demonstrate health care services provided by the health center (purpose). This is because it is easier to think of success in terms of the tangible deliverables of the project--we can see buildings and people. Purpose level objectives are much harder to define. Instead of struggling with something difficult and perhaps somewhat abstract, it seems logical to think: "Well, of course, we have improved health; just look at this fine building with full medical facilities and the first-class doctors and nurses we have working for us." We need to think carefully about what indicators would truly demonstrate "health care services provided": i.e., number, type and quality of actual health care provided to specified target audiences--such as number of children immunized, numbers of mothers that receive preventive health counseling, number of babies delivered successfully, etc.

We have thus made a prediction that producing the outputs will achieve the purpose, but the prediction includes uncertainty. Therefore, we cannot say that production of outputs automatically achieves purpose; nor can we use production of outputs as proof of purpose achievement. We must measure purpose-level achievement independently of output-level achievement. One way to check this independence is to determine if the set of indicators we have identified at the purpose level (EOPS) represents the means to achieve the project purpose (in which case they are really outputs, not indicators) or if they actually describe the conditions that would exist if the purpose has been achieved.

## Special Indicators

Good indicators are not always available. A good indicator is a direct measure of achievement. For example, increased crop productivity can be measured by the change in crop yield per hectare on fields in the area in which the project is operating. Evaluators can measure success of this project. However, when the objective is a "viable industry established" it becomes much more difficult to measure project success. The industry may have been developed in such a fashion that it will become viable three years after the project terminates. In order to have some confidence of success at termination, it is necessary to find an indicator that can be assessed now that will predict later performance. In this case such an indicator might be a trend in the reduction of production costs per unit and/or a steady increase in orders.

Such indicators can also be used to measure results when preferred indicators are too costly to verify. If a preferred indicator requires an expensive survey for verification and if this is not within the project budget, indirect or proxy indicators must be found. If the project wants to test the quality of education in a vocational school, but cannot afford to examine the graduates, the evaluators may check how many of the graduates are being employed at what salary. Indirect indicators do not offer as much confidence in success as do direct indicators, but they represent an acceptable alternative. In using indirect indicators, care should be taken to assess what other variables could explain the change in our chosen indirect indicator. In the example above, salaries of graduates from a vocational schoold could well reflect employer satisfaction with the quality of the graduate. However, it is possible that there is a shortage of people with these particular skills and the resulting demand is unrealistically forcing prices, even if the graduates were only mediocre.*

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*/ Eugene J. Webb, Donald T. Campbell, Richard D. Schwartz, and Lee Sechrest, Unobstrusive Measures: Nonreactive Research in the Social Sciences.

5. Means of Verification

As a still further step in the Logical Framework Approach to clarifying objectives, we must ask the question "How will we be able to measure our indicators?" The indicators prove achievement of objectives--but, if we cannot find data about how much rice farmers have harvested, then we cannot prove that yields increased, and therefore we cannot show production increases in general. And if we cannot measure success (or failure), we should question the reasonableness of executing the project. Usually, however, we can substitute an alternative indicator which correlates closely with the preferred indicator (rice marketed, for example). In many cases, if we think about it carefully, we can frequently find appropriate data by using different means of verification. If farmers do not report harvest, or there are no weighing facilities, we can do a survey and count numbers of baskets collected.

The value of an indicator is limited by the means available to verify the indicator. As in the example above, if an extensive survey is needed for obtaining the necessary data to verify an indicator, and if the project does not have the money to pay for the survey, then another indicator must be found. The verification of some indicators may require just a quick review of project or government records whereas other indicators require sophisticated data collection and analysis for verification.

If verification is going to cost the project time and money, then the means of verification must be identified during the design stage of a project and the necessary manpower and money included in the project inputs. If these are not planned early in the project, they may not be available when they are needed. Sources of evidence on all important elements of an indicator should be identified. An example follows:

| Objectively Verifiable Indicator | Means of Verification |
| --- | --- |
| 2,000 new single family dwellings purchased by low income, farmer tenement residents by June 1980. | Sales records from land office, number of sales and sales dates.<br><br>Data on purchaser's income level from tax records.<br><br>Data on purchaser's former residence from land office. |

In the above example, each important element in the indicator has a means of verification. The means of verification must be carefully examined to ascertain the completeness and reliability of the data. Often project managers will count on government records, only to learn later that (1) the records are out of date or (2) the data were poorly collected so that the records are not reliable. The quality of available records must be assessed. In the above example, it was found that the first two means of verification were available and reliable, but it was discovered that the land office did not keep records on purchasers' former residences. This means of verification had to be discarded and another means found. A possible alternative would be to visit the new owners to ask about their former residence. One could also build an information system into the project so that the necessary data could be collected in the course of regular project operations. Such a system can provide timely, relevant information that can be used by decision-makers throughout the course of the project. Whatever means the project uses to obtain the information necessary to verify indicators of achievement, this means of verification must be made explicit in the project design. See Figure II-3 for further examples of means of verification.

Establishing means of verification can be a complex and demanding task. We recommend that the project manager select verification techniques that make sense to him and his colleagues. For those requiring more rigor in verification, we recommend reference to such related documents as "Manager's Guide to Data Collection", 1979.

## 6. Manageable Interest

There is an invisible dividing line between Outputs and Purpose which makes a distinction between the levels of uncertainty within the project. Below the line--i.e., producing outputs--has a degree of certainty obtained from all our earlier experiences which gives us a "can do" feeling. A manager can accept responsibility for producing outputs because he can be reasonably certain that given certain resources he can undertake appropriate activities to transform those resources into the desired outputs. Above the line--i.e., achieving purpose--is where we have much less experience and correspondingly less certainty that we "can do" it; we therefore expect and "hope" we will achieve the purpose. We do our best to define all the conditions necessary and sufficient to achieve that purpose but there is still enough uncertainty that we cannot confidently state that it is something we "can do".

By the term "manageable interest" therefore, we refer to that complex of activities and resources that the manager controls in producing outputs for a given purpose. In effect, the competent manager accepts the responsibility and accountability for producing those outputs. He does not accept responsibility for achieving purpose: that is the responsibility of top management. However, he does accept responsibility for doing all that he can to monitor the progress of the project in relation to the achievement of that purpose and doing all that he can reasonably do to influence achievement of purpose.

Specifying what we "can do"--the "manageable interest"--and "hope" to achieve--accomplishment of purpose--facilitates clarification of the manager's job and allows for a constructive, open dialogue between levels of management. This in turn allows all concerned to focus on what the project is intended to accomplish, how it can be accomplished, what factors are outside the control of the project, who is responsible for what, and when different levels of management should be involved. This creates a task-oriented atmosphere in which opportunities, progress and problems that may impede that progress can be discussed constructively.

Because the manager knows he is not being held accountable for unrealistic objectives, he can relax and devote his energies to getting his job done. He does not need to worry that he will be blamed for factors outside his control. However, he is not absolved from his responsibility to use his best judgement in the project design, to use all means at his disposal to favorably influence factors that are outside his control, and to communicate with superiors when he sees that (1) the outputs may not be produced on time or in sufficient quantity or quality or (2) the outputs will be produced as targeted but they are not having the predicted effect on purpose-level achievement.

The project manager should take whatever corrective action is available to him where appropriate and should recommend corrective actions to his superiors when their help is needed. It is the project manager who is in close contact with his field staff and is therefore in a better position to see what measures could be undertaken to correct the situation. If a project manager does not pass on his recommendations to his superiors, then decisions will be made without the insight of the person in the field.

Communication between the project manager and his superiors must be two-way communication. The project manager should know, and be an active participant wherever feasible in establishing why the project is being undertaken. The Logical Framework aids in this communication by specifying the higher level objectives: Goal and Purpose. The project manager should understand how his project will contribute to purpose and goal-level achievement. If the project manager sees that his project will not have the expected impact at higher levels, he must communicate this to his superiors. Often this is difficult for a project manager to do, for it could mean that his project will be discontinued. Let's look at an example: the goal is "income of small farmers increased", and the purpose is "small farmers' rice production increased". The project manager sees that, although the small farmers are increasing their rice production, their income is not increasing because of a recent substantial drop in the price of rice. He should communicate this information to his superiors.

They then have an early opportunity to examine the situation and either add resources or terminate the project in favor of an alternative with higher probability of success.

a. Error in Logic

An occasional error is made in developing an output to purpose hypothesis. This occurs when no distinction is made between the synergistic result is expected when all the outputs have been produced (e.g., purpose), and a simple summary or restatement of the outputs themselves. If we simply restate the outputs then we have no hypothesis--we have 100% probability that "if Outputs, then Outputs." What we are looking for is a purpose statement that reflects the results of the hypothesis "if Outputs AND certain other important factors outside our control, then Purpose." In such a statement we never have 100% probability that "if Outputs, then Purpose." There are always intervening variables (and the assumptions we make about them) that will affect our ability to achieve the desired purpose.

| BAD PRACTICE | GOOD PRACTICE |
|---|---|
| Purpose is sum of outputs.<br><br>Purpose: Modern farming methods used by farmers. | Purpose is result of outputs.<br><br>Purpose: Agricultural production of farmers increased. |
| Outputs:<br><br>1. Fertilizer used by farmers.<br>2. HYV seed planted by farmers.<br>3. Pesticides used by farmers.<br>4. Fungicides used by farmers.<br>5. Multiple cropping system used by farmers. | |

b. Delegation of Responsibility for Outputs

Responsibility for producing each of the outputs can be delegated by the project manager to others, be they contractors or subordinates. The outputs can be broken down in the Logical Framework by listing the separate major activities that are required to produce each output. This is especially useful when the project manager delegates authority to several contractors or subordinates for one output or when outputs must be subdivided for proper resource allocation. The inputs on the Logical Framework should show the major activities for each of the outputs. The indicators at the input level should show the manpower, money, and equipment necessary for each of the activities (see Figure II-3, Input-Output Level, Input Indicator column).

The Logical Framework can be used as a communication tool, not only between the project manager and superior as described above, but also between the project manager and others on whom he must rely for cooperation in achieving his objectives. It is especially useful when the project manager must deal with the many factors that are outside his control. For example, if his project purpose is "rice production increased 50%" and his outputs are (1) irrigation canals constructed and (2) high yield seeds distributed, and the project is assuming that there will be sufficient fertilizer on the market at a reasonable price and that the credit institutions will make loans to the farmers, he may need to influence the fertilizer producers and distributers and the credit institutions without having direct authority over them. He can do this by sharing his objectives with them. With the Logical Framework he can explain what the project purpose is, what the outputs are that he must produce, and what the assumptions are that are critical to project success. He should also share with them the goal of the project so that they can see they are contributing to a significant and important undertaking. Finally, he should share with them the project assumptions, for this allows them to see their role in helping the project manager to accomplish his task.

# Adding Means of Verification Strengthens Design & Evaluation of Project

PCI 324

LOGICAL FRAMEWORK
FOR
SUMMARIZING PROJECT DESIGN

Project Title: RICE PRODUCTION

Est Project Completion Date _____
Date of this Summary _____

DEVELOPMENT HYPOTHESES

MANAGEABLE INTEREST

| | NARRATIVE SUMMARY | OBJECTIVELY VERIFIABLE INDICATORS | MEANS OF VERIFICATION | IMPORTANT ASSUMPTIONS |
|---|---|---|---|---|
| If Purpose, Then Goal | Program Goal: The broader objective to which this project contributes<br>Small farmer income increased in Northeastern Region. | Measures of Goal Achievement:<br>1. Average farmer income raised from 100 baht per year in 1976 to 130 baht/yr. in 1978.<br>2. Small farmer income raised from 70 to 110 baht in same period. | 1a. Sales & Market price figures<br>b. Tax figures<br>c. Ag. extension agent reports<br>2a. As for 1 above. | Concerning long term value of program/project.<br>1. Inflation doesn't exceed 12%/yr.<br>2. Sufficient "luxury" goods available for farmers to spend "Disposable" income.<br>3. Farmers protected from unscrupulous merchants. |
| If Outputs, Then Purpose | Project Purpose.<br>Small farmer rice production increased in Northeastern Region. | Conditions that will indicate purpose has been achieved: End of project status<br>1. 30,000 farmers (owning 7 rai or less) increase rice yields by 50 % between October 1976 and October 1978.<br>2. Rice harvested by small farmers in 1978 is of better or equal quality (X% cracked) to rice harvested by same farmers in 1976.<br>3. 95% of farmers buy HYV seed for 1979 planting season. | 1a. Harvest Records; Dept. of Ag., extension agents surveys<br>b. 1976 DOA records.<br>2a. Reveiw & Analysis by DOA experts.<br>3a. Credit system records.<br>b. Survey of farmers for program satisfaction. | Affecting purpose to goal link:<br>1. Price of rice does not fall below X baht/ton in 1977, and X baht/ton in 1978.<br>2. Market absorbs total increased production each harvest.<br>3. No spoilage or waste occurs in marketing/storage system. |
| If Inputs, Then Outputs | Outputs:<br>1. Functioning fertilizer and high yield variety rice seed distribution system in place.<br>2. Farmers trained.<br>3. Functioning credit system in place. | Magnitude of Outputs necessary and sufficient to achieve purpose.<br>1a. 10 distribution centers constructed by 12/78.<br>b. X tons fertilizer and X tons seed distributed to target group by 12/78.<br>c. 96% of all purchases paid for withing 2 months of purchase.<br>2a. 35,000 farmers trained by 12/78.<br>b. 98% of those trained use new planting and cultivating techniques appropriately.<br>3a. Cm baht issued in credits to 25,000 small farmers by 1978, by 30 credit area offices<br>b. Default rate does not exceed 2% of total loans.<br>c. Credit terms acceptable to local farm leaders. | 1a. Project records.<br>b. Project records, extension agent survey.<br>c. Project A/C records.<br>2a. Project records.<br>b. Extension agent reports<br>c. Spot check survey by project manager.<br>3a. Credit systems records.<br>b. Ag. extension agent report | Affecting output to purpose link:<br>1. Extension agents correctly supervize farmer application of fertilizer.<br>2. 10 inches of rain falls between May and October each year.<br>3. Price of soya seed stays at 1976 levels so farmers will stay with rice project and not convert to soya. |
| If Inputs, Then Outputs | Inputs: Activities and Types of Resources.<br>1a. Design distribution system.<br>b. Construct storage facilities.<br>c. Training staff.<br>2a. Recruit farmers.<br>b. Develop training facilities and materials.<br>c. Conduct training.<br>3a. Hire credit specialist<br>b. Develop System procedures.<br>c. Train staff. | Level of Effort/Expenditure for each Activity.<br>1a. 6 manmonths $15,000 baht 600,000<br>b. 12 manmonths $1,800,000 baht 900,000<br>c. 36 manmonths $150,000 baht 1,200,000<br>2. 24 manmonths $100,000 baht 100,000<br>24 manmonths $200,000<br>3. 36 manmonths $150,000<br>TOTALS: $--------- BAHT ------- | 1a. Project manager records<br>b. Subcontractor records and reports.<br>c. Project manager reports. | Affecting input to output link<br>1. Farmers willing to accept new cultivation methods.<br>2. Fertilizer prices do not exceed $__ per ton.<br>3. Can recruit locally 150 agricultural extension agents. |

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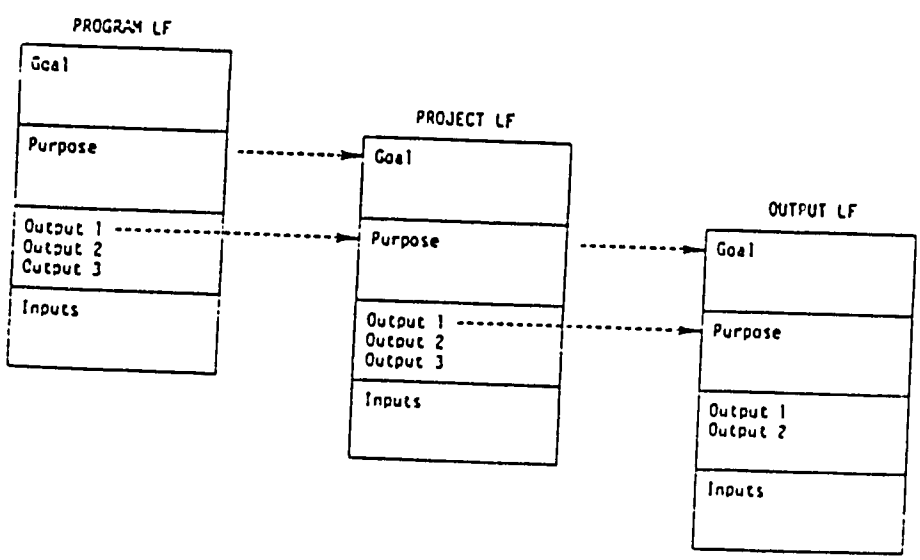
## B. BUILDING THE PROJECT DESIGN

Rarely should a project be designed by one person in isolation. Designing a project requires both management and technical skills. People with the specific skills needed should be included as members of the design team. Where one starts when developing a Logical Framework for a project depends upon the amount of decision-making that has already taken place regarding project details. Ideally, the Logical Framework should be used before the project is even identified. In such a case, the Logical Framework would be a design tool for program/sector planning. Once higher (program/sector) management has identified a program or sector goal, they would then identify the project(s) that would be needed to achieve the goal.

If program-level managers were using their own Logical Frameworks to design programs, the reason for the program would be recorded on their Logical Framework as a purpose, and each of the projects needed to achieve the purpose would be an output. Each output (or project) would then be assigned to a project manager and that output would become the purpose on the project manager's Logical Framework. His goal would of course be the purpose of the Logical Framework of the program manager. This same approach could be used to delegate responsibility for managing individual outputs. This can be seen graphically below, and also in Figure II-4.



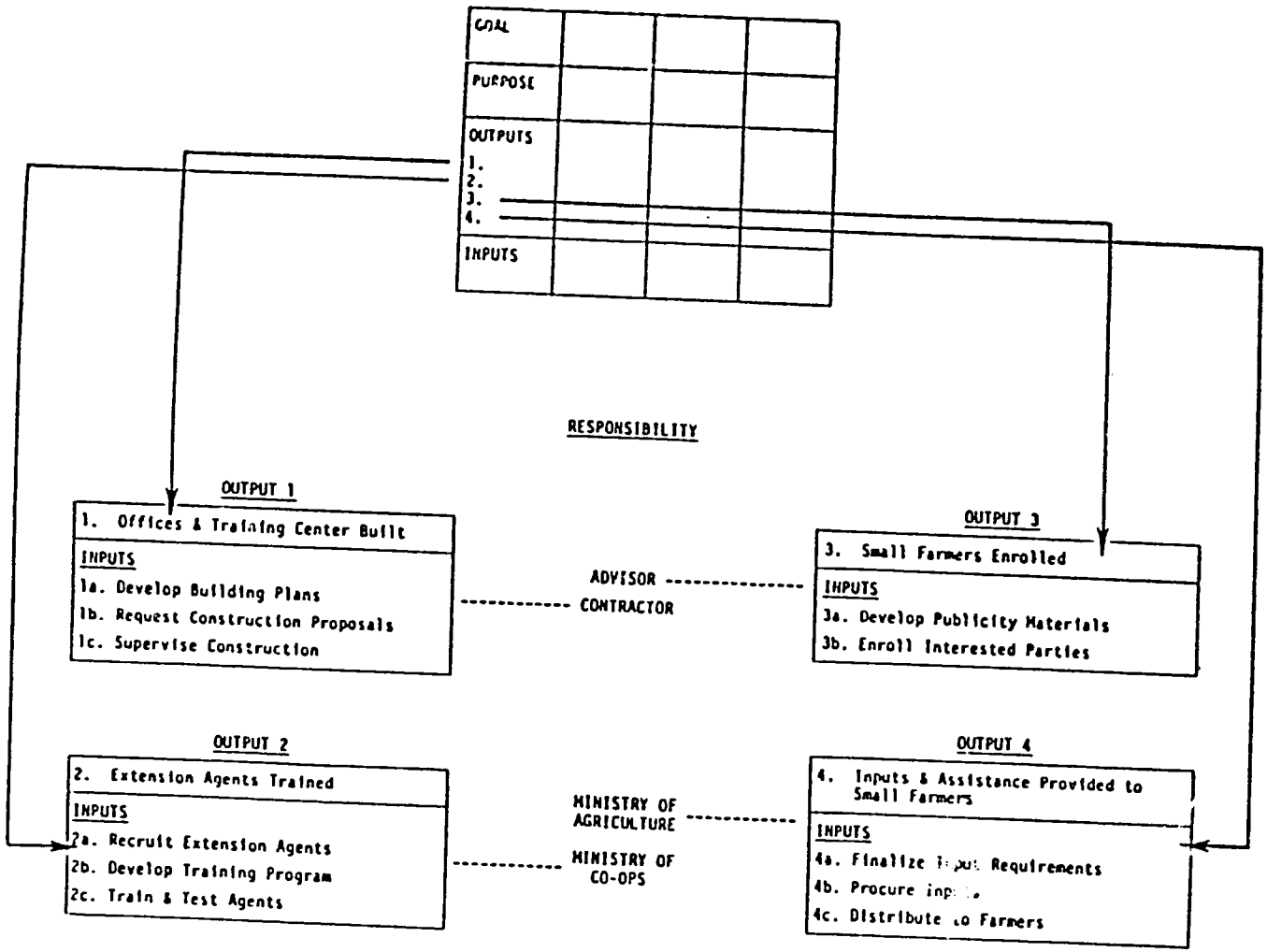



Figure 4: THE LOGICAL FRAMEWORK ESTABLISHES THE BASIS FOR DEFINING & DELEGATING PROJECT RESPONSIBILITIES.



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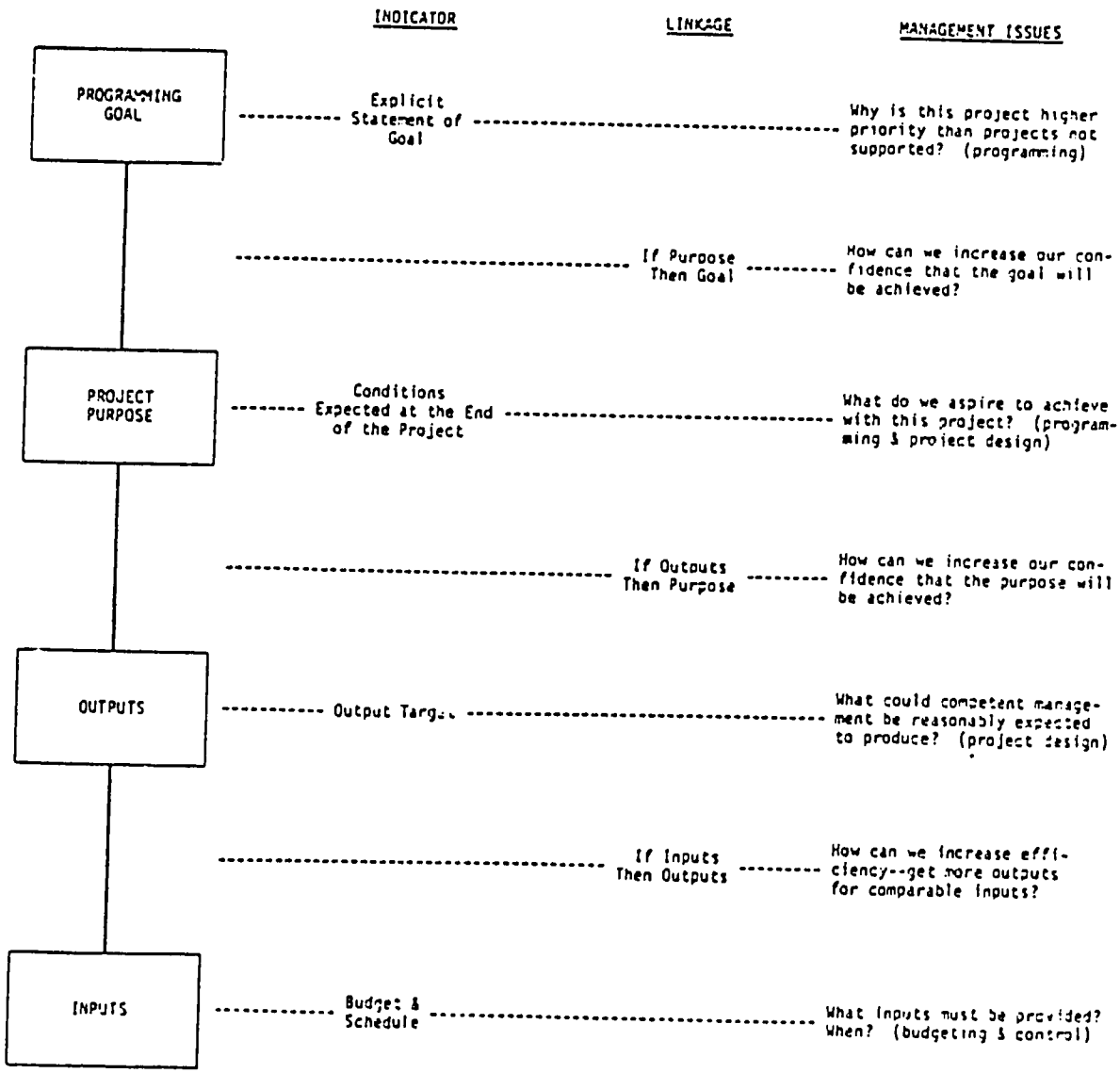
When a project is assigned to a design team (which should include the project manager, if possible) in this fashion, the goal and purpose of the project Logical Framework are already identified. The design team may first want to further clarify the purpose by developing indicators for End-of-Project-Status (EOPS). Once the scope of the project purpose is understood, the next step is to develop the project outputs. The design team must ask themselves what should be produced in order to achieve the purpose. Once the outputs are identified, the next step is to identify the activities and resources required to produce the outputs. At this point the first stage of Logical Framework development has been completed. The Logical Framework should have the goal, purpose, outputs, and inputs identified. The EOPS should be fairly complete and the indicators at the output and input level (resources) should be roughly identified. Invariably many assumptions are identified during this initial stage of project design and they should be noted in their rough form so that they are not forgotten. This first stage is a top-down design, beginning at the goal and working down to the inputs. Figure II-5 provides a sketch of the top-down design and the management issues raised at each level.

The second stage of project design starts at the bottom and works back up to the goal. During this stage the design team must ask if they have identified all the necessary and sufficient conditions at one level to be confident of achieving the next higher level of objectives. A review of each set of the activities together with their resources is made to determine whether it is necessary to produce a specific output. The assumptions must be further clarified and then the team must determine whether all of the factors (both within and outside the manageable interest) necessary to produce the outputs have been identified. At this stage, the experts and project technicians should be called in as necessary to advise the design team and/or project manager.

## FIGURE II-5

## THE LOGICAL FRAMEWORK OF A TECHNICAL ASSISTANCE PROJECT



The team then moves to the output level and examines each output to see if it is necessary to achieve the project purpose. Indicators must be developed for each output. The assumptions being made about the output-to-purpose hypothesis are further clarified, and then the judgement must be made as to whether all of the factors necessary and sufficient to achieve the purpose have been identified.

The team then moves to the purpose level and re-examines the purpose to determine whether it is necessary to achieve the goal. All of the EOPS indicators must be fully identified and targeted. The assumptions for the output-to-purpose prediction are further clarified. The other projects that will also be contributing to goal achievement must be included in the assumptions. The design team* must determine whether all of the factors necessary to achieve the purpose have been identified. At the goal level the indicators must be fully identified and targeted. This completes the first cycle of the Logical Framework design.

To further refine the project design, two activities are required and can be undertaken simultaneously. One of these is to develop the evaluation plan. For this, the first step is to identify the means of verification for each of the indicators. If the means of verification require additional project resources and activities, then both have to be included as project inputs on the Logical Framework. The project manager must anticipate decisions that will be dependent on evaluation results. If important decisions must be made at specific points during the course of the project, then interim evaluations may be required and interim targets must be developed for the indicators.

*/ The parties involved in the design process can be drawn from different department levels and areas of expertise, depending on the project. If a project manager has not been officially assigned, at least one member of the design team should be charged with bringing the project management viewpoint to the design effort. In addition, when refining the purpose and goal of the project, higher-level management should be included in the dialogue to ensure that the resulting goal-level clarification meets their programming objectives.

The kinds of decisions required must be identified, so that the information necessary to make these decisions will be available at the proper time. A simulated evaluation can be helpful in identifying the kinds of decisions and the kind of information required. It may be found that additional indicators and additional assumptions have to be included in the project design to provide a base for measurement in the future.

The evaluation will be oriented to identifying change that has occurred as a result of doing the project. In order to measure change it is imperative to know what the conditions were prior to the project. For every indicator that is to measure change, the project manager must have full data on the initial conditions. If the data are not already in hand, they must be fully collected prior to the commencement of other project activities. If collection of baseline data is not a pre-project activity, it should be included in the project design as a project activity. If this, in turn, is not possible, then the implications of starting the project without the sufficient baseline data must be assessed and alternatives considered--such as not doing the project, or collecting "trend" data so we can at least see change over time, even if we cannot see the initial status.

The second activity required to refine the project design relates directly to the assumptions. Each assumption must be fully clarified and its probability assessed. If the project manager finds the probability is very low that the assumption is valid, then he must take some kind of action to increase the probability of project success. The types of action available to him are discussed in the section on assumptions.

There is no set formula for dermining the probability of an assumption or for assessing the combined probabilities of all of the project assumptions. In general, if any one assumption has a low probability, that should be enough to signal danger to the project manager. If a number of assumptions are seen to be of somewhat less than high probability, then their combined probability would have to be considered low and this would also be a danger signal to the project manager.

Assessing the probability of an assumption is an activity that is somewhat subjective in nature. If the project manager finds that he cannot assess the probability of his assumptions because he is lacking needed information, he may undertake further study to obtain the information. (Information has a cost. However, it should be weighed against the possible cost to the project if the information is not obtained. In the long run it may prove more costly to go ahead without key information.

The project manager ideally should be involved in the planning of a project. Often a planner will design a project and then pass the completed design on to a project manager. When this occurs, the project manager does not have the opportunity to share in the judgement of the design, yet he must be responsible for project implementation. In such a case, he should examine the design and alert top management immediately to any unrealistic aspects in the design and major problems he foresees.

## C. THE LOGICAL FRAMEWORK AND EVALUATION

The discipline of using the Logical Framework in the design process facilitates the production of an evaluable design--objectives are clearly stated, the development hypotheses have been explicitly stated and indicators of success at each level of the project hierarchy have been established. Most importantly, these indicators express what the designers are willing to call success; thus the evaluation task is simply to collect the data for those key indicators and "evaluate" the project against its own pre-set standards of success.

Calling in the evaluators during the design phase to ascertain if in fact the data can be collected, at a reasonable cost, helps clarify the project design still further. It can also reduce costs of evaluation through incorporation of some data collection into routine project operations.

B. Evaluation Beyond the Project Level

## C. MONITORING AND EVALUATION PLAN

A monitoring and evaluation (M&E) plan is a description of management's needs for information about a project or program. AID requires such a plan, including associated resources, in all projects.

Traditionally, AID viewed monitoring and evaluation as separate, discrete activities, and tried to spell out a line demarcating one from the other.

Traditional View:

* Monitoring and evaluation are clearly defined and distinct activities.

* Monitoring is the regular collecting of information on inputs and outputs.

* Evaluation takes place once or twice in a project's life.

However, these distinctions proved to be misleading. Monitoring and evaluation activities meld when one gets down to such practical questions as: what kind of data ought to be covered in more or less routine monitoring by managers and staff using project resources, especially the kind of data that can "signal" implementation problems impeding project performance and the emergence of effects that depart from those postulated in the project design? Who will be responsible for such data? How often should it be collected during project implementation? To whom should it be reported? Should it be reported as a "monitoring" report or an "evaluation" report?

The distinction is further eroded by the likelihood that evaluators will require data that can best or only be collected on a regular basis by field staff and then collated at some central location. How heavy a data collection burden can reasonably be placed on managers and staff before it begins to interfere with their principal implementation tasks?



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The distinction is also blurred when a permanent evaluator is assigned to a project or program. What parameters should be set on the data collection responsibilities of such an evaluator to avoid duplicating the work done by project staff to fulfill their administrative requirements?

AID no longer makes such a sharp distinction between these two activities. Instead, AID considers both monitoring and evaluation as elements of a single "management information system" for a project or program, providing managers with the information they need to effectively manage a project or program toward the achievement of intended development results. AID has found that an effective manager needs to do two things:

-- monitor the performance of activities and specific requirements associated with their implementation (legal, staffing, contracting, procurement, training, financial flows and records maintenance) enabling the manager to exercise appropriate management control over implementation; AND

-- review progress, identify problems and recommend changes in project or program duration, scope, level of effort, and financial support, enabling a manager to plan or re-plan activities (and their associated requirements) and to take appropriate follow-up action. In particular, to increase his or her confidence that a project or program will achieve the intended purpose and goal, a manager obtains at least indicative evidence on what is happening as a consequence of outputs and other events in the project environment. The first requires the manager to "monitor" activities according to the most recent implementation plan; the second requires the manager to "monitor" results, or at least trends toward results, according to the most recent definition of intended development results.

Where does a manager get the information to do these things and to report on them to higher management? Much of the information comes from internal AID project or program records that are routinely generated and maintained on specific activities, and regularly checked against implementation plans. Some comes from "management by walking around" -- site visits by AID and counterpart managers, contractors and others. Evaluation is the principal source of information about progress toward intended results, and of explanations for the level of results achieved.

In theory, "monitoring" covers both tracking implementation activities and tracking progress toward results. In practice, the terms monitoring and evaluation are kept separate for three pragmatic reasons: first, managers have less control over results at the purpose and goal levels than they have over project activities; second, the types of data and analysis needed for evaluation require particular efforts and skills; and, third, tracking the diverse activities and requirements

involved in implementation usually goes on all the time, whereas tracking results usually goes on more periodically. Note, however, that the data needed to review progress and achievement of results may require regular data collection, such as multi-round sample surveys carried out once or twice a year over the life of a project, or a series of case studies over time.

The concept of a "management information sytstem" can be applied at the level of a sector program or an entire Mission or office portfolio, as well as for specific projects and programs. Mission often track certain activities across the board, such as contract implementation, procurement, financial expenditures, and participant training. A system that would also track results against a set of sector or portfolio wide intentions or benchmarks might be helpful to a Mission in organizing its program information needs and reporting requirements, and in planning most efficiently for the collection and analysis of data that can support the evaluation of related projects.

-- Current View:

* A well-planned information system for a project or program permits the most efficient use of resources for meeting management's information needs.

* The information needs of managers require the collection of information on purpose and goal level achievements as well as on inputs and outputs.

* Ongoing review of administrative data should be an integral part of effective project management and should be supplemented by special studies and periodic evaluation as needed.

An M&E plan in a project paper should lay an initial groundwork for getting managers this information in a useful and timely way. The evaluation part of the plan should provide for the collection and analysis of data on some key factors, and should be amenable to change and refinement during the life of the project.

What are the issues and types of data that can be covered or an initial M&E plan? Some possibilities are outlined in Table ___. Preparing the plan provides designers (or the information specialist on the design team) an opportunity to identify the kinds of problems they anticipate will be associated with the project, to discuss these with representatives of AID and the borrower/grantee, and to direct initial data collection activities to these problems. Consultation with the borrower/grantee is especially important if the nature of the project implies assessment of changes in institutional capacity or management effectiveness in a borrower/grantee organization. Designers can also highlight events and linkages which they expect to be critical for achieving the project's targets, both within and outside the domain of the project.

## POSSIBLE ISSUES AND DATA ITEMS FOR PROJECT MONITORING AND EVALUATION

| ISSUES | TYPE OF DATA |
|---|---|
| Efficiency/Effectiveness of Implementation | *Activities<br>*Progress toward targets (Inputs, Output, Purpose)<br>*Assumptions<br>*Costs |
| (Likelihood of) Success | *Achievement of targets (Output, Purpose, Goal)<br>*Milestones and Leading Indicators<br>*Assumptions<br>*Data to Substantiate Cause-Effect Linkages or Eliminate Alternative Explanations (if appropriate) |
| Broader Effects | |
| *Sustainability<br>*National Policies and Programming | *Evidence of Effects<br>*Data to Substantiate Linkages or Eliminate Alternative Explanations (if appropriate) |
| *Institutional Capacity<br>*"Unplanned" Effects | |

The plan should be arranged in a way that will enable managers to regard it as a component of the project to be implemented and adapted as necessary to secure the most useful information; as having specific funds, technical advisory resources, commodities and training; and as having institutional requirements. The steps necessary to carry out the M&E plan should be incorporated into the basic implementation plan for the project. Otherwise, as AID's experience has amply demonstrated, data collection and analysis will be downgraded or dropped altogether as implementation proceeds.

Designers can also refer to available guidelines for the evaluation of certain categories of projects or programs. These guidelines are based on practical experience with issues that typically emerge, various evaluation designs and their data requirements. AID's central Office of Development Information and Evaluation CDIE issues such guidelines from time to time.

The types and amount of data collection and analysis planned for at the beginning of a project should relate to the complexity of the project. It is best to keep initial plans simple, by carefully selecting some key indicators of the factors and events that can best illuminate the amount and direction of changes being promoted through the project. By keeping the initial plan simple and by bearing in mind that they are anticipating what managers will need to know, designers can avoid the possible limitations of early plans; for example,

-- in many cases, the specific users of the information may not be interested so far ahead of actual implementation.

-- early planning for "everything" managers may need to know presents a serious risk of overly complex or "academic" plans.

-- managers may come to regard the plan as a blueprint or obligation instead of a means for learning.

The evaluation part of an M&E plan should never call for data collection and analysis activities without also specifying the necessary resources, the institution or unit which will assume initial responsibility for the activities, and the priority users (AID, borrower/grantee and beneficiaries) who will be expecting the information for their decision-making or planning purposes.

It may not be possible during initial design work to specify the borrower/grantee location for data collection and analysis responsibilities, and in some cases it may be inappropriate to do so. Developing country organizations may be unequipped to handle the task. Many are loath to share information; placing responsibility for an M&E plan in such



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organizations would defeat its purpose. In these instances, designers can adopt a strategy of placing initial responsibility in a temporary, independent unit, subsequently requiring this unit to build an information system as part of the regular organizational or adminstrative structure engaged in carrying out the project.

In most cases, an M&E plan will provide for some regular collection and analysis of data; specific case studies and short-term surveys; external and internal evaluations; and a preliminary schedule of reporting requirements.

AID operating units -- Missions and offices -- are encouraged to include evaluation or information systems specialists as a member of design teams. For projects or programs that are expected to have very substantial institutional or socio-economic effects, designers can consider the advantages of a permanent evaluator, either as a full-time member of the implementation team or as having part-time responsibilities over the life of the project. Assignment of long-term responsibilities to such an individual does not relieve AID and borrower/grantee management of the need to ensure that evaluations will address their concerns, but it can be of considerable benefit to management.

How does one actually put together the evaluation part of an M&E plan? The principal steps are:

1. Identify users and their information needs

2. Clarify project or program design

3. Identify prioritiy questions and problems

4. Select key indicators and identify existing data

5. Determine appropriate methods for obtaining additional information

6. Identify roles and responsibilities and ensure commitment

7. Establish feedback procedures

8. Develop a budget

9. Specify preliminary evaluation schedule, tied to reaching certain benchmarks in implementation and/or anticipated programming decision points.

These steps are more fully elaborated on the next page in the form of a check list. AID staff should work with counterparts in developing and M&E plan. A good joint plan can go along way toward setting the stage for collaborative evaluation.



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## C. CHECK LIST FOR A PROJECT PAPER MONITORING AND EVALUATION PLAN

### 1. Users of Monitoring and Evaluative Information

____ Are the users of the information and their organizational affiliations stated?

____ Is the anticipated timing of the users' regular information needs outlined (e.g., quarterly or annual reports, decision points, or program cycle/fiscal year)?

### 2. Project Goal, Purpose, Inputs/Outputs

____ Does the plan reference the logframe, expanding if necessary on targets and anticipated "casual" linkages requiring continous or periodic tracking?

### 3. Priority Questions/Problems for Managers' Attention

____ Has the plan identified questions at the output level and at the purpose/goal level in a way that high priority questions or problems can be distinguished from those having lower or medium priority as seen at the design stage?

____ Does the plan indicate which of these questions or problems will require information on events outside the project domain (e.g., external factors, assumptions, potential negative impacts)?

### 4. Key Indicators and Existing Data to Answer Managers' Questions

____ Has the plan selected a set of key indicators that will be used initially to answer managers' questions?

____ Does the plan describe existing data and administrative records (and their location/responsible agency) that can be used for these indicators?

____ Does the plan recommend the design of new formats or administrative records and/or desirable procedures for organization information into short, useful reports?

### 5. Appropriate Methods for Obtaining Additional Information

____ Does the plan note those indicators which are necessary for an initial baseline, from which project-supported

changes will be tracked and measured, and for which data are not yet available?

____ Has the plan set forth a feasible strategy for obtaining additional information requiring intensive investigations during the life of the project? (The strategy should include a combination of methods for gathering and analyzing data; the type of data; the frequency of studies to be carried out and reported on; and the availability of both private and public sector organizations able to carry out the selected methods of data collection/analysis.)

____ Has the plan established some initial criteria regarding the duration of special studies, and requirements for interim reports of the findings of longer-term data collection/analysis activities?

____ Does the plan include both external and internal evaluation?

6. Borrower/Grantee Support and Involvement

____ Has the plan identified the borrower/grantee agencies to be directly involved in data collection, analysis and reporting? The nature and level of effort of this involvement and support? The institutional location of an M&E unit?

____ If contracted support is required, does the plan make recommendations regarding host country or AID contracting?

____ Has the plan outlined training, technical advice, and other resources to support borrower/grantee capacity?

____ Has the plan made recommendations regarding the nature of borrower/grantee participation in external evaluations as likely "stake holders"?

____ Has the borrower/grantee agreed to the level of effort recommended by the project designers?

7. Feedback Procedures

____ Does the plan suggest a feasible and straightforward set of procedures for the regular reporting of information to the users?

____ Does the plan demonstrate a practical grasp of the administrative, programming, budgeting, and related decision-making characteristics of the borrower/grantee as well as of AID?

____ Has the plan addressed the possible need to translate reports as necessary for immediate and potential future use of the information?

8. Budget

____ Has a line item been included in the project paper financial plan to cover the requirements of monitoring and evaluation? (Consider long-term TA, short-term TA, training and workshops, commodities such as calculators, computers as appropriate, software.)

____ Has an additional margin of funds been included in the financial plan to enable appropriate development of borrower/grantee management information capacity?

9. Evaluation Scheduling

____ Has the plan identified known future programming/ budgeting decision points (for AID and the borrower/grantee) before which evaluative information will be needed by managers? (These initially include the PACD, tranche dates, completion of a project or pilot phase, basic revision of a CDSS.)

____ Have the project designers indicated approximately the type of empirical data (collected for monitoring and evaluation) that will be available for review by an evaluation team?

10. Borrower/Grantee Agreement

____ Has the borrower/grantee agreed to the plan?

## E. EXAMPLE OF AN M & E PLAN IN A PROJECT PAPER

### PRIMARY HEALTH CARE PROJECT
(AID funding: $10 million)

I. USERS OF THE INFORMATION: The primary users of the information generated by this system will be the Director General of the Department of Health (DOH) in the Ministry of Health, Director of Public Health, Deputy Directors, Division/Province Health Directors and the relevant project and program officers at USAID. This information will also be planned with and made available to the volunteer health workers (VHWs) and representatives of the Province Council.

II. INSTITUTIONAL LOCUS: The institutional locus of the project's built-in data collection, monitoring and evaluation system is the Health Department's Information Service. Staff from the Information Service will be responsible for training VHWs, Rural Health Center Staff and Division/Province staff in procedures for data collection. Supervisors will be responsible for day-to-day supervision of data collectors and for ensuring that the forms are filled out accurately, completely and on a timely basis.

III. PROJECT GOAL, PURPOSE, OUTPUT QUESTIONS, INDICATORS, AND DATA COLLECTION METHODOLOGIES:

A. PROJECT GOAL: The goal of this project is to reduce the morbidity and mortality caused by diarrheal disease, malnutrition, selected infectious diseases and improper obstetrical care in children under five and their mothers.

- Goal-Level Question: To what extent have morbidity and mortality rates declined among children under five and their mothers?

- Indicators: For morbidity, percentage change each year per district in the following:

  (i) diarrheal #/1,000
  (ii) moderately and mildly malnourished/age #/1,000
  (iii) neonatal tetanus #/1,000
  (iv) number newborn entering surveillance system #/1,000

For mortality, percentage change each year per district in:

(i) diarrheal disease #/1,000
(ii) neonatal disease #/100
(iii) maternal deaths #/1,000

- DATA COLLECTION AND ANALYSIS METHODOLOGY: The project calls for the development of an improved information system to monitor project progress, manage the project effectively and plan further programs. To ensure that this information system provides a useful management tool, the overall approach used will be a rapid appraisal feedback system through which members of the user group receive information on critical indicators (both process and outcome) every six months. This type of approach will allow for a continual analysis of trends toward achievement of project objectives over time to ensure that reasonable progress is taking place. In this way, problem areas can be identified and corrective action initiated as they arise.

Information on the indicators listed above is not currently a part of the Department of Health's administrative or statistical records. As a part of this project, Village Health Volunteers will be trained to fill the appropriate forms to report this information regularly to the Department of Health. The Department of Health will then forward this information every six months to the M&E unit for analysis. The M&E unit will analyze the data and provide the results of the analysis to the users every six months.

B. PROJECT PURPOSE: The purpose of this project is to expand village volunteer health services and to improve the quality of these services.

- Indicators:

of expansion

(i) number of CHWs and AMWs and TBAs trained, equipped and deployed;
(ii) percentage of villages with CHWs and AMWs.

of improvements

(i) overall village sanitation, including latrine number and use results of sanitation checks;
(ii) frequency and attendance at personal hygiene lectures;
(iii) number of immunizations, curative treatments and total patients by VHW;
(iv) for the AMW, number of prenatal visits, percent of children and infants in regular weighing, and percent of infants and children having diarrhea.

- Data Collection and Analysis Methodologies: Data on the indicators listed above will be collected on a continual basis as part of a project's built-in data collection, monitoring and evaluation system. The methods used to generate this information will be a combination of simple record keeping, observation, and interviews using a structured questionnaire. The information will be collected by selected Division/Province staff, VHWs and Rural Health Center staff. The Department of Health's Information Service, with assistance from the technical evaluation information specialists, will be responsible for training data collectors and supervising the effort, preparing simple data collection forms, analyzing the data, and preparing the findings that will be included with output level information in a bi-annual report.

C. PROJECT OUTPUTS: The project's outputs will be modifications and improvements in existing health care services, through better trained, equipped and supervised volunteer health workers and community programs.

- Output-Level Question: To what extent has the number of trained VHWs increased, by type of worker? How many villages are now covered by trained VWHs? What improvements have been made in the training of VHWs?

- Indicators:

  - average number of days worked by a VHW over a six month period;
  - number of VHWs trained (broken down by type): (1) preservice and (2) inservice;
  - additional material included in training such as diarrheal disease and weight surveillance;
  - percent of VHWs that have received initial supply kits upon graduation;
  - average number of days that a VHW works without full supply kit during a six-month period;
  - number of additional villages covered by trained VHWs every six months.

- Data Collection and Analysis Methodology: This information will be collected every six months by selected Division/State staff, VHWs and Rural Health Center staff as part of the project's built-in monitoring, data collection and evaluation system. With the assistance of the technical evaluation information specialists, the Department of Health's Information Service will be responsible for developing simple data collection process, analyzing the data and preparing the findings in a format useful for effective project management. Furthermore the Health Information Service will also be responsible for preparing the final written document containing the findings and disseminating copies to the members of the user group on a semi-annual basis.

IV. SPECIAL STUDIES: Some goal and purpose level questions require more in-depth investigations and studies; these questions and ways to answer them are described below.

Goal and Purpose-level Questions: Following the analysis of data and trends, managers will want to know which factors are responsible for variations in morbidity and mortality by district. Similarly, they may want to learn why VHWS are more effective in some areas than in others. To answer these questions, rapid, low-cost studies will be undertaken in the districts in question. Two public health workers will write a report based on interviews with VHWs and project participants, to be completed in six weeks. In addition, a series of special studies will be conducted on both operational and technical subjects to provide DOH with information to manage the program more effectively. Subject areas may include financing, private sector roles, cost efficiency and workload evaluation.

V. FEEDBACK: It will be the responsibility of the contractors providing technical assistance to the Health Information Service to develop a plan that ensures that data is collected, properly analyzed, and fed back in a timely, actionable format to the users identified in section I. This requirement will be included in the technical advisory contract for this project.

VI. BUDGET: Principal costs include the design of simple administrative reporting forms and questionnaires, training of relevant staff in data collection, observation, and use of forms, data processing and analysis time, external evaluation, and report preparation and distribution. Therefore, $150,000 of the $10 million total AID funding for this project has been set aside for data collection, analysis and monitoring and two project evaluations.

A. Government Support:

Office Space: Office space for the monitoring and evaluation units of the Department of Health.

Staff: Ten full-time staff persons for the M&E unit will be provided. Appropriate numbers of staff to fill out administrative data forms in each district will be designated and trained.

B. AID Support:

Long-term Technical Assistance: 18 months of long-term technical assistance to the M&E unit.

Short-term Technical Assistance: 12 months to assist M&E unit in training and data collection tasks.

Commodities: Hand calculators for each district.

VII. EVALUATION SCHEDULE: The evaluation schedule and budget has been set forth in the project paper. The results of the data gathering and analysis on the indicators listed in Section IV will be available to provide an empirical basis for the findings and recommendations of a mid-term and final evaluation.

# III. THE ANNUAL EVALUATION PLAN

## A. OVERVIEW OF THE ANNUAL EVALUATION PROCESS

To link evaluation work to managers' future or upcoming information needs, the process of organizing an Annual Evaluation Plan in Missions and Offices occurs at the same time these units prepare their Action Plans, which also look ahead two years. These plans precede and lead up to budget submissions in the spring of each year. The evaluation plan, and the pertinent evaluation schedules, are included in the Action Plan document. Both are reviewed in Washington, during "program weeks". This review provides senior management a regular and systematic opportunity to comment on the evaluations to be undertaken, the specific projects and programs involved, the issues to be addressed, and methodological and resource implications, and to intervene as appropriate. When Missions or Offices subsequently amend or alter these evaluation plans, they report to their respective Bureaus, usually through a regular updating procedure. Bureaus may waive the requirements for a formal plan in special cases (e.g., small country programs).

Senior management in Washington has two other regular opportunities to plan for the information they will require from evaluation, if this information will not be generated by, or cannot be easily meshed with, the work being planned by Missions and Offices. First regional and central bureaus may plan evaluative studies that directly address the concerns of their respective management. Some issues can <u>only</u> be addressed in this way, because they may require inter-country or cross-project comparisons employing scopes of work carefully designed to support analysis. These studies are incorporated into the consolidated Bureau two-year plan, which is submitted at the beginning of the fiscal year covered by the plan and which includes the respective mission or offices plans.

Secondly, in the course of preparing its forward agenda, CDIE discusses with senior administrators issues of Agency-wide concern, usually related to policy and anticipated program trends.

Below is a summary of the steps leading to the preparation of Mission and Office Annual Plans. The items under each step illustrate some of the matters and choices involved. It will usually prove necessary to reiterate steps. For example, when a first cut suggests that a plan simply won't be feasible, or will be too costly, or won't get the information to the managers in time, then the Mission or the Office will have to narrow down or recast their priority questions, or rethink their strategy. The entire process should call on full discussion within the

Mission or Office, drawing on the suggestions of staff and contractors, and engaging participation by borrower/grantees.

Preparing the plan provides an opportunity for managers to review the initial M&E plans of their respective projects or programs in light of the priority questions, and to modify them as appropriate. Similarily, the formats of contractors' reports may require modification to focus more sharply on some of these questions.

Some matters usually considered in preparing Mission Annual Plans are presented below in the form of a check list.

Experience suggests the utility of a mixed strategy. That is, an evaluation plan should seek the most efficient and least duplicative way of getting the information needed to answer the questions. The check list summarizes some typical information that managers need to assess and report on progress, and that can trigger evaluation during the course of a two-year period. The number, frequency and scope of evaluations included in a plan is determined by the feasibility of handling several needs--and their timing requirements--in a single evaluation design or exercise.

Missions and Offices do not include regular project implementation or status reports in Annual Plans. These and Project Completion Reports are transmitted through reporting systems set up by each Bureau. While AID encourages borrowers, grantees and contracted implementation teams to undertake periodic self-evaluations as a good managementpractice, these efforts do not replace or substitute for AID's evaluation requirements.

## B. STEPS IN PREPARING "ANNUAL EVALUATION PLANS"

STEP 1: Develop a Forward "Decision Schedule"

- Broad programming decision (e.g., upcoming CDSS revision, key decision points in borrower/grantee development planning)
- Portfolio decisions (e.g., upcoming extentions, terminations, follow-ons and phases)
- Other Action Plan decisions and actions

STEP 2 Define Key Questions Related to Decision Schedule

- Strategic Issues
- Questions relating to achievement of Action Plan benchmarks
- Project/program-specific questions
  --review project M&E plans
  --solicit additional questions from project managers

STEP 3 Assign Priority to Questions

- Identify overlapping and residual questions
- Cluster related questions
- Ensure priority to Action Plan benchmark measurements
- Review recently completed evaluations and related studies for available"answers"

STEP 4 Develop Evaluation Strategy to Get Timely Answers

- Comprehensive program assessment?
- Sector or multi-project evaluations?
- Single project/program evaluations?
- A mixed strategy?
- Validate/modify project M&E plans?
- Alert CDIE to anticipated needs for information on broader experience and lessons learned?

STEP 5 Establish Two-year Evaluations Schedule

- Assess feasibility (e.g., resources--AID, host, country, contracted)
- Formalize borrower/grantee participation
- Include special requirements for data collection/ analysis, evaluation, and/or management information specialists



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STEP 6: Assign Responsibility for Action

- Project Managers/project design officers
- Program Office
- Evaluation officer
- Mission or AID/W Office Director

STEP 7: Tell Managers When They Can Expect Evaluative Information

## C. CHECKLIST FOR AN "ANNUAL EVALUATION PLAN"

Scope of the Plan

____ Does the plan cover the key decision points anticipated during the upcoming two years, e.g., regarding programming/budgeting, possible extensions/amendments, any scheduled revision of the CDSS?

____ Will the planned evaluations produce information before these decisions points, e.g., before Action Weeks, preparation of ABS? (Note any differences in borrower/grantee decision points, and fiscal years.)

____ Does the plan clearly state the questions that each evaluation will address?

____ Does the plan incorporate an appropriate balance between AID's questions and those of the borrower/grantee?

____ Does the plan clarify the relationship between the information required by managers of projects and the information required by senior manager/administrators for broader program and planning decisions?

____ Does the plan indicate the possible implications of a cancellation or postponement of an evaluation, e.g., postponement of a project evaluation may incur a loss of timely information necessary to answer questions about programs and strategies?

____ Has the plan consolidated as appropriate related evaluation requirements and/or eliminated duplicative requirements?

____ Has the plan been formally discussed with appropriate representatives of the borrower/grantee?

____ Has the scheduling of specific evaluations in the plan taken into account such external conditions as national holidays, seasonal weather conditions?

Resources

____ Has a specific AID staff member been assigned responsibility for overseeing implementation of the plan, and for reporting periodically to senior management?

____ Are the AID and borrower/grantee staffing requirements for implementing the plan realistic and adequate? Does the plan note any peak periods in the implied level of effort?

____ Does the plan specify the amount, kind and source of funds necessary to implement the plan? Have funds been included in the relevant ABS?

____ Are pre-evaluation needs incorporated, e.g., preparatory surveys, planning workshps for evaluation teams, use of short-term services of evaluation specialists?

____ Does the plan take fullest advantage of multi-purpose data collection and analysis, e.g., across several projects, in a geographic area of AID program concentration, to meet a longer-term borrower/grantee need.

## D. WHAT INFORMATION IS NEEDED

- Periodic information on trends in benefit incidence, intermediate impacts, and similar leading indicators of purpose-level effects and trends, and explanations of any marked departures from anticipated effects or changes. Information is needed by project managers to replan and control activities during implementation, and to modify M&E plans as necessary. Information is also needed by program directors to help assess and report annually on the continued role (substantive benefits, their probable timing) of a project or program in promoting planned program objectives. May trigger interim evaluation, rapid reconnaissance or small-scale surveys for benefit monitoring.

- Information on purpose-level accomplishments or trends before decisions regarding renewed funding (project extention, subsequent phase); project expansion (incorporation of new responsibilities, moving from pilot to full-scale effort); contemplated change in sector strategy requiring major refocussing of project efforts. Triggers final (or multi-project) evaluation.

- Information on impact on project or program of significant policy change, macroeconomic change, or break-through in research and technology. May trigger evaluation of core activities in portfolio.

- Representative information on portfolio achievements (technical, development, and/or distributional effects) to support revision of CDSS, or assessment of achievements of special concern (e.g., portfolio effectiveness in supporting private sector, role of women). May trigger multi-project evaluation of representative activities in portfolio.

- Information on purpose-related trends and sustainability to support decisions about project turnover to host; continuation of a research activity into a subsequent stage; or similar issues relating to momentum of benefit achievement and costs to sustain momentum. May trigger final evaluation.

- "Lessons learned" about project and programs to support design, strategy development and policy formulation. May trigger evaluation of representative projects and programs in AID's worldwide portfolio of on-going or completed activities.

# IV. PLANNING A SPECIFIC EVALUATION

# IV. PLANNING A SPECIFIC EVALUATION

## A. DEVELOPING A SCOPE OF WORK FOR AN EVALUATION

A clearly thought-out and well-written scope of work is essential if an evaluation is to be worth (1) the funds expended on it, and (2) the investment of AID and host country personnel time that a good evaluation typically requires.

A good scope of work makes it possible for the evaluation team to concentrate on substantive matters and to produce a report that effectively presents the information most needed by project managers and other decision makers. On the other hand, a hastily drafted scope--or one that is vaguely worded or overly general--causes the evaluation team to fritter away precious time on procedural matters; moreover, the evaluation report will likely be delayed and, when submitted, it will likely fail to present well focused, clearly stated, and easily utilized conclusions and recommendations.

For these and other reasons, project managers should realize that an investment of time in producing the best possible scope of work will, in nearly all cases, result in greater time and effort savings later on.

For the majority of evaluations, the following general framework for a scope of work is most likely to guide the evaluation team in producing a report that is useful to both project managers and program decision makers. It is suggested that the first version of the scope be regarded as only preliminary, and that it be circulated within the appropriate offices for comment to ascertain whether it most effectively presents what is needed.

A scope of work is an integrated piece--<u>each section is related to and affects the others</u>. The methodology is closely related to the specific questions and issues to be addressed, and to the needs of the individual(s) who will use the findings and recommendations. The composition of the evaluation team is related to the methodology selected, as are the time and budget allocated for the evaluation. Clearly delineated questions and issues are necessary to focus the research, and the conclusions and recommendations of the final report. In AID's experience, evaluation scopes of work have often been far too ambitious, given the budget and time allocated for the effort. If there is little or no budget flexibility, it will be necessary to limit the questions and issues, or employ less thorough methods.

Be specific about reporting requirements, including an initial written outline. The scope of work should require that the report itself be kept short, and organized in a way that makes it most useful to the borrower/grantee as well as to AID. Detailed material can be presented in annexes. The scope of work should specify translation, if one is needed.

AID requires all evaluation reports to contain:

- Table of Contents
- A short "Executive Summary" that covers some standard topics. This may be modified to meet the presentation requirements of the borrower/grantee.

AID also requires the sponsoring Mission or office to fill out a standard AID form, the "Evaluation Summary". (The Evaluation Summary is discussed in the chapter "Collecting and Presenting Evaluation Data.") The executive summary for the evaluation report can be used to help fill out the narrative section of this form. The form includes those actions which AID and the counterpart intend to take, based on the findings and recommendations of the evaluation. It also provides an opportunity for these parties to comment on aspects of the evaluation.

Completion of the "Evaluation Summary" is a responsibility of the AID Mission or office sponsoring the evaluation, not of the evaluators. However, the evaluators can often be helpful in further "translating" their recommendations into specific actions. If this is desired, then the scope of work should include this requirement and the time for it.



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Advantages and disadvantages of internal and external evaluators are presented in the following table. Some of the advantages of an "external" evaluator may be obtained from AID or counterpart staff who are not directly associated with the design and management of the activity, e.g., an individual from another office or from AID/Washington. As the table suggests, a mixed team or one led by an "external" AID staff member, can draw on the advantages in most cases.

As a general rule, AID encourages participation on evaluation teams by staff, or at least persons representing their interests, in mid-course evaluations of projects and programs for which they are directly responsible. Especially, when the evaluation is led or facilitated by an experienced external evaluator, the possibilites for learning and communicating associated with such participation far outweight the obvious risk of bias or narrow perspectives. Conversely, AID discourages such direct participation in a final evaluation or one in which decisions will be made regarding a follow-on project or program. While managers and field staff should always serve as major sources of information in final evaluation, asking them to judge the merit and achievement of activities for which they were directly responsible poses too great a potential conflict of interest.

| | SOMEONE FROM INSIDE | SOMEONE FROM OUTSIDE |
|---|---|---|
| PRO | Knows the organization<br><br>Is not an adversary<br><br>Less expensive | Has an objective point of view<br><br>Evaluation expert is more easily hired for the short term |
| CON | Perhaps he will not look for facts or form conclusions which are negative or reflect badly in the organization<br><br>He tends to accept the assumptions of the organization | Doesn't know the organization<br><br>Perceived as the enemy<br><br>Little leverage for having his recommendations adopted |

## B. SELECTING AN EVALUATION TEAM

Who should evaluate?

There are no hard and fast rules. There are, however, some guidelines and criteria. These derive from AID's experience with finding evaluators having skills in gathering and analyzing empirical data, experienced judgment in interpreting the data, and ability to respond constructively to the needs of managers and administrators at several levels in AID and AID's counterpart organizations. They also derive from AID's experience with the impossibility of locating purely disinterested or "objective" evaluators.

Selection should flow from the scope of work, rather than the other way around. Most evaluations will require evaluators having technical or disciplinary qualifications related to the questions to be examined, knowledge of local conditions, and possibly language skills. What evaluation planners sometimes forget, however, is that technical and disciplinary skills are not the same thing as evaluation skills, and that the purpose of the exercise is evaluation.

Should evaluators come from "inside" or "outside?" In most cases, AID will have to use external evaluators simply because a Mission or Office may not have the necessary technical, multi-disciplinary and evaluation skills available within its own staff, or even with the larger staffing of the Agency, or else the relevant staff may be too busy. The same constraints may hold for cooperating governments and organizations.

External evaluators possess certain advantages over "inhouse" staff. A respected consultant not directly associated with the U.S. government may carry greater weight with the borrower/grantee than would someone from AID or another U.S. agency. In some cases, the AID sponsor of the evaluation may feel constrained by its official character and its future relations with the counterpart organization, and may prefer using an independent consultant who can more freely prepare a frank and candid report. External evaluators can bring fresh perspectives and insights as well as specialized knowledge. They lend the appearance of greater objectivity to an evaluation, an advantage that may be important for instilling public confidence. A final advantage of considerable importance is that external evaluators can facilitate communication between the parties involved in a project or a program.



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## C RECOMMENDED FORMAT FOR AN EVALUATION SCOPE OF WORK

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Name of Country (USAID) or Office (AID/Washington)
Sponsoring the Evaluation

Title of Project or Program
(or Title of Proposed Evaluation Report)

### EVALUATION SCOPE OF WORK

I. ACTIVITY (PROJECT/PROGRAM) TO BE EVALUATED:

Identify the activity that will be evaluated. For example, if one or more A.I.D. assisted projects are to be evaluated, state the project number, title, cost, life-of-project dates, and most recent PACD for the project or projects to be examined. Modify appropriately if the evaluation is to cover a program, or only selected components of one or more projects.

II. PURPOSE OF THE EVALUATION:

Specify the planning, programming or implementation reason for the evaluation, and the specific agencies which are expected to use the results of the evaluation. Provide information on the following questions: To what uses will the evaluative information be put (e.g., upcoming decisions or longer-term planning needs requiring this information)? When will the information be needed to enable its practical use? Who are going to be the immediate users of the findings and recommendations? Are there other anticipated users?

Refer to appropriate project or program monitoring and evaluation (M&E) plan(s), or program documents such as CDSS or Action Plan.

Indicate whether or not the evaluation was planned for in the current Annual Evaluation Plan.

III. BACKGROUND:

The sponsoring Mission or office should outline in no more than two pages a brief history to date of the activity to be evaluated, and what is generally agreed upon by A.I.D. and the borrower/grantee as the present status of the activity (i.e., what has happened, what the activity is achieving).

Include names of key organizations and individuals involved in the activity (spell out acronyms of organizations).

## IV. STATEMENT OF WORK:

State in explicit terms the questions that the users of the evaluation need answers to, and state that the evaluators have to focus their investigations on the questions, and are expected to provide answers to the questions. In formulating the questions, keep in mind the anticipated use of the information that will emerge. Remind yourself: Why do I need this information? How will I use it when I have it?

State between five and ten primary questions (no more) and indicate their priority. Expand on these essential questions by identifying subordinate questions or issues. Questions should be based on, and go beyond, what is already known about the status of the activity to be evaluated -- don't waste the time of the evaluators in covering old ground (that is, leave up to the evaluators the extent which they believe it may be useful to examine earlier events and assumptions).

As appropriate, one of the questions may relate to the adequacy and utility of the existing M&E system, and to opportunties to improve data collection before a subsequent evaluation. Otherwise, these matters may be covered in the required appendix on methodology.

State that the evaluators will be required to provide in a final report the following:

- -- their findings (i.e., the "evidence");
- -- their conclusions (i.e., their interpretation of the evidence and their best judgment based on this interpretation);
- -- their recommendations based on their judgments

Require the evaluators to distinguish clearly between their findings, their conclusions (that is, their interpretations and judgments), and their recommendations.

A listing of specific, explicit questions, together with an indication of priorities, is crucial for getting a report that tells the intended users what they need to know. A scope of work that merely says: "The evaluation team shall address the following subjects -- matters, concerns, issues -- or the extent to which a project has achieved its inputs, outputs, purpose and goal" is likely to produce a rambling evaluation report that fails to pinpoint the aspects of the project most needing attention and to provide useful information.

## V. METHODS AND PROCEDURES:

This section of the scope of work should identify the design and data collection methodologies that will be used. This can be clarified by the sponsoring Mission or office by obtaining the advice of an evaluation specialist familiar with both current state of the art in evaluation and the practical circumstances in which the evaluation will take place. Otherwise, ensure that the evaluation team itself includes an evaluation specialist.

The methods and procedures must also take into account the funds budgeted for the evaluation.

The design selected for the evaluation, the associated procedures, and the cost, are based primarily on the questions asked by the users. The conceptualization, or research plan, for an evaluation is likely to vary from case to case. In A.I.D.'s experience, however, there are some practical matters that can be taken care of through a scope of work, and still allow for the flexibility that evaluators will need. These are:

- -- duration and time phasing of the evaluation (e.g., whether one or more team members, including an evaluation specialist, should be available in advance for preparatory work, or later to see the report through its final drafting; time for a team planning meeting);
- -- any requirement for team members to work a six-day week
- -- national holidays, working hours, communications/ travel problems, geographic dispersion of project or program sites, and language problems that may affect the team's activities; note availability of local translators;
- -- availability and location of data that may be useful in measuring changes or impacts in the area addressed by the project or program; list documents that team members should receive and be familiar with before the team begins its investigation (provided by the Mission or office);
- -- review of relevant materials from CDIE;
- -- characteristics of the beneficiary population that may affect interviewing procedures (e.g., gender, ethnic group, homogeniety);
- -- an estimated division of time spent between research and interviews in the U.S., in-country capital city interviews and document review, field site visits, and analysis and report writing. Note any hardship or rigorous conditions (health, climate, roughness of travel, field site living conditions) that may affect the selection of team members;

-- other administrative/logistical support to be provided by the sponsoring Mission or office (if not otherwise included in the PIO/T);

-- state whether all or a portion of the scope of work is appropriate for small 8 (a) minority and women owned firm contract.

## VI. COMPOSITION OF EVALUATION TEAM:

The composition of the evaluation team should flow from, rather than determine, the statement of work. Too often, the AID sponsor selects team members on the basis of qualifications related to the technical aspects of the project or program, when such individuals lack the skills needed to design and carry out an evaluation. Especially for a major project or program, an evaluation specialist should be included on the team. When extensive field work in rural areas is envisioned, or when economic issues are a focus, include such specialists as development anthropologist, rural sociologist, development economist or political economist. At all times, seek a multi-disciplinary team, and one that includes an appropriate male/female balance. Identify language requirements, if any.

Indicate the team composition in terms of representation by the host-country borrower/grantee, host country's external contractor, beneficiary groups, USAID, Bureau, U.S. external contractor, U.S. implementing contractor. As a general rule:

-- The team for a final or ex-post evaluation should not include the USAID staff, host country agency personnel, members of the project design team, or contracted U.S. organization technical team who are directly managing and implementing the project or program. There are just too many potential conflicts of interest. On the other hand, these people should be used as major sources of information, and as sounding boards for the team's analysis. (U.S. contractors implementing projects are, of course, encouraged to carry out their own self-evaluations, but these do not substitute for an AID-sponsored evaluation).

-- The team for an interim evaluation should preferably include individuals directly involved, or at least persons representing their interests. They can gain a great deal from interaction with external evaluators on the team during the evaluation process, and in turn can help the latter understand the objective of the project or program as cu[illegible]tly defined. The team can work out among themselves interviewing procedures that avoid the problem of the effects on interviewees of the presence of official project staff.

Specify the skills, background and experience that the team leader should have.

The shorter the duration of the evaluation, the more essential it is to have at least one team member who is familiar with the country environment and the sector of the project or program, and who is experienced in working for AID or other development agencies.

Describe the team members' roles and responsibilities (e.g., "the team leader will be responsible for preparation the final report", etc.), especially if special kinds of technical analysis will be required.

VII. REPORTING REQUIREMENTS:

1. Format of the report. State that the evaluation team should prepare a written report containing the following sections:

-- Basic Project Identification Data Sheet. (See outline that follows);

-- Executive Summary. No more than three pages, single spaced. (See outline that follows);

-- Table of Contents;

-- Body of the Report. The report is to include a description of the country context in which the project or program was developed and carried out, and provide the information (evidence and analysis) on which the conclusions and recommendations are based. It is advisable to specify the general length of the body of the report (e.g., no more than 40 pages), and allow the evaluators to include details in appendices or annexes.

-- The report should end with a full statement of conclusions and recommendations. Conclusions should be short and succinct, with the topic identified by a short subheading related to the questions posed in the Statement of Work. Recommendations should correspond to the conclusions; whenever possible, the recommendations should specify who, or what agency, should take the recommended actions;

-- Appendices. These are to include at a minimum the following:

(a) The evaluation Scope of Work;

(b) The pertinent Logical Framework(s), together with a brief summary of the current status/attainment of original or modified inputs and outputs (if these are not already indicated in the body of the report

(c) List of actions taken, and status of actions not yet taken but still considered valid by the evaluation team, based on the recommendations of an earlier evaluation of the project(s) or program(s).

(d) A description of the methodology used in the evaluation (e.g., the research approach or design, the types of indicators used to measure change of the direction/trend of impacts, how external factors were treated in the analysis). Evaluators may offer methodological recommendations for future evaluations;

(e) A bibliography of documents consulted.

Other appendices may include more details on special topics, and a list of agencies consulted.

If the Mission or office wants the evaluation team to draft the abstract for the A.I.D. Evaluation Summary, this requirement must be included in this section.

2. Submission of Report. The Scope of Work should specify both what portion or version of the report (e.g., a preliminary draft) will be presented to the sponsoring Mission or office upon completion of the field portion of the evaluation, and when the final draft will be submitted to the sponsor for formal review. If a Mission intends to include other host country or the AID/Washington Bureau in a review of a preliminary draft, additional time will have to be built into the Scope of Work to encompass this process. The Scope of Work should state that the evaluation team leader will be responsible for seeing the report through to a timely, professional completion. If all or a portion of the evaluation report is to be translated by the evaluation team (i.e., under their contract to the sponsor), specify those portions.

3. Submission of Data Sets and Documentation. If the evaluation involves the production of a data set (i.e., a series of systematic observations or measurements), the Scope of Work should require the evaluation team or the relevant contractor to provide the AID sponsor with a fully documented, reusable copy of that data set as a deliverable, with the concurrence of host country should such concurrence be necessary. Suggested wording for this requirement is contained in the AID publication "Selecting Data Collection Methods and Preparing Contractor Scopes of Work", August 1985 (PN-AAL-057), available from CDIE.

4. Debriefing(s). Specify the timing and audience(s) for debriefings by the evaluation team or team leader.

VIII. FUNDING:

Estimate the cost of the evaluation, and state how the cost will be met (e.g., project funds, PD&S funds, other resources, or some combination of these).

The following outlines for completing the Basic Project Identification Data Sheet and the Executive Summary must be attached to the Scope of Work.

## BASIC PROJECT IDENTIFICATION DATA

(Outline)

1. Country:

2. Project Title:

3. Project Number: (Grant and/or Loan?)

4. Project Dates:

   a. First Project Agreement:
   b. Final Obligation: FY-- (Planned/Actual?)
   c. Project Assistance Completion Date (PACD):

5. Project Funding:

   a. A.I.D. Bilateral Funding (Grant and/or Loan):
   b. Other Major Donors:
   c. Host Country Counterpart Funds:

   TOTAL:

6. Mode of Implementation: (Host Country or A.I.D. direct Contract? Include name of contractor.)

7. Project Design: (Organizational names of those involved in the design of the project, i.e., the Government of Sri Lanka, USAID/Colombo, and the International Science and Technology Institute (ISTI)

8. Responsible Mission Officials: (For the full life of the project.)

   a. Mission Director(s):

   b. Project Officer(s):

9. Previous Evaluation(s):

# EXECUTIVE SUMMARY OUTLINE

The Executive Summary is a two to three page, single-spaced document containing a clear, concise summary of the most critical elements of the report. It should be a self-contained document that can stand alone from the report. The summary should be written in such a way that individuals unfamiliar with the project can understand the project's basic elements and how the findings from the evaluation are related to it without having to refer to any other document.

1. Name of mission or AID/W office initiating the evaluation, followed by title and date of full evaluation report.

2. Purpose of the activity or activities evaluated. What constraints or opportunities does the activity address; what is it trying to do about the constraints? Specify the problem, then specify the solution and its relationship, if any, to overall mission or office strategy. State the logframe purpose and goal, if applicable.

3. Purpose of the evaluation and methodology used: Why (and if a single project or program evaluation, at what stage - interim, final, ex post) was the evaluation undertaken? Briefly describe the types and sources of evidence used to assess effectiveness and impact.

4. Findings and conclusions: Discuss major findings and interpretations related to the questions in the Scope of Work. Note any major assumptions about the activity that proved invalid, including policy related factors. Cite progress since any previous evaluation.

5. Recommendations for this activity and its offspring (in the mission country or in the office program). Specify the pertinent conclusions for A.I.D. in design and management of the activity, and for approval/disapproval and fundamental changes in any follow-on activities. Note any recommendations from a previous evaluation that are still valid but were not acted upon.

6. Lessons learned (for other activities and for A.I.D. generally). This is an opportunity to give A.I.D. colleagues advice about planning and implementation strategies, i.e., how to tackle a similar development problem, key design factors , factors pertinent to management and to evaluation itself. There may be no clear lessons. Don't stretch the findings by presenting vague generalizations in an effort to suggest broadly applicable lessons. If Items 4-5 above are succinctly covered, the reader can derive pertinent lessons. On the other hand, don't hold back clear lessons even when these may seem trite or naive. Address:

- Project Design Implications. Findings/conclusions about this activity that bear on the design or management of other similar activities and their assumptions.

- Broad action implications. Elements which suggest action beyond the activity evaluated, and which need to be considered in designing similar activities in other contexts (e.g., policy requirements, procedural matters, factors in the country that were particularly constraining or supportive).

## D. AN EXAMPLE OF A SCOPE OF WORK

SUBJECT: Farming Systems Support Project (936-4099), Evaluation of Farming Systems Development Project Eastern Visayas (FSDP-EV) (492-0356)

SUMMARY: The farming systems support project (FSSP) assistance is requested in (1) reviewing proposed candidates for evaluation team, determining whether individuals named will be available and suggesting alternatives and (2) commenting on the overall evaluation. Plan and if interested making a proposal to implement it.

1. FSDP-EV project management has tentatively scheduled the mid-project six-week evaluation, beginning March 1985.

2. Evaluation is expected to (A) identify changes in project implementation that will improve impact of project during remaining LOP (FYI while present PACD is September 30, 1985, GOP has requested extension until June 30,1987); and (B) make recommendations for possible follow-on activity, with specific attention to activities that will facilitate moving from the project purpose to attainment of the goal of improving the livelihood of small-scale, rain-fed farmers in selected agroclimatic areas of the Eastern Visayas (Region VIII). We expect evaluation to build upon results of process evaluation done in late 1983 (see Ref B which, in addition to reporting on the process evaluation, gives basic information on the project).

3. Eight key evaluation questions have been identified:

   (A) Adequacy of process by which information on target beneficiaries and local situation is factored into decisions on research priorities at the site level.

   (B) Extent to which mechanisms have been developed for identifying: (1) the needs of the less influential, less endowed smallholder farmers and (2) a process to screen out lines of research or actions which are unlikely to be useful to limited resource farmers.

(C) Extent to which research and development process continues to begin with "Research Station Technology" as opposed to beginning with indigenous and traditional technology.

(D) Extent to which mechanisms are in place and being utilized for making "up stream" research responsive to the needs of limited resource farmers.

(E) Extent to which the research and development process is dealing with the issue of tenancy/share cropping.

(F) Extent to which risk and uncertainty are considered in assessing the potential benefits of technologies.

(G) Extent to which the research and development agenda is part of an overall conceptual approach to development and whether this conceptual framework can accommodate updated empirical information.

(H) Adequacy of the farming systems approach as presently being implemented for identifying critical issues in the land use systems and the suitability of this approach for identifying management strategies for dealing with variability.

(I) Adequacy of existing links and administrative arrangements between the Ministry of Agriculture and Food (MAF) and the Visayas State College of Agriculture (VISCA).

4. It is anticipated that these questions will be expanded and refined over the next four to six weeks.

5. Project management would like to have a multi-disciplinary six-person evaluation team composed of: economist, social scientist, livestock specialist, resource ecologist, agronomist, and USAIC representative.

6. Project management has identified the following candidates for inclusion in the evaluation team (names omitted):

   (A) Agronomists --
   (B) Social Scientists --
   (C) Resource Ecologists --
   (D) Livestock Specialists --
   (E) Economists --

   FYI: Both of the agronomists and social scientists are Filipinos. Two are currently working with the rain-fed resources development project and have relevant direct experience with farming systems activities. Two others are both associated with the University of the Philippines at Los Banos and have excellent international reputations in their respective fields.

7. Mission has proposed an IDI, with a strong background in agricultural economics, as the USAID representative on the team.

8. Farming Systems Support Project is asked to:

   (A) Comment on the proposed team composition,

   (B) Determine whether candidates proposed for the position of resource ecologist, livestock specialist and economist are available to participate in the evaluation as scheduled,

   (C) Suggest other candidates for all positions and provide information on their qualifications and availability.

9. FSSP is further invited to comment on the overall plan for the evaluation and, based on the issues already identified, to make a proposal for carrying out the evaluation. A rough cost estimate should be included.

10. Copies of evaluation conducted by FSSP, such as ATIP, should be provided.



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# IV. FOLLOW-UP AND FEEDBACK

## A. FOLLOW-UP AND FEEDBACK

An investment of time, money, and effort in evaluation is worthwhile when the information is used to make a decision or to take some action--that is, the information is used. Uses normally include:

- steps to reaffirm, modify or terminate a specific project or program; and

- deliberate efforts to gather and disseminate information and apply to the planning of future projects and programs.

Planning for follow-up should begin early in a project, so that all the relevant parties (AID and counterpart) are involved in both the evaluation and the subsequent use of evaluation findings and recommendations. Project managers and administrators should be able to expect that evaluations will provide information that is helpful to them in their own decisions and actions, and in advising their superiors.

To ensure that managers follow up on specific recommendations of one or more evaluations, it is helpful to keep a list of these recommendations as part of a management information system, checking off the recommendations as they are carried out.

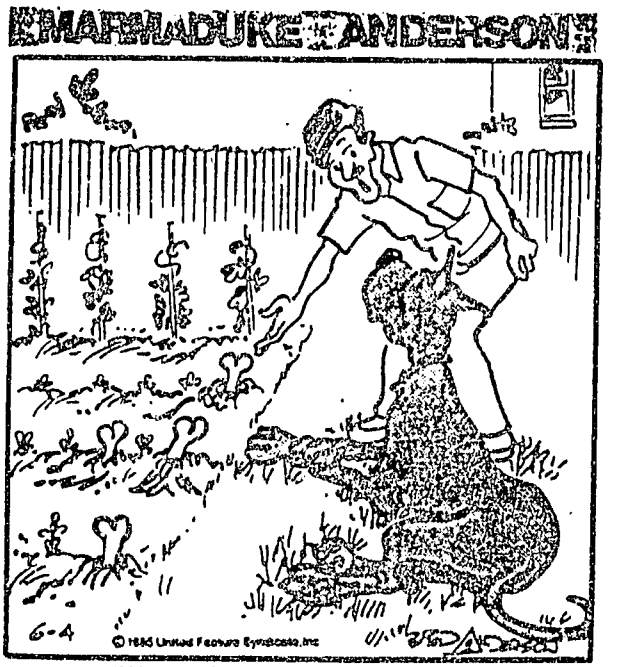
In applying the information from past evaluations to the planning and design of future projects, it is not enough to identify "lessons learned." Designers should demonstrate that they are actually applying the pertinent lessons, and should show how the design of a new project has taken the lessons into account.

Some general concepts regarding good follow-up and feedback practices are presented below. To support the feedback process, AID maintains a "memory" of past experiences. This "memory" includes abstracts of evaluation and audit reports, as well as copies (on microfiche) of the full reports. In addition, AID prepares synthesis of AID and other donor experience in selected areas (e.g., irrigation, rural roads, education); these are listed in the bibliography (in English) of AID's evaluation publications.

Designers of new projects and managers of on-going projects can request a search of this experience by sending an inquiry to:

| |
|---|
| PPC/CDIE/DI<br>Agency for International Development<br>Washington, DC 20523 |

LESSONS NOT LEARNED




"We go through this every year, Marmaduke...they just won't growl"

## FOLLOW-UP

AID requires its overseas Missions to indicate the specific actions they intend to take, in cooperation with their host country counterparts, based on the findings and recommendations of an evaluation. These "follow-up" actions are stated on the first page of the standard AID evaluation summary form, and require endorsements by the AID Mission Director.

Some Missions have established a "management information system" to help them monitor the extent to which the actions are being carried out or completed.

An example of one Mission's system is enclosed. In the example, the Mission lists in shorthand form all the actions and puts this information into a computer. Once a month, the Mission Evaluation Officer discusses the status of each action to indicate which actions have been taken, which are still outstanding, and any problems that are handicapping or preventing steps to implement an action.

A similar system could also be set up manually, or on a word processor. One advantage of having this information on a computer is that it would be possible to pull out all the actions in a specific sector (e.g., agricultural research) or pertaining to a counterpart organization (e.g., Ministry of Agriculture), as well as by the AID project number (the AID project number has no management significance for counterparts). This can facilitate mutual discussion about desirable actions, or help consolidate related actions.



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## EVALUATION DATES AND RECOMMENDATIONS

DIVISION: AGR
OFFICE: A

| PROJECT NUMBER | | PROJECT NAME | LAST EVAL. DATE | NEXT EVAL. DATE | EVALUATION RECOMMENDATIONS | COMPL. DATE OF EVALUATION RECOMMENDATIONS |
|---|---|---|---|---|---|---|
| 0027 | G | RICE RESEARCH AND TRAINING | 85/Q1 | NA | PROMOTE INSTITUTIONALIZATION OF NRI | 02/01/86 |
| | | | | | EITHER NARROW SCOPE OR ELIMINATE MECHANIZATION COMPONENT | 01/01/85 |
| | | | | | EXTEND TA CONTRACT FOR EQUIPMENT INSTLLTN. | 04/01/85 |
| | | | | | IMPROVE COORDINATION WITH OTHER PROJECTS | 10/01/85 |
| | | | | | EXPAND RESEARCH ACTIVITIES WITH EMPHASIS ON BLAST | 02/01/86 |
| | | | | | POLICY DIALOGUE ON RICE PRICING AND INPUT SUPPLY | 00/00/00 |
| 0031 | G | AGRICULTURAL MECHNIZATION | 85/QI | 00/00 | FOCUS ON DEVELOPING MANAGEMENT STRUCTURE | 03/00/85 |
| | | | | | LAND IMPROVEMENT SUBPROJECT SHOULD FOCUS ON SOIL ANALYSIS | 03/00/85 |
| | | | | | SIMPLIFY LOAN PROCEDURES & CONSIDER EXPANDED CREDIT ACTIVITIES | 03/00/85 |
| 0041 | G | AGRICULTURAL DEVELOPMENT SYS | 81/Q2 | 00/00 | PENDING | 00/00/00 |
| 0064 | G | AQUACULTURE DEVELOPMENT | 00/00 | 85/Q1 | PENDING | 00/00/00 |
| 0070 | G | MAJOR CEREALS IMPROVEMENT | 84/Q2 | 85/Q3 | INSTITUTIONALIZE INTEGRATION OF RESEARCH EXTENSION WORK | 06/00/85 |
| | | | | | IMPROVE STATISTICAL ANALYSIS/ESTABLISH DATA BASE | 06/00/85 |
| | | | | | EMPHASIZE IMPROVED MANAGEMENT SKILLS IN TECHNICAL ASSISTANCE | 06/00/85 |
| | | | | | COMPLETE CONSTRUCTION AS SOON AS POSSIBLE | 07/00/84 |
| | | | | | COMPLETE SEED PROCESSING/PROD & STRENGTHEN SEED PROD/DISTRIBUTION | 00/00/00 |
| 0079 | G | SMALL FARMER PRODUCTION | 83/Q3 | 86/Q2 | CONDUCT SECOND SURVEY TO MEASURE IMPACT | 12/31/83 |
| | | | | | REDESIGN PROJECT TO FACILITATE EVALUATION | 09/30/83 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0116 | G | AGRICULTURAL MANAGEMENT DEVEL | 84/Q2 | 00/00 | EXPAND CAPACITY OF CAMD TO MEET AG SECTOR MGT TRAINING NEEDS | 07/00/84 |
| | | | | | IMPROVE FOLLOW-UP SYSTEM FOR TRAINEES COMPLETING BASIC COURSE | 05/00/84 |
| | | | | | IMPROVE ABILITY OF R&E TO FUNCTION UNDER CAMD's MGT TRNG COURSE | 05/00/84 |
| | | | | | FOCUS TA EFFORTS ON DEVELOPMENT OF COURSE-STAFF NEEDS, TASKS | 09/00/84 |
| | | | | | DEVELOP FUNCTIONAL STATEMENTS FOR EACH OF CAMD's FIVE UNITS | 05/00/84 |
| | | | | | INCLUDE EXAMPLES OF COMMON MGT & ORG'L ISSUES IN CAMD COURSE | 06/00/84 |
| | | | | | DETERMINE CAMD VIDEO & VIDEO PRODCTN. NEEDS (EQUIP & STAFF) | 06/00/85 |



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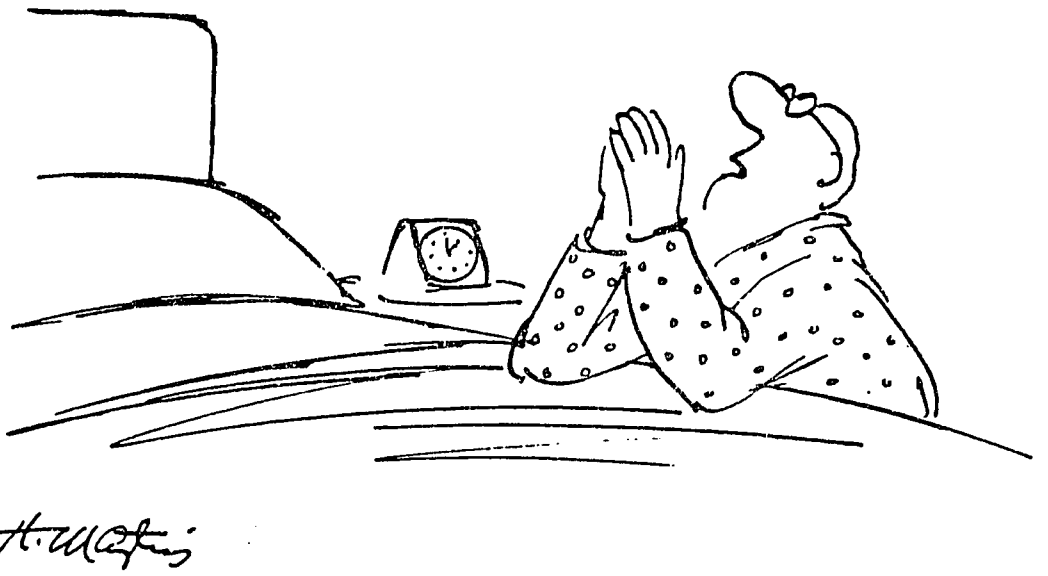

*"I left undone those things which I ought to have done because I lost my list of things to do."*

MONITOR APPROVED ACTIONS BASED ON AN EVALUATION UNTIL <u>ALL</u> ACTIONS HAVE BEEN EITHER TAKEN OR SPECIFICALLY RESOLVED!!

## B. FEEDBACK PRACTICES

The following practices relating to the feedback of evaluation findings have been found helpful and are recommended for wider adoption as appropriate. Not all of them will be applicable in all circumstances, or to all types of evaluation findings (e.g., the main feedback for ongoing evaluation will generally be to the project itself rather than more widely) or to all kinds of donor agencies and to all recipients. However, they are based on a wealth of hard-earned experience and, if conscientiously applied, could help bring about a real improvement in feedback which, after all, is the main purpose of all evaluation activity.

### 1. MECHANISMS FOR EFFECTIVE FEEDBACK

People are more likely to respond to evaluation findings if there is a personal encounter between evaluators and the people they feel should take account of the findings than if evaluation documents are merely distributed "cold". (More formal and impersonal methods of dissemination of results are also necessary, however, as a complement to personal encounter.)

Evaluation findings from <u>past</u> projects are more likely to be acted upon if they are fed into the "working up" of new projects at the earliest possible stage, i.e., at project selection or formulation.

Evaluation findings from <u>ongoing</u> projects are more likely to have an impact on those projects the more speedily the findings are fed to the project management.

Evaluation findings are less likely to be overlooked if formal provision is made, when new projects are being prepared for funding, for an assurance to be given that relevant evaluation findings have been taken into account. (Formal procedures in themselves may not be enough, what is needed is that evaluation findings are <u>genuinely</u> applied to project planning.)

Evaluation findings and lessons learned are more likely to be used if program review and approval procedures require a systematic and formal consideration of evaluation findings, lessons, and experience. A demonstrated commitment to the use of evaluation resources by total senior management is central to the institutionalization of the feedback process.

The critical importance of a system for distributing and marketing the lessons from experience to development practitioners needs to be recognized. Resource support for dissemination, both human and financial, is essential and needs to operate in tandem with substantive efforts to distill lessons learned.

Evaluations are more likely to have effective impact if the findings are made available to decision makers in time to affect decision making, and in a form of a quality that makes them relevant to current issues.

## 2. AUDIENCES FOR FEEDBACK

Good evaluation feedback processes for ongoing and completed activities suggest that findings be disseminated widely and shared with host countries and other donors and not be treated as restricted documents for internal use by a donor agency. If parts of a report must be subject to limited circulation, it is better that these be handled separately rather than withholding the whole report from broad dissemination.

Evaluation findings are more likely to be widely used if host country participation in evaluations and in framing recommendations is an integral part of the evaluation process. A sense of ownership and mutual understanding through host country participation in the intellectual processes of evaluation, and a stake in successful project outcomes, are key to creating an environment which facilitates learning from experience.

Evaluations are more likely to have an impact on policy if they are submitted regularly to a committee of senior policymakers.

Evaluation activity is more likely to be effective if the selection of projects or topics for evaluation is based on the perceived needs and concerns of AID administrators and recipients. (But this need not rule out continuing to make some provision for more general evaluation work not geared to preselected issues, whilst most ongoing evaluation activity will continue to be linked to management and monitoring systems.)

Training of donor and host country agency staff in the acquisition and application of lessons from experience helps build a constituency for using experience integrally in the planning and implementation of programs and projects and removes the undesirable element of "mystique" about evaluation.

Evaluations can be more effective in helping to improve the efficiency of development activities if full use is made of them for staff training within development agencies and within the developing countries.

## 3. NATURE OF EVALUATION FINDINGS

Feedback is more likely to be effective if evaluation findings have direct operational relevance to some or all parts of the programming process, i.e., from developing a country programming strategy, through guiding choices among project selection alternatives, to project identification, design/appraisal, implementation, and measuring progress towards goals.

Evaluation findings are more likely to be utilized by senior management if they are (1) as broad in coverage and issue-oriented as possible (e.g., evaluation syntheses by sectors of issues are more useful for policy purposes than one-off project evaluations); (2) presented in readily accessible form (automated systems of information storage and retrieval are of growing importance); and (3) written in a succinct and an easily understandable way.

Evaluation findings are more likely to bring about an improvement in the quality of project preparation and appraisal work if they are used as a feed-in to project appraisal and sector planning manuals.

There is more likely to be "instant feedback" into the project if evaluators work in harness with developing country staff and make a practice of sharing their main findings with the recipient's authorities before they leave the country.

A potentially valuable form of feedback is for evaluation findings to be considered as part of regular aid program discussions with recipient governments.

4. MONITORING ACTION ON FEEDBACK

To make optimal use of feedback from evaluation efforts (findings and lessons learned), a system for follow-up on the implementation of critical evaluation recommendations is essential. Recommendations made as the result of evaluations are not always documented.

Evaluation teams, as part of their scope of work, should be instructed to address actions taken on previous evaluation recommendations in a separate section of their report.

## D. EXAMPLE OF FEEDBACK IN PROJECT DESIGN

In 1983, AID contributed to a large irrigation project in Pakistan, the Irrigation Systems Management (ISM) Project, which included a Command Water Management (CWM) program. The designers of the project drew on an evaluation of the impact of an earlier AID-supported project in Pakistan, the On Farm Water Management (OFWM) project, as well as on the findings of a World Bank study and an AID conference and report on world-wide exoerience in irrigation.

The following exerpt is taken from the Project Paper, which cited lessons learned and how these lessons were taken into account by the designers.

## 1. LESSONS LEARNED FROM OFWM

### a. Design Flexibility

"The designs for projects--particularly pilot projects--which are to be implemented in a variety of physical and cultural settings, need to allow greater flexibility to adapt to local conditions than did the OFWM project. As already noted, permitting flexibility in terms of financial participation would have permitted adaptation to the growing popularity of the OFWM project, once it caught on, permitting better use of funds available. Greater design flexibility would have permitted better adaptation to local needs, such as the need in Sind for more watercourse lining or the need in NWFP for different channel design--perhaps funded through sliding-scale cost sharing arrangements."

The CWM Program allows for control of designs by Sub-Project Management Offices, whose location in the sub-project areas and close coordination with farmers will ensure that designs are appropriate to local conditions.

### b. Watercourse Maintenance and Farmer Cooperation

"Watercourse maintenance is critical to sustained benefit from watercourse improvement. Such maintenance, particularly in a cultural setting where community cooperation is not the tradition, is highly dependent on building a formal structure for local cooperation and collective labor. However, promotion of voluntary cooperation--perhaps through extension agents or through media outreach programs to educate farmers as to its benefits--seems a more promising route than externally imposed legal sanctions to conform, although such cooperation is likely to be more difficult to achieve in villages with pronounced rivalry."

This concept of voluntary farmer cooperation is key to CWM's development of Water Users Associations, and is the foundation for other cooperative undertakings which CWM will promote.

### c. Land Ownership

"Land ownership patterns have a profound impact on the benefits of irrigation improvement schemes such as the OFWM project. Where water is controlled by a landlord, the poorest tenants--precisely those whom such efforts are intended to benefit most--may see little or no gain from increased water supply. Similarly, size of land holding largely determines the ability, or at least the willingness, of a farmer to take advantage of PLL (precision land leveling); participants are often only those with sufficient land to permit a portion to lie fallow after leveling and those with their own implements

(to cut the cost and thus the perceived risk). Future projects need to give more thought to ways of reaching the small farmer under such conditions."

The CWM design reflects GOP/AID/IBRD concerns about the equity impact of attempts to increase production. Land ownership often affects the distribution of benefits under OFWM. Thus, the CWM Program's monitoring and evaluation activities will give specific attention to small farmer and tenants as they are affected by CWM. (See Section V.C., Social Soundness Analysis.) The monitoring and evaluation effort will also document lessons learned during the life of the CWM Program to assist the anticipated future replication of the CWM approach in other common areas of Pakistan.

d. Extension

"Extension services are essential to the full achievement of on-farm water management, since they deal with efficient water usage and better cropping practices once water supply is improved. However, when the extension function in hooked up with on-farm water management, overlapping with an existing extension service is a risk; in these instances, more thought must be given to integration than was the case in this project. Furthermore, training farmers to change age-old cropping and irrigating practices may be much more difficult than reconstructing a watercourse, and require more specialized training than that possessed by most agricultural graduates; much more attention must be paid to the training of extension agents than has so far taken place in Pakistan."

This recommendation is reflected in the design of CWM, which emphasizes SMO and extension staff training and includes a technical assistance component which will help develop and support new and existing institutions at the command level to ensure that provision of water is linked to appropriate agricultural inputs and advice supplied at proper times during the farming year.

e. Baseline Data

"To the extent that the success and replication of a pilot project relies on the establishment of quantitative data on project impact--although replication of the OFWM project seems not to have depended on such data--it is essential that baseline data be collected. The recently initiated efforts of Pakistan's Water and Power Development Authority need to be accorded high priority in order to provide better information on the impacts of the expanded follow-on project now underway. It will be helpful to have more post-improvement measurements of water losses in the watercourses."



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The WAPDA feasibility study, which was completed in 1983, forms the basis for CWM activities in the sub-project areas. That study will be supplemented by more detailed baseline data collection, and impact studies will be undertaken as part of the program's monitoring and evaluation activities.

f. Institutional Focus

"Greater attention should have been paid to developing awareness of, and commitment to, on-farm water management on the part of local government and elected bodies in the implementation of the project."

OFWM Directorates at the Provincial level and WUA's work closely with local councils, and CWM will build on this existing framework to promote the involvement and participation of local government officials and rural leaders in the CWM Program.

g. Importance of Farmer Participation

"Pakistani farmers have demonstrated a willingness to respond to projects when they readily perceive potential benefits. In the OFWM project, farmers responded to direct benefits by contributing about 50 percent of the costs of watercourse improvement and maintenance. Private investment in tubewells is another indicator: in spite of inadequate and unreliable power supplies and import restrictions on small diesel engines, an estimated 185,000 private tubewells have been installed."

The CWM Program will build on the demonstrated willingness of farmers to participate, by promoting the development of Water Users Associations (WUA's) that will channel individual participation into more forceful and organized group initiatives in watercourse O&M, agricultural input purchases, agricultural credit acquisition, and other water management activities.

## 2. LESSONS LEARNED FROM OTHER COUNTRIES

A World Bank-commissioned study of the management and organization of irrigation projects in Indonesia, India, Pakistan and Taiwan[2] provides many recommendations that have been taken into account in the CWM design. The study stresses the importance of baseline surveys, containing physical, technical, economic and social data. This should be followed by a performance evaluation, measuring productivity, equity, environmental stability, cost and cost recovery. Equally important is an evaluation of the quality of planning, design and construction and an analysis of project organization and management, to include organizational structure, at national and provincial levels, and the scope, limitations and performance of government agencies. The study details the role of agricultural extension and the farmer's role in management.

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2 Comparative Study of the Management and Organization of Irrigation Projects, A.F. Bottrall, World Bank Research Project No. 671/34, August, 1979.

The first AID-sponsored worldwide conference on irrigation was held in May 1983. The conference, reported on in AID Program Evaluation Report No. 8,[3] was based on the results of impact evaluations of AID-assisted irrigation projects in the Philippines (2 projects), Korea, Indonesia, Sudan, Pakistan, Egypt, Bangladesh, Afghanistan, Peru and Somalia. The following recommendations of the conference are reflected in the design of the CWM Program.

a. Increase emphasis on training and community mobilization both for diagnosis of rehabilitation needs and for operations and maintenance.

b. Build on existing water users associations where appropriate rather than create new forms. At the intermediate level between farmer organizations and state bureaucracies, project design should explicitly include a strategy for: (i) institutional linkages: and, (ii) problem identification and resolution at the national level. AID should collaborate with government institutions to develop strategies for irrigation data collection and analysis at all levels. Project design should include methods to recognize and react to changes in an interdisciplinary, incremental and integrated manner.

The conclusions and recommendations of the July 1984 FAO/AID Conference on Farmer Participation in Irrigation Management, which were based on seven Asian Case-studies, are reflected in the CWM approach to farmer participation:

a) Development, improvement and operation of irrigation systems are generally most effective when farmers have the opportunity to participate effectively in the process from the initial stages. "Participation" here implies playing a significant role in decision making. Effective sustained participation generally requires planned interventions to assist farmers to evolve appropriate forms of organizations.

b) Enhanced farmer participation has significant technical, economic and social benefits. These benefits comprise items important to farmers including landless farmers, and include:

(i) increased agricultural production;
(ii) improved irrigation system designs;

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3 "Irrigation and AID's Experience: A Consideration Based on Evaluations." AID Program Evaluation Report No. 8, AID/Washington, August, 1983.

(iii) reduced levels of farmer/government officer conflict; and
(iv) increased mobilization of local skill, labor, materials and money, reducing government capital an recurrent cost obligations; and,
(v) more equitable water distribution.

c) Farmer participation is most likely to be useful and effective where:

(i) rehabilitation or improvement of existing irrigation systems is needed;
(ii) new system construction is contemplated where a farming community is already in place;
(iii) problems of poor management and inequitable water distribution are more prominent at lower levels than at the main system levels; and
(iv) group action by farmers is necessary to secure a water supply by new construction efforts or by participation in higher levels of decision making.

d) Successful efforts to develop sustained farmer participation in irrigation system planning, construction, operation and maintenance have important common elements such as:

(i) the use of specially trained committed people from outside the local community as "catalysts" in the organizing process. Initially, these catalysts operate outside the traditional civil service hierarchy;
(ii) high-level government commitment to the principle of increased farmer participation;
(iii) the perception by farmers of the value of the assistance from the government, and of the fact that they are likely to receive substantial benefits from the program;
(iv) a strategy of development in stages with experience gained during early stages used to modify and shape subsequential efforts; and,
(v) close integration of technical and institutional development activities.

e) Donor support should be provided within the overall framework of promoting an approach to irrigation development in which technical, social, economic and institutional factors are optimally integrated.

f) Areas specifically mentioned for donor support to national programs are:

(i) development of methodologies for farmers' mobilization and organization, training of the various target groups, and monitoring and evaluation, particularly through assistance to experimental and pilot projects (as elements of a learning process), training programs, development of training materials, and action research;

(ii) dissemination of information and transfer of experience gained in countries having successful participation programs, particularly through study tours, seminars, workshops and consultancies; and

(iii) promotion of effective cooperation among the national agencies involved (such as departments of agriculture and irrigation) and among researchers and practitioners in various disciplines dealing with irrigation development.

# COLLECTING AND PRESENTING EVALUATION DATA

I. Collecting Evaluation Data
   A. Manager's Guide to Data Collection
   B. An Approach to Evaluating the Impact of AID Projects

II. Presenting Evaluation Data
   A. Presentation of Evaluation Results
   B. Guidelines for Developing an Executive Summary
   C. AID's "Evaluation Summary" Form

# I. COLLECTING EVALUATION DATA

# MANAGER'S GUIDE TO DATA COLLECTION

Prepared for the Agency for International Development

by PRACTICAL CONCEPTS INCORPORATED

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The views and interpretations in this publication are those of the authors and should not be attributed to the Agency for International Development.

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The Manager's Guide to Data Collection becomes available at a critical time in the evolution of A.I.D.'s program evaluation system. The Administrator's decision to assign a high priority to socio-economic impact assessments, sectoral and cross-sectoral evaluations and other policy-oriented studies, is ultimately a challenge to our ability to measure directly the effects of development assistance on the social and economic well-being of the poor.

Managers are responsible for the design, management and evaluation of development assistance programs and projects, yet they usually do not have the capability themselves to collect the data critically needed to support those management functions. As managers turn to experts for data collection services, they are confronted with the classical problem of how effectively to use expertise without becoming its captive.

There are three parties concerned with data collection:

-- the data collectors/enumerators who ideally should know the language and socio-cultural characteristics of the target group;

-- the evaluation/census/survey research experts who design the study and specify the data collection procedures;

-- program and project managers who need data as a basis for decisions on design and implementation issues and for evaluative judgments.

This Guide is intended to assist this last group to define and direct the efforts of the other two parties and to judge their products. It attempts to tell the manager what can and cannot be done adequately under certain conditions, at reasonable cost and within a reasonable time. It also tries to help the manager differentiate between credible and suspect data. Those who have an experienced knowledge of statistics and survey techniques will be thoroughly familiar with the concepts in this Guide.

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## OBJECTIVES AND SCOPE OF THE GUIDE

The collection and analysis of data requires both time and resources. Well planned and managed studies can provide information on a timely, cost-effective basis. Poorly designed studies can consume both time and money without providing useful information. Guiding a data collection process for a specific program or project requires an understanding of what information is needed and what research methods are most appropriate for collecting and analyzing it.

The Manager's Guide to Data Collection has been developed with the project manager in mind. Its purpose is to provide AID and host government personnel with a basis for planning and monitoring studies that yield information in a timely manner and at reasonable cost. The "manager" for whom the Guide is intended may be an AID project manager or project design officer, a host country official in charge of a specific development project, or a contractor or grantee involved in the implementation of an AID-assisted project.

The Guide is concerned almost exclusively with project information. Our objective is to improve the manager's ability to undertake data gathering efforts in developing nations. Managers will not necessarily be involved in the day-to-day conduct of such studies. But they should be active participants in decisionmaking about:

- What should be studied.
- How it should be studied.
- How the findings should be analyzed.
- What uses are made of information.

Because this Guide is written for non-specialists, its treatment of data collection is quite basic. For some readers, it may be too elementary. Nonetheless, we prefer to err with simple explanation in favor of those untrained in empirical field studies. The Guide does not attempt to convert managers into mathematical statisticians or anthropologists. Rather, it tries to give managers some of the basic tools they need for controlling the process by which data are obtained.

The Guide is divided into three parts, each of which contains two chapters. Part One focuses on the manager's role in data collection efforts. Its chapters address the question of how to determine, very specifically, what information is needed to make decisions and how to go about managing a process that will provide you with this information.

Part Two is concerned with the strategic choices that must be made in designing a field data collection effort. The factors that affect the quality of information in these studies and the basic approaches used in carrying out field data collection are central topics.

Part Three addresses the specific techniques and procedures that can be used to gather information in the field study situation. Procedures for selecting the specific study units from which data will be collected are addressed along with tactical decisions about the best way to secure data from them.

This Guide exists, in part, because countless others have made the effort to document their knowledge and experiences in books and reports that deal with the various topics covered in the Guide. The bibliography that appears following Part Three provides a selected listing of reference material you may want to consult when a more detailed treatment of some topic would be useful.

# PART ONE

## MANAGERS AND INFORMATION

CHAPTER ONE

# THE MANAGER'S ROLE

As designers and managers of development projects, we often need to acquire information that will help us to plan, monitor or evaluate our projects. This chapter reviews our role in data collection and analysis efforts that are undertaken to support project level decisionmaking. The mechanics of this role are considered in this and the following chapter. Four distinct aspects of the manager's role in such efforts are examined, including:

- The responsibility for identifying why information is needed, when it must be available, and what data must be gathered and analyzed to meet management's information needs.

- The responsibility for deciding on an appropriate level of investment in information gathering, including an assessment of the cost, money, time and quality of information trade-offs.

- The need to identify, on a tentative basis, the best general approach for securing the information that is needed, i.e., specification of the appropriate balance between reexamination of existing, readily accessible data and new field data collection.

- The responsibility for managing the process by which data is secured and analyzed to address management's information needs.

The first three of these are examined in this chapter. The following chapter addresses the task of managing data collection and analysis activities.



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## A. THE SPECIFICATION OF INFORMATION NEEDS

For AID designers and managers, information requirements are closely related to a predictable cycle of development assistance activities. This cycle begins with efforts to define problems and a project approach, and normally ends in an effort to evaluate our success in achieving project objectives.

Planning, monitoring and evaluation information are closely related. Sometimes we appear not to understand this, e.g., in our initial data collection effort we gather only design data and not the baseline information that will be needed for evaluation. When we ignore the interrelationships, we lose the opportunity to develop an efficient data collection and analysis plan that will serve us at all project stages. The key thing to remember is that we can anticipate many of our important decisions and institute a process that brings together the pertinent information on a timely basis.

At any stage in the project cycle there is a range of decisions that can be made, e.g., to fund a project, to terminate or expand efforts in a specific sector, to replicate a pilot effort on a national scale, etc. There also tend to be a set of actions that cannot be taken. For example, AID cannot decide for a host organization what projects will be given priority. Nor can AID managers decide for a farmer what he will plant next season. Being clear about what actions can and cannot be taken helps us focus on what information we really need for decision-making. Some of the questions and issues that might lead us to need specific types of information are suggested below:

- Is lack of transportation a constraint on development in this region?
- Which of two approaches for improving diet should we try in this project area?
- This project is not having its planned effects; should we modify our approach or terminate the project?
- What final actions must be taken before we turn this project over to the host government for long-term operation?
- This project worked well; shall we replicate it in another area?

Information that addresses these questions will not be available unless we collect and analyze relevant data.

Some project decisions can be identified in advance; others cannot. When the need for a decision arises quickly and unexpectedly we may find it necessary to proceed based on the information we currently have available. We do not have the luxury of slowly gathering together relevant information as is



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the case when we know about an upcoming decision six, twelve or eighteen months in advance. If we want to make informed decisions in either situation, we need to have good basic project information available at all times. In most projects, we will be able to make informed decisions in a "crisis" if we have been conscientious about securing the information required to make other decisions -- the ones we can anticipate.

When we identify one or several decisions we expect to make, we begin to specify the information we will need. In practice we tend to proceed by asking ourselves and others a series of questions, e.g., What will it cost? Who will benefit? Can labor-intensive approaches be used? Is it feasible? Is progress being made? The information we need is often a set of answers.

When we first formulate our questions, we often state them in very general terms. While this may seem adequate, it usually turns out that our questions are not answerable until we refine them and become specific about the concepts and terms we are using. For example, the question: Who are the poor? sounds reasonable until we try to define how we will answer it. At that point both "who" and "poor" may require further clarification. In one context an appropriate answer concerning "who" might involve classification by occupation. In another, we might need to answer the question in terms of age, ethnic group, caste, or any number of other possible classifications. "Poor" in one situation might mean "those earning less than $100 per year." In another context it might be that the term "poor" is a euphemism for malnourishment, the unemployed or for those who live outside the money economy. Figure 1-1 illustrates the different ways in which we use familiar terms.

| WHO are the POOR? | |
|---|---|
| • Men/women | • Those above or below $100 income per year |
| • Older than 30/younger than 30 | • Those with primary education/not having access to or taking advantage of primary education |
| • Those living within ten km. of the town hall/living beyond ten km. of the town hall | • Those within ten km. of a health clinic/beyond ten km. |
| • Migrants/residents | • Those having spendable cash/having only goods and services to barter |
| • Agricultural workers/ industrial workers | |

Figure 1-1: Terms have different meanings in different contexts.

Our questions, once this type of refinement is made, become answerable in exactly the way we intend they be answered. If we fail to define our terms clearly, and we ask others to provide us with answers, the answers we receive may surprise us. They may not in fact answer the questions we thought we asked. Rather, they may respond to the meaning the data collector attached to our words. In most situations where we find ourselves dissatisfied with the results of a data collection and analysis effort, the problem can be traced to a failure to define completely the study questions and the type or form of answer we want.

Once our terms are adequately specified, our questions can be written at a level of detail that allows us to assess what will be required to secure answers. Questions can be answered at different levels of precision, depth, and with different potential for generalizing the answers to a larger population. Decisions concerning what constitutes an appropriate answer for a specific question are among the most important the manager makes in forming and directing a study. They are also the decisions that most directly influence a study's duration and cost.

A clear formulation of the questions, and types of answers we need helps narrow the scope and limit the cost and time required to complete a study. Such clarifications tell us whether the main concerns are economic, social or technical. They also help us understand whether the subject of study is people and their behavior or the objects and systems that result from this behavior.

One nearly foolproof way to ensure that our questions have been adequately clarified is to take a piece of paper and write out an answer to each question which, while fictitious, would be acceptable to us in terms of detail, format, etc. When we do this we may find ourselves drawing graphs, maps, tables with subdivisions that give us information on different subgroups of the population we want to examine, etc.

When we undertake this exercise we are, in effect, formulating an analysis plan -- a plan for turning many small pieces of data into information that will be meaningful for the decisionmaking process. In most cases the answer we need will be more than a simple "yes" or "no." On the other hand, it does not necessarily take a lot of data to answer our questions. Too often studies are approached with the idea that "first we will get the data, and then we'll consider how to process and analyze it." Thus, we often collect more data than we need, perhaps more than we will ever use. We may find that data collected in this way is not easily or cost-effectively processed and analyzed. Further, we may actually fail to collect some important and pertinent information if the analysis plan is not well conceived in advance of data collection.

While not all AID and host managers have a great deal of experience in specifying their information needs clearly, it is relatively easy to achieve a good working skill in this area. Too often data collection specialists are called in to define a study, or to design its details, when the preliminary thinking about information needs and uses has not been completed. Only when we know what we want from a study can specialists proceed efficiently. The best researchers know this and will not proceed until management information needs and uses have been fully defined.

## B. INVESTING IN INFORMATION

Much unnecessary effort would be saved if we sought data only where its role in generating decisionmaking information was clearly understood. This orientation, coupled with an emphasis on cost-effectiveness and optimum information, could lead to more focused, useful studies. When we are considering gathering data we should always ask:

- What is the value of having this information and is it equal to or greater than the cost of getting the information?
- What is the value of the information compared to some other product or service we consider important, i.e., what are the opportunity costs of our resources?
- What value would be added if we spent more (say 25%) to improve the quality and representativeness of study data?

When we view data collection efforts in this light we tend to consider our options in terms of data quality, timeliness and cost more realistically. This perspective also helps us to identify the most efficient approaches for securing the information we need.

In many situations we can keep the costs of securing information down to a reasonable level by trying to ensure that:

- Where possible, existing information is used to answer our questions. There is no reason to duplicate the data collection efforts of others if they have been undertaken with care, are recent, etc.
- Extraneous objectives and questions are eliminated from plans we make for collecting new data.
- Those we seek to help us secure data are experienced, properly trained, familiar with the difficulties of overseas work, aware of our data requirements and our cost constraints.

Time, cost and data quality are interdependent in field studies. We need to be prepared to examine the trade-offs in an information gathering effort. A trade-off involves getting more of one thing by giving up part or all of something else. We understand that there are trade-offs when it comes to choosing among alternative project approaches. We have the same opportunity in most data collection efforts. Our trade-offs here tend to involve time, cost and quality.

Time and money are almost always to some degree interchangeable. When we must have the results of a study quickly, data collection and processing time can often be reduced by increasing the number of individuals who work on the study. Normally, however, there is some minimum amount of time required for data collection and analysis (or for the review and reanalysis of existing data). Increasing manpower will not help us reduce the time required below that minimum.

The time and cost vary with specific qualitative characteristics of the data we seek (as discussed in Chapter Three):

- Time and cost both go up as we increase the number of study questions. But when those questions cross-check each other, our confidence in the answers also goes up.

- Time and money must be spent if a study is to provide valid information at the right level of precision:

  -- Money and time spent on ensuring study validity can provide savings through high quality data and reduce our risk of having to redo portions of a study effort.

  -- Precision is expensive. When we want very precise answers our study costs may be high.

- Time and cost both go up as the size of the sample we need increases. Sample size requirements vary with both the number of population subgroups and other factors we try to characterize, and with the degree of sampling error we are willing to accept.

- Time and cost rise when a large number of individuals must be consulted in the early phases of a study concerning their needs for information. (A few users who do not know what they want can require just as much attention as a large number that do.)

Unfortunately, there is no mathematical formula for equating the cost of information with its value. Occasionally we respond by acting as if the least expensive option were automatically best. In reality it is sometimes better to forego data collection and analysis rather than take short-cuts. For example, spending an

inadequate period of time clarifying our questions, and the type of data we need, may appear to save money. In fact, our subsequent inability to utilize the results of a misguided study may suggest that failing to plan properly led us to waste money.

We should be extremely careful in evaluating apparent shortcuts, e.g., skipping the pretest of our instruments, informally selecting respondents rather than formally sampling our study population, providing fieldworkers with only minimal training, reducing the fieldworker to fieldwork supervisor ratio, etc. This is not to say that all short-cuts are to be avoided. Certainly some, such as precoding responses when we are able, save money. What is suggested is that we proceed carefully and understand fully the implications of the short-cuts we elect to take.

It would help us, as managers, if someone handed us a "price list" that told us what we should expect in terms of the time and resources required to gather information that is needed in development projects. Unfortunately, this cannot be done at present. While we can determine the total cost of past data collection efforts, and the contractual or grant period over which they were carried out, these data tell us very little. AID, like many other organizations, does not presently require researchers to report the type of detailed cost, time and methodological information that would be needed to create an illustrative "price list." More important, perhaps, is the fact that anecdotal information suggests these factors can vary by region of the world and sometimes for different parts of the same country.

## C. DETERMINING WHETHER A FIELD DATA COLLECTION EFFORT IS REQUIRED

When we collect new information to support our decisionmaking process, we normally do so because we have already determined that the information presently available in our files or in host government offices is not adequate or reliable enough to meet our needs. We should not start field studies until after we have searched for answers to our management questions in the information already gathered for other purposes: in our own office, in the files of another country mission, or in Washington.

A systematic review of existing documentation should focus on the country and project in question and on other programs in other countries that may have "operational relevance." Project and research reports that document basic socioeconomic information on similar populations and development interventions generally, should be included. Within AID, the Office of Development Information (DS/DIU) exists to assist managers in undertaking such reviews. A systematic document review should also include examination of materials available locally.

Not all the information that is useful for planning programs is necessarily in project offices, files, or reports. Print sources, including newspapers, magazines, textbooks, newsletters, institutional records, client/patient files, legal statutes, inter-agency directories, conference minutes, speeches, production schedules and short stories, etc., may contain pertinent information. Graphic and other audio-visual sources of information such as computer tapes, maps, pictures, satellite photographs, hydrogeological topo sheets, origin-destination flow charts, tape recordings, movies, microfilm, drawings, and machine data cards may also contain useful data.

The examination of existing data can yield a great deal of information for project decisionmaking. However, we must take some precautions in using existing data. We must attempt to determine whether that information is reliable and accurate. This is particularly important when there appears to be only a single source for the data -- only one report or individual that attests to its quality. Official statistics are often of this type.

Two tests of single source data we can apply are those that consider the authenticity of the information and its degree of objectivity.

The first test addresses the question of reliability. It can be viewed as an assessment of data authenticity. Is there any independent verification, or means of verifying the data? Where independent verification of the authenticity of single source data has not been carried out, we should attempt to verify it ourselves. Naturally this should only be done when the integrity of the data is vital. Quantitative data coming from questionnaire surveys should always be checked very carefully to ensure that the information is dependable. There should always be an indication of what methodology was employed to secure it, including the personnel used, the representativeness of the sample, the manner in which the investigators were regarded by the people living in the area from which the sample was drawn, etc.

The second test for single source information addresses the question of accuracy; it is an assessment of the objectivity of data. Where official information is collected and disseminated, it is important to assess the underlying motivation. Why do respondents give answers to personal questions? Why are certain kinds of data collected and disseminated? Information should only be relied on when the motivation underlying the donation of information has been established. Only then can we interpret it correctly in relation to conscious or unconscious biases it may reflect.



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In summary, we do not need to collect more data if the information we need for making decisions is already available. One of the most frequent errors we make is to ignore existing information, either because of an unwillingness to dig for it or because of our ignorance of the information gathering activities and capabilities of host country institutions, our own organizations and of other technical assistance agencies.

No new data collection effort should be undertaken until at least preliminary assessment of existing information resources has been made. Once we make an initial determination of the scope and quality of existing information, another issue arises. The amount of time and resources we might decide to spend on reanalyzing existing data must be weighed against the relative cost-effectiveness of getting the same or better information through new field work. It is not necessarily cheaper to locate and reexamine old information than to generate new information. In practice, virtually every project ends up using both types.

The uses of data, specific measurements to be taken, and the precision and representativeness of the answers are factors that affect the amount of time and other resources required to collect new information or to reanalyze existing information. In either case we are almost always in a better position to define what is needed than are the research specialists who carry out such efforts.

While we ourselves may never have collected or analyzed field data, we must be prepared to manage that process if we are to obtain information on a timely basis. The management of data collection efforts is the subject of Chapter Two.

# MANAGING FIELD STUDIES AS PROJECTS

When we know that information is needed in order to make specific decisions and that field data collection (or the reexamination of existing data) will be required, a separate activity designed to provide information should be initiated. It is useful, from a managerial point of view, to consider such data collection efforts as "mini-projects" with their own objectives, schedules and budgets. This encourages us to articulate our needs clearly, and to specify the means we will use to secure the information. Too often data collection and analysis efforts are thought of only in terms of the methods that will be used. Occasionally this results in studies that do not actually produce the information they were intended to provide.

## A. APPLYING MANAGEMENT TOOLS TO DATA COLLECTION EFFORTS

Each study we undertake should start with a clear definition of the results it is intended to produce. The selection of specific measures to be made, and the manner in which data will be collected should follow from, rather than precede a definition of study intent and expected results. AID's Logical Framework approach for clarifying a project design can also be applied to the design of a "mini-project" involving data collection. Figure 2-1 shows the rough levels of "mini-project" logic that might be appropriate for such studies. Note that the methodologies used for data collection are inputs for this type of project, much as are the strategies and methods we employ in development projects.

When we plan for data collection within a project context it should be apparent that managers must be involved in defining the Purpose and Outputs of such studies. A study team can respond to objectives, but it cannot invent them in the absence of direction.

Once the objectives of a data collection effort have been clarified and all of the activities involved have been identified,

| Logic of a Study | |
|---|---|
| | Narrative Summary |
| Goal: | Development projects are increasingly effective in meeting their objectives. (STATE THE OBJECTIVES IN YOUR PROJECT.) |
| Purpose: | Decisions concerning program/project action (at the design, appraisal, implementation or evaluation stage) are made based on adequate objective information. (LIST THESE DECISIONS.) |
| Outputs: | • Specific information gaps filled by answers to study questions. (LIST THESE QUESTIONS.)<br>• Information provided by empirical studies meets management's requirements concerning data validity, reliability, precision and representativeness. (DEFINE YOUR EXPECTATIONS.)<br>• Answers to our questions presented in a useful form. (DESCRIBE THE FORM ANSWERS SHOULD TAKE.) |
| Inputs: | • Questions to be answered by the study. (LIST THEM.)<br>• A technical approach, budget, schedule, etc., for answering the study questions (DOCUMENT THESE IN A "SCOPE OF WORK" FOR THE STUDY AND IN A WRITTEN STATEMENT OF THE "STUDY DESIGN".)<br>• Implementation, including all resources used to carry out the study design (RECORD AND MONITOR THEM.)<br>• Utilization plans and actions (RECORD AND MONITOR THEM.) |

Figure 2-1: An Empirical Study, Like Other Projects, Responds to a Hierarchy of Objectives.

other management tools can be brought to bear on the project. The cost of activities can be examined to prepare a budget for the project. The sequence in which activities must occur can be reviewed to determine the minimum amount of time required to complete the data collection and analysis project, and a workable schedule can be developed. Gantt charts, bar charts or networks can be prepared that display the sequence of activities

through time. Milestones, such as the completion of draft data collection instruments, can be identified. The same tools can also be used to help us determine when reports should be prepared, reviewed, etc.

Along with these basic "mini-project" design products, we need to clarify some other issues as well. These include specifying the study questions, the population to be studied, whether a representative sample of the population is needed, what level of detail we are seeking in the answers to our study questions, etc. We can then start to identify who will be responsible for preparing a final study design and gathering and analyzing the data. We may choose to carry out the study ourselves, or to seek the assistance of others. We may also need to prepare a formal scope of work.

## B. PREPARING A SCOPE OF WORK

A scope of work for an empirical study is not a study design. Rather, a scope of work is a statement of why a study is needed, what resources are required, when work is to be done, etc. It is a summary of the managerial aspects of the effort that should clearly outline our needs. A study design is a technical or analytical response to these needs. (Chapter Three focuses on the design of empirical studies.) To be useful, a scope of work should be limited to pertinent commentary, but should not skimp on explanation of our situation, our questions, or the planned uses for the information.

Information is more, not less useful or relevant when investigators know why we want information and what actions we can and cannot take. There are of course individuals who will tell us only what they think we want to hear. That fact, however, should not deter us from being honest in our statements of work. Rather it should encourage us to check the references and past reports of all investigators we consider.

A natural way to approach the preparation of a scope of work is in the order in which we develop our thoughts about our information requirements. (Interestingly enough, this is roughly the sequence of presentation used in the final version of many AID contracts):

1. Purpose of the study.
2. Study outputs or "deliverables."
3. Background.
4. Study approaches -- data collection and data analysis methods.
5. Special skills and other characteristics of the investigator(s).

6. Time frame and level of effort.

7. Reporting requirements.

When we have trouble writing a section of a scope of work we should probably not struggle with the words. Rather, we should go back and make sure we carefully thought through our needs.

1. Purpose of the Study

In this section of a scope of work, we share with potential investigators the reason for the study and the range of actions we can take when we have the information we seek.

Investigators cannot achieve our project objectives for us, nor can they make our decisions. They do make a contribution, and that contribution is most relevant when they know why we need information, e.g., when they know that AID needs information to determine what improvements to make in a moderately well designed project that has been operating for 18 months, and in which the only actions we can take relate to improvements in the project's training components. If they know we are constrained, they can direct their efforts toward the areas in which we need assistance. For instance, in the example above we would want the study to focus on the types of improvements in training that would be most likely to lead to other desirable results.

2. Study Outputs or "Deliverables"

In data collection efforts, our Outputs or "deliverables" are the answers to our questions. In this section of the scope of work we should identify the study questions. We need to state them as clearly as we can. (Consider including your "mini-project" Logical Framework [Figure 2-1] in this section).

When fieldwork begins, the details of a study demand our attention. Thus it is important for our basic contract or agreement to state clearly why we are doing the study, and what "deliverables" we expect.

3. Study Background

The statement of the study background should elaborate on the decisions that are to be made based on study information. It should also briefly discuss the project history as it relates to those decisions.

To the extent possible, the background statement should provide the reader with an understanding of the nature of the study we are considering, i.e., is the study being undertaken to discover the variables in a project situation, to develop hypotheses concerning known various types of studies, e.g., a baseline

study, an impact evaluation, a feasibility study, etc. However, we should not rely on these phrases to communicate the unique issues that must be addressed for our project or program. These terms, when used, should be supplemented by our own statement of why information, and hence an empirical study, is required.

4. The Study Approach

When we start a study approach section by stating that we want a "sample survey," we may stifle creativity. On the other hand, when we begin by stating our expectations concerning the quality, representativeness, level of detail and other characteristics of the answers we receive, we can encourage creativity, as well as provide the investigator with important information.

Once we have provided the potential investigators with our quality and other criteria, it is appropriate to share our ideas about the approaches that would satisfy these criteria. In fact, we should always share thoughts about approaches since it helps the specialist understand our problem and our context. The fact that we have stipulated criteria, rather than an approach, will encourage others to share their ideas about relevant alternatives with us. Sometimes these alternatives will be more cost-effective, and just as likely to provide high-quality information on a timely basis, as the ones we have identified.

In the scope of work we need to separate the discussion of the study tasks into two parts: data collection and data analysis. We should expect those who offer assistance to tell us how they would approach each task.

a. Data Collection

In this section of a scope of work we need to summarize all of the aspects of a data collection approach that are important to us and which we want the investigator to address in his or her presentation (proposal) to us. The discussion in this section should cover:

- The population or universe to be studied.
- Whether a representative sample is needed.
- The method of selecting members of the population.
- Whether interviews, tests, records or other techniques appear to be appropriate.
- Who will design the instruments.
- Who could administer them.

- How and when a pilot test would be conducted.
- Other relevant items.

Our coverage of these items will not necessarily be even. We may have more information to share about what population is to be studied than, for instance, what sampling approach seems appropriate. Whatever information we have we should share. Further, we should stipulate that, in a proposal to us, prospective bidders should give us their best ideas on each of the topic areas we have covered. It is even a good idea to ask them to use the same outline we have used so that it will be easy to compare our ideas to theirs and/or review several proposals at once.

b. Data Analysis

When we approach the description of data analysis in a scope of work, we should indicate who will be receiving the study report (the audience), our thoughts about the form in which we want our answers (e.g., charts, narrative, computer printout, photographs, etc.), illustrative types of analysis we consider relevant (e.g., tabulations, statistical tests, productivity ratios, cost/benefit ratios, etc.) and our constraints (e.g., there is/is not a computer available, there are/are not trained statisticians, or anthropologists, or political scientists available locally who can help gather and analyze data, etc.). We should focus on our needs and constraints, and then let specialists be creative about how they respond to these requirements.

From a managerial point of view the best rule in approaching the subject of data analysis is: "keep it simple." The purpose of analysis is to summarize and present study findings in a way that is meaningful to the audience for this information. As a rule, field data collection efforts are not the place to test novel or sophisticated analysis techniques. Generally they are not needed. Further, the more sophisticated the analyses, the more we require in the way of skilled personnel and resources to carry them out.

There are a number of problems that can complicate the task of data analysis. Analysis is planned with the expectation that we will collect all of the data we hope to collect. To be realistic, and save later difficulties, an analysis plan should also address itself to procedures that will be used if we find that some data must be thrown out. The implications of missing data for the statistical validity of large-scale surveys should be examined carefully in such plans.

5. Special Skills

Where special skills (including language) are required, it should be made clear in the scope of work. On the other hand

the manager should be careful about specifying what academic credentials are required. In any discipline there are individuals with good research skills and others whose experience and interests do not equip them for field data collection efforts. These do not automatically coincide with formal credentials and degrees held. The manager needs a good research team. He should specify what is to be done and be willing to consider a wide variety of individuals with different backgrounds and experiences in field data collection and analysis for the job. Only those skills which are clearly required by the job need be specified in the work statement. Specification beyond this point can sometimes eliminate exactly the people you would want on your team if you knew all your options.

6. Time Frame and Level of Effort

In the scope of work, we should state when the information from the study is needed for decisionmaking, e.g., by the end of the next budget cycle. Frequently this target is not shared. Thus, studies are sometimes designed that will not provide data until well after the decision they were intended to serve has been made.

In considering the possible costs of empirical studies, we should begin by asking ourselves how much the information is worth. The cost, or level of effort in a study should be consistent with its expected value. When the estimate of what it will take to conduct a given study is significantly beyond the value of the information to us, it should not be done at all.

7. Reporting Requirements

Ask for the reports you need and specify when you need them. If you state that one report at the end of the project is all you need, you are probably deceiving yourself. You may need monthly or quarterly reports (because you in turn must prepare reports on this schedule). On the other hand, episodic reporting may suffice. There are a number of checkpoints in a study that should be monitored. The use of reports as a monitoring device is one of your options. Having reports built in at these checkpoints is one sure way of remembering them. The checkpoints that may warrant reports in some form are:

- The development of a final work plan, which should include a final clarification of the study questions.

- The final version of the study's methodology -- the selection of a site or population, the sampling or selection approach, the intruments if any, and who will collect and analyze the data and how, etc.

- A preliminary report of raw findings or facts -- case study observations or the tallys, by question, from a survey -- without conclusions or recommendations.

- A report on preliminary conclusions and recommendations (how is the investigator combining study facts to form judgments and to derive ideas for your next actions?).

- A final report, (following an agreed upon outline).

The importance of having investigators separate findings (facts) from conclusions, and conclusions from recommendations is worth stressing. Many times we must present information to individuals who have not been as close to the study as we have. When we tell these people about a study's recommendations, or its conclusions, we may sound as if we are offering just another set of opinions.

A systematic field study is the collection of facts by a formal method. If we don't describe our method, and make a clear presentation of the findings, our audience must accept what we say on faith. When we do present our methods and facts clearly, and then show how they led to the conclusions and recommendations, we present a solid case. It is a case that can still be argued, but the arguments will be appropriate -- they will address our methods, or our use of study facts in drawing specific conclusions.

## C. SELECTING A STUDY TEAM

When a study is to be carried out in the developing countries, we should consider carefully the alternative project teams we might use. The most critical factors to consider in this selection are the nature of the study and the types of technical skills that correspond to the study approach and methodology.

In addition, there are other considerations. The most important involves a choice between local researchers and U.S. based study teams. While there may appear to be immediate advantages in calling in investigators from overseas, there are long-term benefits to be realized if local people can be used, or perhaps trained, in the course of conducting a study. Ministries and local universities can often provide suggestions concerning the existence of, or potential for creating, local teams.

### 1. Sources of Assistance

When our needs for information suggest that a full scale field study is needed, we often seek assistance in carrying it out. In the developing countries and in the U.S. there are several

sources of assistance we should consider. For relatively small studies we might consider individual researchers. However, for most field studies a larger team will be needed. Social science facilities at universities and research institutes, the specialized offices in our own and other government agencies, and commercial firms can usually direct us to, or provide us with, researchers who can design and manage field studies.

Academic institutional capacity is always difficult to estimate and great care should be taken to study the situation before scarce resources are committed. Academic institutions may have well-known researchers on board, but often the day-to-day business and research is carried out by lower level people. Even when prestigious U.S. or local scientists are reportedly available, one should not assume that their reputations alone guarantee competence for the specific work you need done. Only the actual involvement of these top-flight researchers offers that promise and it may be difficult to ensure.

In the U.S. and the developing countries it is sometimes possible to secure assistance through agreements with governmental organizations. Often such organizations will have highly qualified staff and extensive experience in the types of studies we need to undertake. On the other hand, the staff of these organizations are often committed to large workloads and we may have to be willing to wait if we want their assistance.

There is a wide variation in the intellectual resources and capabilities of firms and nonprofit organizations. We need to recognize that many of the better research and consulting firms have collaborative relationships with university personnel and even formal relationships with academic institutions.

The one factor that should (although it doesn't always) distinguish nonacademic organizations from the academic is an emphasis on solving specifically the problem you have posed in the terms in which you posed it. An academic institution tends to succeed because of the number of its publications and the eminence of its individual professors. A successful consulting firm or nonprofit research organization depends upon a track record of having met its client's needs.

2. Making Arrangements for Expert Assistance

The most economical way of managing social science resources is to assume that the relationship between project staff and investigators is to be long-term and mutually beneficial. A first step, before any specific assignments are given, should be to ensure that the institutions or individuals who are being considered for assignments are given an opportunity to acquire some knowledge about your organizational procedures and practices. The object of these familiarization procedures is to

ensure that those who are being considered for assignments know what kinds of data are required, what kinds of judgments and opinions are needed, and when.

The final step in the precontracting process should be a meeting to discuss the nature of the assignment. Here we need to demonstrate that we have clear substantive areas in mind and a firm series of expectations.

The actual timing and nature of the work output should also be discussed at this time so that both parties are quite clear about what is required and when it is required. Of course it is not always possible to nail all items down at the precontract stage. Where field work, quantitative surveys, or other original studies are involved, it is well to allow six months or perhaps more for completion. Where the data are already available or the investigator is familiar with the area, then the time required should be significantly less.

A contract for research should be given only after soliciting a number of proposals. Academic and sometimes other government organizations are all too often given tasks in a haphazard manner that would never be followed in awarding an engineering contract. Except under exceptional circumstances, a competitive process is the most satisfactory way of awarding studies.

## D. MONITORING AND USING DATA COLLECTION EFFORTS

Once the study team is selected, our emphasis should shift to monitoring. We should expect that the team will begin by consulting with us and with other individuals and agencies that have relevant experience and information. We should insist on periodic reviews of progress to prevent misunderstandings and deviations from our objectives. Experience has shown that such interaction improves not only study quality but also subsequent information use. Our monitoring function should include financial and scheduling controls. Devices such as networks and bar charts, various budgeting forms, etc., can be very useful.

Where possible, we should encourage our study team to circulate its output formats and draft reports early enough to permit revision based on our feedback. Ideally, the data will be so arranged as to provide easy-to-read answers to each of our study questions.

An important rule for monitoring is to regard complicated presentations of data with skepticism. Anyone who truly understands something can explain it to someone who doesn't. Insist on explanations of the content and approach used at each stage. This is not only a means of increasing your understanding; it is



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also the best means of eliminating waste and irrelevance. It's not "butting in" to insist that key study decisions be justified and explained. As someone whose particular concern is with the value of the information produced, you bring an important perspective to bear.

If the report is useful, it will be read. A common mistake to be avoided is not producing enough copies of such reports. If the report is lengthy and complex it is a good idea to have the investigator(s) produce a summary for wider distribution. In certain cases it might be appropriate to produce several versions of such a summary, emphasizing the points of interest to different audiences.

The specific steps involved in planning for and administering empirical studies are complex. They require the attention of both the manager and the study team. These steps are summarized in Figure 2-2.

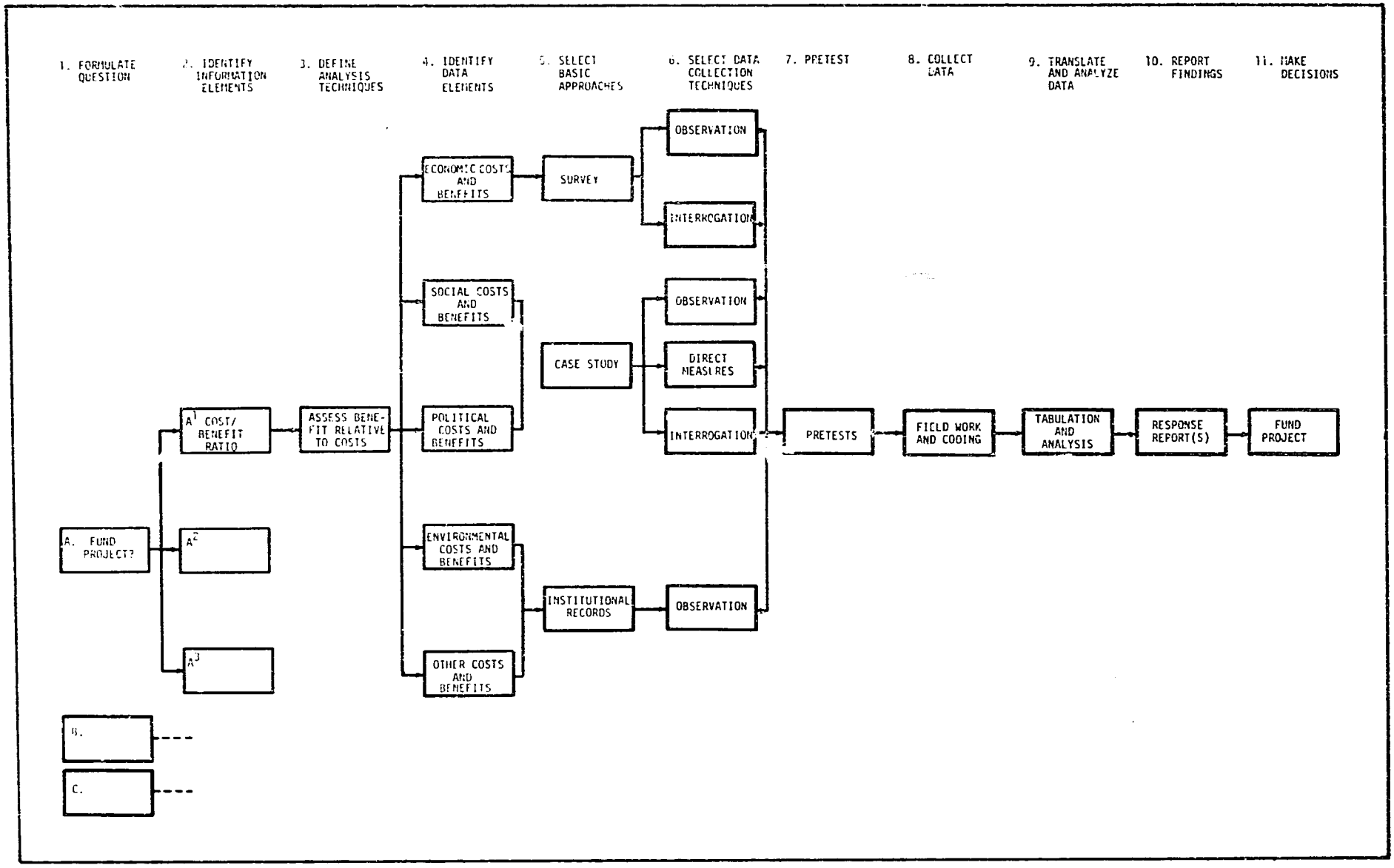


Figure 2-2: Logical Sequence of Steps/Choices in a Data Collection Effort.

# PART TWO

## PRINCIPLES AND APPROACHES

## BASIC STUDY DESIGN CONSIDERATIONS

Part One of this Guide examined the process of securing information for decisionmaking from a managerial perspective. In Parts Two and Three, the focus of the Guide shifts and begins to consider the technical steps involved in deciding how management questions are to be answered.

This chapter addresses the basic study design issues we need to resolve. We cannot select specific approaches and techniques for our fieldwork until the essential characteristics of our inquiry have been set forth. The two basic study design issues that need to be considered early in the planning process are:

- The nature of our inquiry, including the types of answers we need and how we intend to use those answers.
- The quality we seek in study answers, including the ways in which quality is defined and can be controlled.

When these basic research issues are discussed in the abstract their importance is sometimes ignored. Taken alone, they may sound academic. Yet whenever a professional researcher is faced with a question, this is where he begins.

As project designers and managers, we may not be well acquainted with the initial steps that are taken in formulating a study design. If we have a question that requires fieldwork, we develop a scope of work and solicit proposals from professionals. What we see in their proposals tends to be a description of the approach and specific procedures they, as professionals, recommend to us. The early steps in their analysis are not normally reported. In this chapter, it is to these "invisible" steps that we turn our attention. If we are to understand our data collection options, the process by which specific approaches are selected should not be a mystery.

## A. THE NATURE OF OUR INQUIRY

The first step in moving from a management question or issue to an actionable plan for gathering and analyzing data is to define the nature of our inquiry. A professional researcher makes this determination based on what we tell him about our information needs.

As Chapter One suggested, it is the manager's task to formulate the questions that are to be answered through field studies. When we recognize that another person will examine our questions, in detail, as part of the process of selecting a study design, the need for clarity is apparent. The Chapter One recommendation to write out a plausible though fictitious answer to each of our questions is designed to help us, as well as the professionals we engage, make initial determinations concerning the nature of our inquiry and an appropriate study design.

### 1. The Uses of Information

Understanding our information needs can help us determine what type of study will be appropriate. The first step in specifying a study design is to decide why we need information. Answers to this question will tend to fall along a spectrum. At different stages of our projects we may need data to help us:

- Describe in a preliminary way the factors and relationships that appear to be important in a relatively unfamiliar situation.
- Describe in a precise way the status of a population or area on those dimensions that our exploratory work has suggested are important.
- Predict the changes that will result from alternative program or project interventions.
- Determine whether predicted changes or other changes occurred.
- Explain how and why specific changes came about.

As the above list suggests, the primary uses of information fall into three general categories: description, explanation and prediction. When we know which of these uses of information are important to us, it helps us decide what type of data, and therefore what type of study design, is needed.

All information is essentially descriptive. Explanation and prediction are ways of using certain types of descriptive information to enhance our ability to act on what we know.

However, a distinction among these three basic uses of information is necessary since studies that provide simple descriptive information do not necessarily provide us with a basis for explaining relationships or making predictions. When we want to explain or predict we often need to utilize study designs that differ from the ones we use if simple descriptions are all we require.

Descriptive information is not a single class of information. Some descriptive information is very general in nature, and often comes in the form of a series of qualitative statements. This is the type of information we need when we know very little about what factors are important in a situation or how those factors relate to each other. Microstudies that examine the totality of a situation, using case study or participant observation approaches, can often provide this type of general picture. Microstudies, which are discussed in Chapter Four, are useful for determining what problems are being faced by a target population, what project strategies would be possible given the local social structure, etc.

A second type of descriptive information we often need is that which characterizes, in a precise way, the attributes of a population, e.g., its income, caloric intake, etc. In order to make these descriptive statements, we may need to study all units of a population, or a representative sample. In Chapter Four the discussions of census procedures and sample surveys provide us with approaches to developing this type of descriptive information.

Whenever we consider gathering descriptive information, it is worthwhile to ask ourselves whether we will want this same information at some point in the future. In many projects, we estimate economic trends, progress in reducing the incidence of specific diseases, etc., using series of studies that provide comparable data for different points in time. If it is likely that we will need time series data we will need to select a study approach that can be replicated easily at a later time and perhaps by a different study team.

Explanatory information is the most difficult type to secure. When we want explanations we need to secure data that allows us to make strong statements about cause and effect. The type of statement we seek to make is of the form: A occurred because of B. The problem we face in any attempt we make to secure information that allows us to assert causation is that eliminating all other possible causes of A is difficult, even in pure science. In the social domain it is virtually impossible.

There is no such thing as information that predicts. Rather, we make predictions using either descriptive or explanatory information. Our predictions can be based on our ability to explain

why some event or change occurs (because of B) or on our knowledge about a temporal relationship, for example: D appears to follow C. When we have information about temporal sequence, we can make predictions even though we do not know whether D is caused by C, or whether both D and C are caused by some factor we have not identified. Much of the information we use to make predictions is descriptive data that has been shown to be highly correlated.

Being able to distinguish between information needs that require only descriptions and those that seek explanation is often critical. While most of our studies require only descriptive information, we should determine rather than assume we know what is needed in each new study.

As the preceding paragraphs suggest, all of the approaches to gathering data presented in Chapter Four of this Guide can be used to secure descriptive information. When we intend to use the information we gather to explain how and why change takes place, we also need to consider a number of additional study design factors. The remainder of this section reviews approaches that can be used to secure the data we need to explain relationships and to examine the degree to which project activity stimulated changes in a project situation.

2. Information That Examines Cause and Effect Relationships

When a question is raised that needs to be answered with an explanation, we should begin by determining whether we can use information we already have to deduce the answer. Deduction is a powerful tool that should not be ignored when we need explanations. While our "theories" about the development process tend to be weak and unverified, we do have information about some aspects of social and economic processes that has been validated in our own and other cultures. Thus, deduction should not be dismissed without an examination of what we do know.

A second approach to explanation is best described as diagnostic reconstruction. The work of a medical examiner illustrates this approach. The observed result he begins with is a death. By process of elimination he works backward eliminating some possible causes and thus identifying a very small range of plausible explanations. When this approach leads us to a single cause, in repeated instances, we may be able to make explanatory statements.

In some situations the only route to an explanation will be to develop and test an hypothesis concerning cause and effect. Our formal explanatory hypothesis must state both what will happen and why. (We often use the ideas generated by deduction, past experience and diagnostic reconstruction efforts to formulate

our testable hypotheses.) "Experiment" is the term typically used to describe a test of an hypothesis.

a. Types of Experiments

The approaches we use for testing hypotheses in the real world are borrowed from the scientific disciplines. The two problems we face in executing these tests are: (a) lack of control over the factors in the test environment and (b) lack of clarity in our notions about causation in the social domain. In studies of physical matter we have well developed expectations concerning the nature of cause and effect relationships, e.g., if object A hits object B under specified conditions, object B will move. Our grasp of how things change in human situations is much more tenuous.

The logic of a field experiment is like that of the physics or chemistry experiment in a laboratory. We take a situation (before), add a new ingredient (a development project) and observe (after) whether the change we predicted has occurred. Normally, we are also careful to observe and record any changes that occur, but which we did not predict. If the predicted change does not occur we reject our hypothesis. However, we cannot say that we proved our hypothesis when the predicted change does occur -- we can only say that it is strengthened. We can never be 100% certain that we know the cause of any effect, even when we know that the same effect is achieved in repeated tests.

When we conduct such experiments, we usually make every effort to ensure that there are no alternative explanations of the effect we observe. Thus it is normal to establish comparison situations called "controls," which are the same (before) but do not receive our experimental treatment (the addition of a new ingredient). In formal experiments we take special precautions to ensure that the experimental and control groups (of people, farms, etc.) are as much "the same" as possible before the treatment (e.g., project services) is provided, i.e., we use statistical techniques to assign randomly individual study units to the experimental and control groups. When we gather our post-experiment data (after), we secure it for both the experimental and control situations. If the effect we predicted is observed in only the experimental situation, our confidence is increased that other factors, including the passage of time, do not explain the change. Figure 3-1 shows the design for a controlled field experiment in its simplest form.

| BASIC DESIGN OF A FIELD EXPERIMENT | | | |
|---|---|---|---|
| | Surveyed o Tested Before | Receive Program | Surveyed or Tested After |
| Program or "Experimental" Group | yes | yes | yes |
| Control Group | yes | no | yes |

Figure 3-1: Simple Experimental Design with one Control Group.

As is apparent, the amount of control over a situation required in a true experiment is such that we can only in rare instances use this approach in the real world. Quasi-experiments and natural experiments are modifications of this form which, while they provide less powerful data, can be carried out in the environments in which we work.

In a quasi-experiment we have a reduced amount of control over the situation. This takes two forms. First, we cannot control all the factors (other ingredients) that are entering the situation. What we do is make the assumption that if some factor, other than our intervention (treatment), is having an effect, its effect will be the same on both our experimental and control groups. Secondly, we have less ability in a real situation than in a laboratory to ensure that our control groups and our experimental groups are alike (the same before). We do the best we can. This usually means we select, for example, cattle from the same stock raised in the same area. However, because we tend to work with natural or existing groups in quasi-experiments, the precautionary step of randomly assigning study units to our control and experimental situations is often omitted. This omission leaves us less certain that the groups we are studying are in fact "alike" before the program begins.

If we are trying for a relatively high degree of rigor in a quasi-experiment, we may use villages of the same size, income level, occupations, soil, religion and as many other conditions as we can think of. Sometimes we do not include control groups in these quasi-experiments. We simply depend on the before-and-after data on those who were exposed to a treatment, i.e., our project intervention. When we forego control groups it is

usually due to cost, or the difficulty of identifying a plausible control situation. Sometimes external reasons, e.g., the political or ethical difficulties involved in giving some, but not other, people a certain treatment, prevent adequate use of controls.

Three types of quasi-experimental designs are relatively common in our development projects: (1) those that use two groups and take before-and-after measures, (2) those that take "after only" measures on groups that did not receive assistance and (3) those that use one group and take before-and-after measures.

Studies that involve two groups, one of which is used for comparison purposes, are preferable to before-and-after studies of a single group when we want to determine the strength of a project's effects. When two similar groups are compared, even on an "after only" basis, we can make a fairly strong case for the proposition that the effects we have measured are attributable to project assistance. In studies of a single group it is more difficult to determine whether change occurred as the result of project efforts, or for some other reason.

Quasi-experiments that involve two groups, one which receives a experimental treatment (project services) and one which does not, can be used in a variety of development project situations. In projects that provide services within a specific geographical area, a "control" group can be identified somewhere outside of the area served by the project. Pilot projects often offer the opportunity to use this type of evaluation design. In some projects we may be able to selectively provide services to members of the target group in order to create a "control" group. This might be feasible in projects involving farm credit, training, etc. It would be less appropriate for health, family planning and nutrition projects where ethical considerations must take precedence over our evaluation plans. When it is appropriate and feasible to selectively provide services, some technique for avoiding bias, such as random selection, should be employed.

There are two types of situations where we normally use a single group to study the effect of an intervention. The first of these is the "natural experiment," a situation which we neither set up nor control, but which we know will occur. We may take advantage of that knowledge by making before-and-after measurements of the effect of the intervention. Land reform actions, changes in tax policy, etc. are examples of "natural experiments" from our point of view. The second type of "one group" situation in which we take before-and-after measures is the development project that, in effect, serves everyone. Projects that bring about fundamental changes in the way that government services are provided, or which cover a very large portion of the country, can sometimes only be assessed using "one group" measurement approaches.

## b. Variables and Relationships

Two concepts are important to an understanding of most approaches for securing descriptive and explanatory information; they are critical for planning field experiments:

- The idea of a variable.
- Hypotheses about the relationships between variables.

### (1) Variables

The basic criterion for determining what information is useful for program and project decisions is relevance. Facts can be secured on virtually any subject, and in any degree of detail. What the designer or manager normally seeks in a data collection effort is information on those aspects of a situation that can change. The term used to discuss these factors, whether physical or behavioral, is variable.

The three types of variables are discussed below: dependent, independent, and intervening. In addition, we are concerned with conditions that we do not expect to change or vary in ways that will affect our analysis. These conditions are called parameters.

#### (a) Dependent Variables

Dependent variables are the conditions that we hope to change, and whose changes we wish to be able to predict and explain. In development projects our dependent variables are often dimensions of the lives of the people those projects serve: their health status, their income levels, etc. We think of these conditions as being "caused" or "forced to change" by other factors (independent variables). For example, farmers' adoption of fertilizer is thought to be related to their contact with agricultural extension agents. Thus, we predict that as the frequency of agent visits to villages increases, the rate of fertilizer adoption will increase.

The purpose of our projects is to bring about change in the dependent variables we consider important. Empirical studies of development projects provide the basis for examining whether and how such changes occur -- for determining which independent variables have the greatest impact on the condition we are trying to affect.

#### (b) Independent Variables

Independent variables are the conditions we attempt to control in order to influence the status of the dependent variables. We need to identify and understand these factors in order to bring

about change in the dependent variables. We think of independent variables as "causing" changes in dependent variables. Our projects try to predict and test relationships between independent and dependent variables, e.g., as education increases, innovative behavior increases. Our projects are themselves independent variables. We hope our project interventions, the provision of credit, education, etc., will result in favorable outcomes.

(c) Intervening Variables

Intervening variables are also variables that can bring about change in the dependent variables, but unlike independent variables, are not controlled deliberately in a given project, e.g., the price of fertilizer might affect the crop choices farmers make, but it may not be factor that an agricultural extension project can control.

Their importance in a situation, i.e., the way they cause changes in the dependent variable, is not always known in advance. Sometimes we only know something intervenes when its effect emerges in our data analysis. To the degree that we are able, we should identify the intervening variables in our project situation and monitor them to detect early any unanticipated effects.

(d) Parameters

The three types of variables described above have one thing in common: They are subject to change during the time period with which we are concerned. In every project there are some conditions that we do not expect to change significantly during the project period. Physical terrain, distances between villages, soil types, etc., the religions and languages of the people, the size of their villages, and so on, are all conditions which we do not expect to change over the life of a project. These conditions are called parameters in our studies. That is, they are "givens" or the "constants" that characterize the environment within which we operate.

Figure 3-2 provides examples of the above types of variables in programs and projects.

(2) Hypotheses About Relationships Between Variables

In a project or program we are acting on the expectation that our interventions, the things we are doing, will bring about a change in one or more dependent variables of interest. As introduced earlier, the general term that is used to describe this expectation is hypothesis.

| | Examples of Project Variables |
|---|---|
| Dependent Variables | • Per capita income<br>• Daily caloric intake<br>• Population growth rate<br>• Productivity of individual farms<br>• Availability of protein foods at reasonable cost |
| Independent and Intervening Variables | • Number of loans to small farmers<br>• Nurses per hospital<br>• Number of family planning clinics<br>• Time |
| Parameters | • Physical characteristics of the land<br>• Religion of the people |

Figure 3-2: Project Variables are the Factors We Consider Important in a Specific Situation.

An hypothesis states that a certain relationship is expected to exist between two or more variables. A statement of a relationship expresses our expectations about change in two or more variables. We speak about a change in the independent variable producing a change in the dependent variable: as credit increases, fertilizer use increases.

While most of us can easily list factors of interest (variables) that we wish to measure, once or many times, we all falter occasionally when we try to state our project hypotheses clearly. Sometimes we know our technical area, or the country in which we are working so well that when we try to explain the relationships of interest we convey too much information. While this may happen when we have a number of hypotheses in a single project, it sometimes happens because we are not used to reducing our thoughts to their simplest terms. Thus, we might first



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write our hypothesis in a descriptive way. The following is an illustration:

> Farmers receiving interest free loans from the agricultural credit cooperative will invest in fertilizers and participate in the mushroom growing scheme. Farmers who do not receive loans from the cooperative will continue to plant maize, beans and cassava.

With practice we can simplify these thoughts. The use of symbols can help us get started. For example:

> Y, because of X translates in our situation as: Farmers will grow mushrooms when (because) affordable credit is extended.

The example above is an explanatory hypothesis. We can also formulate hypotheses of a predictive sort (If X, then Y), when we are not sure that X is the sole cause of Y. As noted earlier, our predictive hypotheses are often generated based on a knowledge of what factors in a situation are correlated (i.e., known to change together in predictable ways).

## B. THE QUALITY OF INFORMATION

Information about variables and relationships is only of help if its quality is adequate to meet our needs. Information quality, in this sense, is ordinarily characterized in terms of several basic aspects, including:

- Validity -- does the information measure what it is intended to measure, and what is important for decision-making?
- Reliability -- to what degree does repeated use of a measurement procedure produce the same results?
- Precision -- with what degree of specification are relationships and conditions measured?
- Bias -- to what extent do human factors of an unplanned and/or non-random sort operate to distort information by intervening in the measurement process?
- Representativeness -- to what extent does our information characterize all of the units in a study population?

It is important to understand how each of these dimensions of information quality is affected by circumstances we can control.

1. Validity

The most elementary aspect of information quality is the extent to which it corresponds to what we thought we wanted to measure. Validity in its simplest meaning is the closeness of fit between an intellectual construct, say "family cohesion," and the things we measure empirically as indicators or proxys for that abstraction. If our measures do not "correspond" to the abstraction, then the entire chain of reasoning between analytic and empirical domains collapses.

In addition to the above textbook sense, we can add another aspect critical to development project management. This recognizes that information is valid for us only to the extent it helps us understand relevant problems and make sound project decisions. From this perspective, information must do more than merely provide adequate representations of abstract concepts. These concepts must be important to the project effort, and help to shape project decisions in a way that promotes the achievement of our objectives.

2. Reliability

Obviously, the quality of information is poor if the relationships and conditions it represents are subject to variation which it does not capture. Therefore, information is not reliable if similar measurement procedures would yield different results if applied again.

What we need is an adequate degree of confidence that our measurement results correctly represent empirical relationships. In general, we can gauge the degree of reliability of our information by the simple process of repeating the measurement under the same or similar conditions with the same or similar population.

3. Precision

This dimension of information quality concerns the degree of detail or refinement in the measurement of variables, relationships, or conditions. Because a given degree of precision is normally something you can "buy" with a given amount of resources, it is a good idea to be very sure how much you actually need. Then you are not likely to waste resources getting more For example, if bridge design decisions require that you know only what the heaviest vehicles using the bridge will be, you do not need to have frequency counts by weight class to make your decision.

4. Bias

Biases degrade information quality by injecting human distortion into the data collection process. The result is always some



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degree of error in the representation of empirical relationships. There are many sources of such effects, ranging from the influence of the basic study approach we adopt, to the particular nature and behavior of each individual field worker we employ.

Because biases are inherent in every study, dealing with their effects usually involves more than merely attempting to eliminate them. A concentrated effort to identify them, and correct for their effects is needed.

5. Representativeness

Information quality is also contingent upon the degree to which it measures or can be applied to the complete population or universe of the study. Usually, we depend upon some type of selection or sampling from this total population to provide units for observation. This raises the question of representativeness, or the extent to which our selected units truly characterize the entire population from which they were drawn.

As with precision, different degrees of representativeness can be achieved with different levels of investment. And in the same way, the degree we buy, for example with more sophisticated sampling techniques, or perhaps with an exhaustive census, should be determined by the amount required for our project management purposes (as discussed in Chapter Five).

In addition to these quality considerations, we need to consider the amount of information we collect from each population unit we intend to examine when we select an approach. In most situations the choice we face is between securing a lot of data about a few or a little data about many. To make this choice we must refer back to our reason for collecting data. If we are trying to learn enough about a population to develop testable hypotheses, or to specify what aspects of the project environment are likely to facilitate or hamper project efforts, we may find that an in-depth study is needed. If on the other hand we simply want to describe a population, or gather data that tests an hypothesis about project impact, an approach that secures a limited amount of data from a representative sample may be needed.

We need to recognize that when we consider study approaches we are not necessarily required to select on an either-or basis. Sometimes the most cost-effective studies involve combinations of efforts. For example:

- A case study could be conducted to determine the variables in a situation. It could be followed up by a survey that is designed to determine how a population is distributed on each of the variables identified in the case study, or

- When a survey, or census effort reveals a pattern of findings that cannot readily be understood or explained, a case study that considers this pattern in-depth may be an appropriate next step, or

- A survey of health indicators might be followed by the development of a recordkeeping system in local clinics and schools that would provide low-cost, long term, trend data on specific indicators.

When we fully understand the types of information we need, it becomes easier to determine what types of study approaches are appropriate. Thus, a one-time case study or survey might be adequate to tell us about the status of a variable at the point of project design. However, if we want to monitor change in that variable during project implementation as well, we will have to choose a data collection method that allows us to make the comparisons that interest us. When we want to be able to conduct an evaluation and say, at the end of a project, that our project effort appears to have caused a measurable change in the village, or among women, or farms, we must consider research designs and evaluation approaches that actually allow us to 'test' our hypotheses.

When we do select a study approach, or a combination of methods, the important thing to understand is what we have accepted in the way of limitations on the things we can say. The use of census, survey, micro-study, and other approaches are considered in greater detail in the following chapter.

# FIELD DATA COLLECTION APPROACHES

In this chapter we briefly survey a number of approaches for gathering data in field situations. The approaches discussed are most useful when they are applied to the type of situation for which they were developed. The focus of our review of these strategies is on the types of questions they are best suited to answer and the level of effort and time required to use them. In selecting one, or a combination of approaches for carrying out a field study, the manager must bring to bear his knowledge of the major study questions and the main characteristics of the answers he seeks. Normally, the research design issues discussed in Chapter Three need to have been addressed and resolved in at least a preliminary way before an appropriate field data collection approach can be selected.

In this chapter the advantages and limitations of a census, surveys, microstudies, recordkeeping and other field study approaches are discussed.

## A. A CENSUS

Most of us are familiar with the term census. Often we are aware of the fact that many countries undertake a census to enumerate and describe their entire population every ten years or so. In some of the developing countries this type of national census has never been attempted; in others AID is assisting the government in carrying out a national enumeration and data collection effort. A national census of a population is a major undertaking in any country. When such efforts are carried out it is normal to collect only a limited amount of information about each member of the population. Most of this data is descriptive. We learn where the population lives, its average age and income, how it is divided between majority and minority or tribal groups, and so on.

The idea of a national census is not frequently applied to non-human populations, though other approaches are taken to

enumerate and maintain data on the quality of a country's roads, grain stocks and the like. At a regional or project level, however, a census might be taken of either human or other populations on which we need comprehensive location and other simple descriptive data. Thus, for example we might in some project situations find that we need census data to tell us exactly how many and which individuals or cows have a certain disease, or how many and which fields were plagued by a particular variety of insect. These smaller size regional or project area censuses will be more manageable than their larger national counterparts, thus making a census a feasible approach.

There are three main reasons for considering a census approach or trying to use existing census data in making project decisions. First, an existing census is a ready source giving us accurate positional data about how dispersed or concentrated the population is and where the most severe pockets of hardship and want are located. This information is needed by both donor agencies and host governments to decide what basic programs should be undertaken and how these programs should be focused in terms of geographic area and target groups. The second basic reason for securing data on all units of a population is to identify exhaustively the incidence of some characteristic and to locate specific units, such as all cases of smallpox. Finally, we collect census information to provide us with an accurate representation of the population that can be used in selecting samples (representative units of the population) from whom additional data can be collected. Sample data are less costly than census data, but in many situations it is difficult to sample a population unless a census has already been completed.

Because a census is made infrequently, it is important to collect the type of population data that will later help us sample that population. Thus in a census we might want to secure data on the number of men and women who are married or unmarried, have or do not have a secondary school education, own land or do not, etc. These different characteristics can then be combined in various ways to form different categories to be sampled in subsequent studies. For example, depending on our reasons for wanting information, we may wish to overrepresent in a later study women who are single, literate and employed.

1. Characteristics of Census Information

A census gives us information on all units. Other data collection approaches collect information on only some of the units of a population. Census data are not estimates, they are actual counts.

Census information does not necessarily have greater validity than the information generated with other approaches. In a



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census, as in other types of field studies, we can make mistakes in the way we try to measure the things that are important to us. We can err by not asking the right questions or by asking the right questions in a way that is meaningless to our study respondents. The fact that a census gathers data from all units of the population does not help us with such problems.

The reliability, or response consistency of census data is usually gauged by going back at a later time to a sample of the population already examined and repeating our data collection process. The degree of agreement between our census data and the subsequent examination of a sample is a measure of response consistency.

Census information has a number of other characteristics that are more a function of the size of the undertaking than of its nature. Because a census, particularly a national census, is an enormous operation, it is not uncommon to find that more resources are devoted to locating members of the population than to obtaining data from them. Even the U.S. Decennial Census collects only a small amount of information from all of the people in the country. Most of the information we think of as being "census data" is actually collected through sample surveys conducted by the U.S. Bureau of the Census.

Census information tends to be highly quantitative. Answers in a population census tend to be numbers of adults and children, male and female, and various categories of education, employment, languages, religions, age, marital status. Other information, if any, will be similarly structured. Information is self-reported: people are asked questions about themselves and they report on themselves. Census enumerators collect some data by observation, usually in agricultural censuses and on other physical populations.

Finally, census operations are highly visible in the community. Strangers coming to the village or into the neighborhood asking questions about all people is an extraordinary event. A census disrupts the routine. It's highly obtrusive.

2. The Limitations of a Census Approach

Human populations in developing countries are difficult to count. In the large cities and urban areas there are elusive "floating" populations of transients, homeless, underemployed, migrants, the old, etc. Some of these people share dwellings. Perhaps as many as three "families" may share the same quarters in a 24-hour period. Addresses are hard to locate, streets are unmarked, boundaries are obscure. The situation in the rural areas may not be better. Nonexistent or impassable roads, absence of transportation, nomadic populations, and unclear notions of village locations can make it difficult to carry out

a census or to develop population lists from which samples can be selected.

Moreover, our ability to count is severely limited when we seek data on units such as villages, leaders, households, heads of households, farmers, full-time workers, etc. None of these labels applies easily to human populations in developing countries. Even when we attempt to count the number of farms and describe them we face difficulties. The terminology and units we use do not always have meaning in the situations we want to describe.

A further weakness of the census approach is the high potential for human error in carrying out the data collection procedures. Census workers often receive low wages and work only part-time. They endure arduous conditions in the field, often in strange or even inhospitable areas. Errors of omission and commission can be of serious proportions. Thus, while census data, in theory, are precise, in fact they may be error-ridden. In addition to the human problems, a census tends to be very costly, requiring enormous investments in staffing, time and logistical operations, including: training, transportation, maintenance, supplies and equipment, data processing, etc.

For these and other reasons, census efforts typically provide limited data for project planning or evaluation -- they secure only a few quantative items that are as easy as possible to collect. No "open-ended" or unstructured questions are asked, nor are unstructured answers recorded. The limited nature of census information is largely a function of time and cost, but it also relates to the attempt normally made to reduce the fieldworkers' job to a manageable task and to cut down on clerical errors in collection and processing.

The key point to remember is that a census is ordinarily not an efficient strategy for securing data on people's social, informational, attitudinal or behavioral characteristics. A sample survey or microstudy will usually be a much more cost-effective strategy for securing these kinds of project information. The exception to this general rule occurs when a study population is so small that sampling it is inappropriate. When we study small populations it is usually feasible to use a census approach. It is necessary if we intend to characterize the whole population with our data.

## B. SAMPLE SURVEYS

A sample survey characteristically draws information from a representative portion, or sample, of the population of interest. Sample surveys, when properly carried out, allow us to characterize whole populations with our data, as does a census. The difference is that our sample data provide an estimate

whereas census data are complete. Because sample surveys involve fewer units of the population we are studying, e.g., farmers, school children, credit transactions, etc., they tend to be less expensive. Further, we are normally able to collect more information from individual units in a sample survey than is the case when a census is undertaken. Even though we often gather more information in a sample survey, we tend to complete it more quickly because of the significant difference in the size of survey and census efforts.

## 1. General Attributes of Surveys

Because of their relatively low cost, sample surveys are a versatile tool for assessing needs and suggesting the most appropriate project interventions for assisting large populations. Over large areas, surveys can describe population characteristics, land tenure patterns, water resources, cropping patterns, diet and so on. In short, where the consequences of studying some rather than all units of a population are acceptable, a survey is an effective strategy for gathering data.

Surveys are conducted to serve a variety of project information needs. They can be used to characterize a target population -- population subgroups that are deficient nutritionally, in health status, etc. -- and identify the main constraints on improving the status of these people. Similarly, we can use survey approaches in project areas to examine the needs of the farms, livestock, and dwellings or the demand for the credit, health, training, population control and other services our projects can provide. What we learn about population subgroups from our surveys can help us to "customize" our delivery programs, making them fit better within the local culture, traditions, environment and economic structure.

Survey data can also be used to put to rest clichés and myths about populations. For example, the incidence of infanticide may be much lower than is suggested by popular myth, the press, or the Ministry of Health. The truth about hidden wealth, hostility toward strangers among the hill people, resistance to innovation in farming practice or medicine, etc., may be so distorted as to be absurd. Project decisions that are based on such stereotypes may have serious adverse consequences. Survey research and microstudies provide us appropriate ways to secure data that correct for this type of distortion.

Finally, surveys can be used to assess the strength of our project hypotheses in some situations. They can help us determine whether a project effect we notice in one area is also present in other areas (under different conditions and for different types of people). The survey is the only cost-effective way we have of securing the same data in many places at roughly the same time. We can also use survey data from different

points in time to monitor changes in specific characteristics of our study population. Several types of multiple-time surveys are worth noting.

## 2. Multiple-Time Surveys

Surveys that are undertaken at a single point in time can help us to understand the characteristics of a population. However, the picture such studies provide is a static one. In order to learn about changes in a population or to examine trends on specific indicators of interest, e.g., family income, nutritional studies, etc., data from multiple points in time is needed. Two main types of multiple-time surveys are used to secure data that allow us to examine changes in a population. These are: (a) multiple cross-sectional studies, which measure gross changes in population characteristics, and (b) longitudinal studies, which collect data on specific population units at several points in time.

### a. Multiple Cross-Sectional Studies

Surveys of this type examine different but comparable, or equivalent, samples of the same population at two or more points in time. Before each cross-sectional survey is conducted, a representative sample of the population is selected for examination. Some units included in an initial survey may appear in subsequent survey samples, others will not. In multiple cross-sectional studies we are not attempting to follow up on particular population units to determine how these units changed. Rather we are assessing change in the aggregate using two or more equally representative samples of the population.

Thus, for example, a Ministry of Education might survey its secondary school teachers to learn about their attitudes and motivation. If data from an initial survey indicated that morale was low due to poor facilities and a lack of textbooks, the Ministry might undertake a program to improve the situation. After a one or two year improvement effort, a second cross-section of the secondary school teachers might be surveyed to determine whether there had been changes in the way teachers felt about their work situation. While such multiple cross-sectional studies would not tell the Ministry that the morale of specific teachers had changed, or that the improvement program was the direct cause of such change, it would give the Ministry information on whether, in aggregate, secondary school teacher attitude and motivation was improving.

Multiple cross-sectional surveys are relatively easy to conduct when an adequate sample frame exists, e.g., a reliable list of all secondary school teachers. When this type of study is undertaken the various surveys must be comparable if valid conclusions are to be drawn. Thus it is important to ensure that

the same sampling methods are used each time, and that the same procedures and approaches are used in interviewing, observing or otherwise measuring the characteristics of the population. Further, it is important to be aware that in situations where there is a great deal of migration, turn-over, etc., we may be studying two different populations, rather than one population at different points in time.

b. Longitudinal Studies

Longitudinal studies attempt to assess change in the characteristics of a population by repeatedly examining a specific set of population units. Thus, while other types of multiple-time surveys can show changes in the characteristics of various types (categories) of a population, longitudinal studies can identify specifically which units of a population changed and how much they changed. By pinpointing where change occurs, the longitudinal study improves our powers of generalization and causal imputation. With longitudinal data on a fixed set of population units we can describe over time the number of units that change, their rate of change, stages in the process of change, etc. We also tend to learn about patterns of migration and turn-over as we attempt to follow-up on a fixed set of units over a reasonably long period of time.

While longitudinal studies provide us with both quantitative and qualitative data of value, they tend to be expensive and difficult to carry out.

Two of the key difficulties with longitudinal studies are attrition and biases associated with repeated measurement of a fixed set of units.

Attrition is a basic issue in most longitudinal studies. In many situations a population will shift during the period of study, e.g., some units will "drop-out" by migrating, ceasing to participate in the program, etc. The cost of following up on these units can be high. On the other hand, it is dangerous simply to ignore the units that "drop-out" since there may be something special about them, e.g., the people who leave the study area are the ones who were best (or worst) served by the program. In addition, attrition can often reduce a study sample to an unacceptably small number of units. To counteract this we may have to "oversample" in the initial years of a longitudinal study, recognizing that while "oversampling" will tend to increase our study costs it may be the only way to secure data about a sufficient number of units.

Repeated measurement tends to be a problem when we are studying human populations. Thus, while we do not expect to introduce bias by remeasuring per hectare productivity at the end of each

crop season, we need to recognize that people tend to remember the questions we have asked them and the answers they have given us. In repeated interviews, our respondents memory of the last survey can result in: (a) simple repetition -- sample members may become frozen in their response for fear of appearing inconsistent; (b) some may become more expansive -- improving on original answers; and (c) some become more knowledgeable -- the study serves to stimulate some people to learn more about the program and even to take part in it.

These kinds of response problems are common to any longitudinal study or experiment in communities or laboratories. Special attention must be given to training researchers to cope with them. And, data analysis must include specific tests of re-interviewing biases.

3. Trend Studies Based on Multiple-Time Surveys

Trend studies are one of the ways we use multiple-time survey data. They are not a separate approach for gathering data. In trend studies we simply examine data to identify patterns in the degree to which variables appear to change in similar ways. These studies are an excellent approach for developing hypotheses. A good deal of economic and health research is of this type, e.g., studies that correlate cancer with heavy smoking. Data from longitudinal studies can be analyzed using correlation techniques to identify patterns in the data.

While trend studies may be helpful for exploratory purposes, we need to be very careful in drawing conclusions based on this type of analysis:

- Trends are just that -- we learn whether the value of a variable of interest is increasing or decreasing over time. But our data do not tell us what's causing these trends.

- Correlation is not causality -- when two variables appear to change in similar ways and in similar time frames, it may be that one variable is 'causing' change in the other, <u>or</u> change in both variables could be caused by change in a third variable (one we haven't thought about or identified), <u>or</u> the two variables can move together by chance.

We are best served by this type of study when we expect it to help us define new hypotheses that can be subjected to more rigorous tests later. We are ill served when we assume it can tell us conclusively what causes what in the real world.

## 4. Survey Cost Estimates

Since surveys have become a well-accepted and frequently used approach for gathering many types of data, a good deal of experience in their conduct has accumulated. We are thus able to make illustrative estimates of the costs that we will incur when these approaches are used. (Actual costs will of course vary depending on sample size, the number of times the survey protocol is to be used, etc.) Most surveys involve five major steps or phases. The International Statistical Programs Center at the Bureau of the Census estimates that costs tend to break down by phases as follows, for a one-time survey:

| Survey Phase: | Percent of Total Survey Costs |
|---|---|
| 1. Planning/negotiation ..... | 15% |
| 2. Survey preparation ..... | 25% |
| 3. Field implementation ..... | 25% |
| 4. Data analysis ..... | 15% |
| 5. Reporting/presenting results ..... | 20% |
| Total Costs | 100% |

Figure 4-1 provides further estimates within each of the phases. It divides each phase into activities and shows the approximate distribution of costs in a phase by activity.

## 5. The Limitations of Survey Approaches

Surveys can produce the same types of data we secure from a census. They can also produce a great deal more information, both quantitative and qualitative. Yet they suffer some of the same limitations as a census. Both approaches encounter difficulties in locating study populations. While survey team members may be better trained, this is not always the case. A sound program of training and supervision in both census and survey work helps to counter data distortion due to human error.

When survey staff are well trained and supervised, their data may be quite free from recording errors. On the other hand, survey staff with better educations, urban experience and higher socioeconomic circumstances may be more prone to make errors in reporting data. The greater social and psychological distance between these fieldworkers and their subjects can be a source of error since there may be subtle differences in the way these individuals understand either the survey questions or the answers provided by respondents.

There are many other pitfalls to guard against in a well-executed survey. Like the census, the survey tends to sweep into communities with a bunch of strangers asking a lot of

| SURVEY STAGE | % OF TOTAL STUDY COST | BREAKDOWN OF STAGE INTO ACTIVITIES/ACTIVITY COSTS |
|---|---|---|
| I. PLANNING STAGE | 15% | ACTIVITY — % OF COST<br>1. Develop Sample Plan — 15<br>2. Develop Research Instructive — 35<br>3. Prepare Trng. Materials — 30<br>4. Determine Data Processing Requirements — 20<br>TOTAL — 100 |
| II. SURVEY PREPARATION | | ACTIVITY — % OF COST<br>1. Select Interviewers — 5<br>2. Select & Prepare Sites — 15<br>3. Establish Field Procedures — 30<br>4. Train Field Staff & Interviewers — 35<br>5. Develop & Test Data Processing Methods — 15<br>TOTAL — 100 |
| III. FIELD IMPLEMENTATION | 25% | ACTIVITY — % OF COST<br>1. Provide Coordination & Administration — 20<br>2. Undertake Sampling & Quality Control — 20<br>3. Interview & Maintain Data Collection Quality Control — 50<br>4. Complete Preliminary Data Processing — 10<br>TOTAL — 100 |
| IV. DATA ANALYSIS | 15% | ACTIVITY — % OF COST<br>1. Construct Model & Analysis Plan — 45<br>2. Define Measures — 30<br>3. Execute Measurement & Validation — 25<br>TOTAL — 100 |
| V. REPORTING | 20% | ACTIVITY — % OF COST<br>1. Write Report — 70<br>2. Present Findings — 30<br>TOTAL — 100 |

Figure 4-1: Illustrative Allocation of Resources to Various Survey Stage/Activities

questions. Unless care is taken in study preparation, many of the questions may be embarrassing, threatening, or simply meaningless. Surveys should be preceded by thorough, culture-specific preparation, as discussed previously. Nevertheless, a serious obstacle to success can be conditions in the developing countries and the procedural difficulties these conditions present.

Thus we find that poor transportation connections and impassable roads make it difficult to reach the more remote villages. Low general levels of education make it difficult to match competent fieldworkers with respondents of the same language and cultural background in all areas. Distrust and fear of strangers make it difficult to convince people to be part of the study and to give reliable information. The lists we need to draw random samples or stratify the population are hard to develop. Foreign researchers and country nationals are often inexperienced and unfamiliar with the sociocultural conditions of the populations they are studying. Further, fieldworkers may be reluctant to endure the arduous conditions of privation and discomfort in rural areas.

Despite all these difficulties, the potential for the survey is great, simply because it can provide solid information in less time and for fewer resources. Moreover, we can improve managerial control over the population units studied (i.e., improve definitions and selection procedures). We also can improve our control over fieldworker training, motivation and supervision.

## C. MICROSTUDIES

Microstudy is a term that covers field investigations undertaken on a small or unique scale. The basic reason for undertaking microstudies is to secure in-depth, detailed information on a smaller number of population units. Studies of this sort yield information that, in most cases, can only be used to characterize the units examined. The units in microstudies can be individuals or groups such as villages, religious sects, voluntary associations, etc. Any type of group can be examined using microstudy approaches as long as it is small enough to be manageable. Community studies and case studies are the two best known types of microstudies.

Community and case studies were the basis of much of our information about developing countries long before the survey came into vogue. Planners and managers of data collection efforts are now "rediscovering" the value of microstudies prior to and as a basis for planning surveys. The kind of intensive, below-the-surface detail revealed by the microstudy cannot easily be obtained through a survey.

## 1. Types of Microstudies

Community studies, which examine villages or neighborhoods, try to describe for one community the basic social, economic and political processes that uniquely distinguish it. Such studies focus on community traditions, beliefs, codes of conduct, class divisions, social institutions, occupational activities, male and female roles, means of social control, generational transmission, etc. The purpose of this research is to understand in relatively great depth the "whole" of a social organism, its parts and their interrelationships, in order to explain the how and why of unique patterns of thought, belief, and behavior in the community.

Community studies create minimal disruption of the natural setting. Often they take the form of an anthropological examination of a single community. The research is conducted using techniques that are unobtrusive, i.e., observation, informal interviewing, and personal diaries and other records.

Information generated through community studies can help us to determine whether our project is likely to be viewed positively by community residents and whether they are likely to become involved and use the goods and/or services it produces. Information of this sort is critical for planning decisions, particularly when a novel intervention is being considered. Community studies can also provide information about the ways in which community residents address specific problems, such as a limited water supply, lack of storage facilities, etc. When we know what members of the community are already doing, we may be able to support their initiative rather than introduce a new, and potentially competing, solution.

Case studies, like community studies, are intensive. We can develop a case study of an individual, an industry, a farm, a classroom or a wide variety of other situations. Case material can be developed either for a single point in time or it can be longitudinal and focused on an exmination of how, when and why the unit we are examining changes. Many case studies attempt to be before-during-and-after witnesses to the process of change. They can provide rich insight into the processes by which development projects, business and other case units operate, fail, succeed, etc.

Case studies generally do not collect information in as structured a way as is needed for rigorous comparisons. They do, however, allow us to gain insight about the process of change. For instance, we may study what is believed to be a "typical" example of an area or people of interest. This is one of the best ways to gain information concerning the variables in a situation both at the beginning of projects and following implementation. It is a relatively direct way of gaining this

type of information. Case studies, in which interviews are used and in which the questions are asked in a manner that allows the person being interviewed to respond freely, can be an effective way of identifying what people think are important factors (variables) in a situation.

Virtually any approach to learning about a situation which does not presume that we already know all the factors that are important can be used to gain information on variables, or to develop hypotheses about cause and effect. Case studies of unusual or extreme cases, e.g., remote populations, educated populations, etc., can be undertaken and compared with our "typical" case in order to clarify the types of relationships that might exist between the variables. Such studies can often be done early in the planning process, before our project design has fully crystalized.

Another important use of either type of microstudy is in conjunction with survey research, either to facilitate our sampling process or to strenghthen our ability to interpret survey data properly. A related use is to develop and refine the qu stions that will be used in surveys and to improve the measurement of concepts by learning how best to measure them in specific situations. For example, a microstudy might indicate that several measures of land holding and personal assets are necessary to assess wealth, that young married women are willing to talk privately with female interviewers about family planning practices, and so on.

Microstudies have a variety of other purposes. They are often used as a training ground for fieldworkers who are to be employed in long-term projects. They can be a training ground for foreign researchers as well, enabling them to better understand the nature of the populations they hope to study.

2. Microstudy Information

A microstudy usually focuses information on only a few units. Microstudy data describe only the units studied. This data cannot normally be used to estimate the characteristics of larger populations.

On the other hand, of the field approaches described here, the microstudy has perhaps the greatest capacity for producing highly valid information. Immersion in the group and unobtrusive, intimate observation help the researcher to understand which variables are important to measure and how to measure them properly. The microstudy can examine complex relationships over a period of time and at a level of detail not possible with a census or survey.

The reliability of microinformation tends to be unknown. Only rarely do we do follow up microstudies for the purpose of checking data reliability. This is because our purposes in undertaking microstudies typically do not require it. Instead, we convert the original insights into a more general hypothesis for later testing. This is not a check of reliability, but it is an efficient use of microstudy information.

Microstudies can collect a lot of information. Their emphasis is on getting information, not on the methods of collection. Compared with census and survey data, microstudies yield information that is more qualitative than quantitative. Such studies are typically carried out early in the research process, specifically because little is known about the study population.

Finally, microinformation is usually unstructured. It is gained through observation, informal (unstructured or semistructured) interviews, diaries and reconstruction of events and occurrences or from key informants speaking on behalf of the group. Interpretation of the data may be as personalized and impressionistic as the means of collection.

3. Limitations of Microstudies

Microstudies do not provide information that can be used to characterize a population. They provide in-depth information, but only for a few units (usually small intact groups). They may cost less than other types of studies; however, they tend to require significant investments of time and competent staff.

Immersion and participation in the study culture have obvious implications for the information collected. On the one hand, intimate familiarity with the people and conditions under study overcomes many problems associated with self-reporting. As community members come to accept and trust the presence of the researcher, they begin to give truthful and useful information. On the other hand, as the researcher becomes more deeply embedded in the structure and activities of the local culture, recorded observations can become less objective.

## D. RECORDKEEPING AND OTHER DATA GENERATING APPROACHES

In the preceeding pages three well known approaches for gathering data have been examined. They are the main approaches used by most social science researchers. However, they are not the only strategies for generating the information we need to make project decisions. Too often we select an approach because it is popular and without examining whether other less well known or simpler approaches apply in our situation.



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## 1. Recordkeeping

Most literate populations keep records, even when there is no audience for those records. Throughout time and across cultures people have kept diaries and journals that record much of the same data we seek in case and community studies. When a new stimulus is introduced in a community, individual records often note the change and its impact on the community. Similarly, the personnel who work on our projects tend to keep notes and journals that are not required as well as the formal records we do require. Recordkeeping approaches for generating data harness this impulse to secure information for project decisionmaking.

Recordkeeping approaches are those systems we establish for the purpose of gathering facts and commentary about subjects of interest. They differ from records maintained for other reasons, such as bank, hospital and business records. The existing records of these institutions can provide us with information, as was suggested in Chapter One. They exist independent of our project. Recordkeeping systems that we institute, as an approach to gathering data, do not pre-exist. Unless we bring these records into being they will not provide information for our decisionmaking process.

One of the simplest recordkeeping approaches is the formal journal. It is frequently used in studies of agricultural practice. Farm journals record detailed information about an individual farm. Normally this record is kept by the owner or primary farmer. When farm journals are kept in quite similar ways by a large, perhaps even representative number of farms in a project area, they can be a useful source of information. They will provide more detailed information than we could afford to "buy" using research teams. The standardization of such records should allow us to aggregate findings. If a probability sampling procedure was used to select participating farms we may be able to generalize our findings to all of the farms in the area.

Often members of the target group will participate in recordkeeping efforts, particularly if the information they record will help them as well as the researcher. The possibilities for this type of data recording are limitless, e.g., timebudgets, consumption behavior, frequency of contacts with specific types of individuals, use of latrine facilities, treatments given to livestock, etc. Needless to say, these procedures must be accompanied by initial instruction and periodic checking if acceptable levels of data quality are to be assured.

A second natural source of information is the required reports familiar to every project officer, contractor, and ministry staff member. These project documents are often developed in a pro forma manner. Alternatively they can be a "dumping ground"

for a variety of facts, feelings, observations and impressions. These existing documentary requirements can, with some effort, be transformed into a rich data source. Usually what is required is the introduction of a format that helps the report writer systematically, rather than randomly, bring forth data that range from hard evidence to the subjective. When a change in approach to everyday reporting is sought, we need to share with those who generate the reports our reason for adding structure to their process.

In some situations there will only be a single, perhaps weekly or quarterly report that could become a data source. In other situations there may be many reports which record facts about different parts of our project area or different subgroups. The field visit reports of sanitary inspectors, extension agents, village medical workers, etc., can potentially become useful resources. If examined, for a period of a year or more, they may provide us with the equivalent of case study or survey data, though not normally for representative samples of our population.

Finally, we should consider the other factual records we keep in projects. Often we simply forget to look at these data. Some of the records of a project, such as ledgers, inventories, etc., can be analyzed to supply us with needed information. It is often suprising to find, when we examine these data, that we have in fact created perfectly good data collection formats, procedures that are easy to use, and data that can be readily aggregated. When our project designs are experimental or quasi-experimental in nature, as discussed in Chapter Three, these project records are the equivalent of a scientist's laboratory notebook. They can help us understand the processes operating in our "experimental" and "control" situations. They also provide a documentary record for others who might wish to examine the applicability of our project approach for another area.

2. Informants and Group Process Approaches

Not all of the information we need for decisionmaking is objective, in the strictest sense. We often seek data on attitudes, beliefs, recollections, reactions, and the like. This data is technically subjective, i.e., we do not have direct access to it and must rely on the testimony of others. While subjective opinion should not be confused with objective facts, it need not be ignored. Sometimes the data we need for a specific decision will include another person's opinion, judgment, impression or idea. We can secure information on attitudes and opinions in many ways, including surveys, and case studies, informants or group process approaches.

a. Informants

An informant is any person or group from whom we secure data. Technically, everyone who gives us data is an informant. Generally, however, we restrict the use of this term, in the social sciences, to a limited number of data gathering strategies, including: securing data from experts or individuals who hold special positions in a community.

Expert informants are of many types. We select them from technical, cultural, language, religious, and other specialized domains. The data we seek from these individuals may be data about their area of expertise, about how the target population can be understood and helped or about how our planned intervention can be made to "fit" better in a poor community. We seek information from these individuals because they have special, sometimes unique, insights or experience.

The degree of expertise we seek varies. When we visit a strange place, anyone who lives there is an expert compared to us. In the early stages of an anthropological investigation we might accept the first volunteer as our "local expert." Later, however, after we ourselves develop familiarity with a situation or subject area, we tend to gravitate toward those who are truly expert in the dimension of interest.

It is often difficult to be specific about what we expect from an expert informant. We want him to illuminate a subject or situation for us, but it is his subject and he knows what is important. Thus, we tend to place the burden of defining what we need to know, in part, on our expert. When we gather information from an expert informant we acquire not only a set of facts or opinions, we also acquire his classification system, his way of ranking the importance of various community or technical factors, etc. In effect, we are accepting the informant's biases along with his data. This is not a problem in and of itself. However, we must not state as objective fact what was offered as opinion or judgment.

Sociometric informants are those we select because of their position in a community or because of a special relationship they have with something or someone that interests us. Informants in this category are usually members of the study population. Because of their position in the community, they are presumed to have special insights and an understanding of local situations, processes, power structures and problems. Sometimes we select a series of informants in order to gain data about several aspects of a problem or on several levels in a hierarchy or other social network. The data these individuals provide may not be particularly insightful and it is not likely to be analytical, i.e., organized in well reasoned categories. In seeking information from these informants we can accomplish

two things: we are likely to secure the data we seek and, further, we may be able to secure the cooperation of others in the community as a result of our relationships with these informants.

Most case studies and community studies incorporate informants into their data gathering approach. However, there is no reason why we should not develop informant relationships even when formal studies are not being conducted. As long as we accept the limitations of the data we secure from our informants, we can seek their opinions and access to their knowledge at any time.

As managers we tend to have a series of contacts which might be considered informants -- a counterpart in another organization, someone inside the government ministry with which we share project responsibilities, someone at our headquarters office. Once we understand the simplicity of the informant approach, we might consider extending our own informant networks, e.g., getting to know one of the residents in our project area, one of the extension agents who works with our target group, one of the provincial engineers who periodically assesses water levels, soil conditions, etc.

When we have well developed networks of informants, we tend to get a lot of information and often we learn things quickly which might otherwise take months to find out. Of course, we cannot accept informant data as a final answer to most questions. We can, however, use this type of information as a trigger that suggests when and where we should be seeking additional and perhaps more structured or representative data.

b. Group Process Approaches

We have all picked up information at one time or another simply by listening to the interactions of a group. Group process approaches for generating data capitalize on this fact. They are formal approaches for stimulating and directing discussions, or other forms of group interaction, so that data can be generated and captured. As in the case of informants, the data we generate using group process approaches ranges from objective fact to opinion. The problems of bias that exist with individual informants also exist with groups, particularly since we tend to use the same types of individuals in both instances.

Group processes take advantage of the natural or early interactions of some members of a group to stimulate quieter group members. These approaches attempt to generate new information through a process that involves all of the members of a group in a shared effort. For example, "brainstorming" is the term for a process that seeks to generate new ideas and alternative solutions to existing problems. The "Delphi Technique," another group process approach, is used to bring experts to a consensus.

There are only a few basic types of group process approaches, although these are given many different names. The point of all these approaches is that people in groups tend to stimulate each other and that stimulation is a potential facilitator for information transfer and the generation of new information. While we should probably not consider using group approaches as our only data collection strategy, these process approaches can have a great deal of value when we try to decide how a problem might be solved, try to interpret survey data or simply seek to gain access to the collective wisdom of a set of experts.

# PART THREE

## PROCEDURES AND TECHNIQUES

## SELECTING UNITS TO STUDY

Development projects often serve relatively large populations. It is not unusual to find that an agricultural or health services project addresses the needs of several hundred farms or several thousand individuals. As managers, we occasionally need information that will help us reach conclusions about such a project population. Yet it is neither practical nor economical to collect data about each and every member, or unit, of a large population. Instead, as suggested in Chapter Four, we often gather information about some portion, a sample, of the population we wish to describe.

The process of selecting units of a population for study is called sampling. Sampling approaches cluster into two basic types. Probability sampling allows us to use the data we gather on a sample to characterize a whole population. Purposive sampling is useful when we need data about a special portion of a population, e.g., the "best" farmers, or when we simply want to get a rough idea of how a population is responding to our project efforts. When we understand how samples are drawn and how this affects our ability to make general statements, we are better able to evaluate information we already have and to make appropriate choices when we plan new data collection efforts.

There are four aspects of the sampling process that require our attention in most studies:

- Definition of the study population and clear identification of the units of that population.
- Selection of a sampling approach -- or combination of approaches.
- Where needed, construction of a sample frame -- a method of ordering population units so that our sampling approach can be applied.
- Application of the chosen sampling approach.

## A. DEFINING POPULATIONS AND THEIR UNITS

In most development projects, we think of our target population as including some segment of the poverty community -- small farmers, the malnourished, poor urban dwellers, the marginally employed and the like.

In our discussions we often speak as if we knew with equal precision what we mean by each of these terms. The fact is that our terms are often ambiguous. It is not an easy task to locate individuals who are marginally employed, unless we first refine our definition and develop criteria that help us to identify members of that population. When we are planning to sample a population, we need to describe our study population and its units in a clear and unambiguous way. Even when our definitions are clear, it is often a good idea to secure the assistance of local informants when we try to find the units of the population we want to study.

One of the problems we face in deciding how to secure the information we want is identifying what population can supply the information. Populations are often socially defined. In our own culture it might be appropriate to study the employed population to determine income levels. In another culture it might be totally inappropriate to study individuals. It might, however, be perfectly correct to seek data on family income from the eldest male in an extended family. Further, social relationships and practices may determine how physical units, such as farms, are defined. We need to understand the social landscape in order to determine what populations are relevant to study and what approaches for selecting a sample and gathering data are feasible.

Most cultures in which we undertake development projects have already been examined by social scientists. Their reports can normally be found in local libraries or through the various donor organizations. These documents, together with the observations of people who have worked in the area, can provide us with the type of background information we need to define our study population and develop criteria for identifying population units. When background information of this sort is not available, it may be necessary to undertake a limited investigation of the social situation before trying to carry out a sample survey or case studies that depend on the selection of representative villages, families or farms.

## B. SELECTING A SAMPLING APPROACH

The important fact for a manager to recognize is that the choice of a sampling approach depends largely on why we want data and what we hope to do with it. Both probability and purposive samples have a place in the data gathering plans for many

projects. For example, a probability sample of all households might be appropriate for establishing baseline data on nutritional status and for remeasuring the population's status on nutrition indicators after a project is implemented. A purposive sample, on the other hand, might be an appropriate way to gather data about early adopters of fertilizer. In the first case we could expect to characterize all households with our sample data; in the second, we could only expect to reach conclusions about the set of early adopters we actually interviewed. Both types of information would be resources for the decisionmakers in a project, but they would be different kinds of resources. The major differences between these two approaches are described below.

## 1. Probability Samples

Four methods of selecting probability samples are used with some frequency -- either singly or in combination -- in studies of human and nonhuman populations. They are: random sampling, sequential (or systematic) sampling, stratified sampling and cluster sampling. Each method makes different assumptions about our a priori knowledge of the population and about the mathematical chance that individual population units will be selected. In order to choose among these methods, the manager must consider the population he or she wants to study, why it is being studied and the requirements of each method concerning our knowledge about the population.

### a. Random Sampling

A random sample gives each unit of a population an equal chance of being selected. Other probability sampling methods assign a known positive chance of selection to each unit, although the chances of selection using other sampling methods are not necessarily equal.

In order to select a random sample of a population, either directly (from among all families in the project area) or indirectly (through clusters such as census tracts), we need a list of each of the units from which we will draw a sample. Each unit must appear only once on the list and every unit must be included. The knowledge we require about the population to be sampled is minimal. We need only to be able to list all the units. In reality, the lists we need often do not exist or are out of date. Creating lists of the units to be sampled can be difficult and expensive. Thus, if we do not have a list of these units readily available, or cannot afford the time and money required to create a comprehensive list, other sampling methods should be considered.

When and if we have a satisfactory list of the units to be sampled, a random selection can be made. While any random

method would serve this purpose, e.g., placing all numbers in a hat and drawing them blindfolded. most social scientists use a table of random numbers in making their sample selections. These tables are found at the back of most statistics as well as many other social science texts. The tables contain random arrangements of numbers, e.g., 1 to 100 or 1 to 1,000. The researcher picks the first number on the table randomly, and then follows some systematic pattern, e.g., first taking all numbers to the right and then moving left, then right, on succeeding rows The numbers he selects by this method correspond to numbers given to the units on his list. The sample, then, is the set of units whose assigned numbers correspond to the numbers that have been randomly selected.

b. Sequential (or Systematic) Sampling

A sequential sample, like a random sample, depends on the existence of a list of the units to be sampled. For a sequential sample, the researcher selects the initial unit randomly. Subsequent selections are made by moving up, or down, the list and systematically selecting every nth unit.

Sequential sampling can save time since we proceed without numbering all units on the list and without consulting a table of random numbers or some other randomizing device (except in choosing the first unit).

When we know that the list we are using is randomly ordered -- that there are no groupings by family, or position or weight, etc., in the list, the results with the sequential sampling method will be equivalent to those produced with random sampling. However, when our list is known to be ordered, or when we are not sure whether it is ordered, a serious bias may be introduced if sequential sampling is used.

c. Stratified Sampling

In a stratified sample we first divide the population into subgroups, or strata. However. the simple fact that such divisions can be made is not an adequate reason to stratify. For example, since we know that human populations tend to divide into groups of men and women that are of almost equal size we would learn little from such a stratification. Further, we would probably increase the cost of the study by subsampling these groups. A random or systematic sample of the population would be less cumbersome and would yield the same proportions by sex group.

Sometimes we have a situation where a population can be divided into subgroups that are expected to differ in some dimension that is important to our study, e.g., occupation, income level, etc. We may find that by using strata we will be able to select a smaller total sample to secure our study data than would be

possible with other sampling approaches. However, even when stratification appears to be appropriate, we may find that it is not practical. That is, we might need a great deal of information we do not have about the population to make the actual division into subgroups.

When we decide to stratify and can do so with a reasonable level of effort, the normal procedure is then to use either a random or systematic sampling procedure to select units from each stratum.

d. Cluster Sampling

Cluster sampling, like stratified sampling, uses groups to facilitate the selection of an appropriate sample. However, the groupings used in cluster sampling differ in important ways.

First, in cluster sampling we are normally sampling units of one population in order to examine the members of a different population. The clusters are a way of grouping the population we will actually study. For instance, if we were interested in examining urban households we might use city blocks to group, or cluster, these households. By sampling blocks, and examining the households within sample blocks, we would realize economies of two types: (a) we would not have to enumerate all households in order to draw a sample and (b) we would minimize our travel costs by concentrating our study of households in a limited number of areas within the city.

Secondly, it is important for the units of our study population to be heterogeneous within any single cluster. Ideally, much of the variability in our study population will be present in each cluster. This internal heterogeneity is critical if we are trying to use cluster sampling to secure a representative sample of our study population at minimum cost. The less internal heterogeneity the clusters have, the more clusters we must select to achieve the same degree of representativeness. Clusters, then, are quite different from strata. In stratified sampling we want the groups to be homogeneous with regard to the stratifying criteria.

Cluster sampling has important advantages when we do not have, or cannot easily secure, lists of the members of the population we want to study. Area clusters which can be created in several ways allow us to avoid the task of enumerating an entire population. By sampling clusters first, we reduce the enumeration task to one of identifying only those study population units that fall within the clusters we have selected.

2. Purposive Samples

Purposive samples are those we select using judgmental criteria. If we deliberately pick units of a population to study, or

if we accept volunteers as a sample, we are employing purposive sampling approaches. The basic limitation we face with such samples is that we do not know whether, or to what degree, the sample is representative of the population from which it was drawn. There is no mathematical theory that stipulates the chance (equal or unequal) that our individual units have of being selected. Thus, we cannot use statistical inference to generalize our findings from a purposive sample to a larger population.

In the following paragraphs several types of purposive samples are discussed. As the reader will note, alternative labels are given to some of these procedures. The language of purposive sampling is not as formal, or agreed upon, as is the language of probability sampling. Thus the descriptions provide more guidance than do the labels.

Accidental or haphazard sampling describes those nonprobability samples that in effect choose themselves. Samples that include volunteers or chunk samples, e.g., the first ten people the researcher finds at the market, fall within this category. Generally we know very little about the units we have included in such samples and hence we know virtually nothing about how well they represent the populations from which they come.

Homogeneous purposive samples include a group of approaches that are used when we want to examine unusual units of a population. The units we try to sample using these approaches are usually atypical in one of two ways: (a) the units are extreme cases along some spectrum, e.g., those units that are extremely high or low in intelligence, productivity, income, etc., or (b) the units are rare events, cases that occur infrequently, e.g., the members of small minority populations, families with twins, etc. When we want to examine these types of population subgroups, purposive sampling is often quite appropriate. Probability samples might either miss these unusual units or represent them in such small numbers that we would have difficulty drawing conclusions about the subgroup. To increase the utility of the data we gather about such subgroups, we might purposively sample to find these unusual units and then use a probability sampling approach to select sample units we will actually examine.

Heterogeneous purposive samples describe approaches that attempt to achieve representativeness using judgmental rather than mathematical criteria. Quota samples are one example of this type of approach. In a quota sample a researcher uses information about the population to determine how different types of units are apportioned in that population. These proportions become his quotas. He then attempts to pick individual units that fit his descriptions and quotas, e.g., 12% employed women, 88% employed men. Other approaches to selecting representative purposive samples include efforts to locate units with a

specific characteristic whenever they occur. As one example, an effort to represent "early adopters of innovation" might draw a sample that included progressive farmers, businessmen, teachers, etc.

A final type of purposive sample, which in practice may be coupled with one of the previously noted types, is the structural sample. Here units are selected because of a specific relationship they have to other units in a population. Samples of leaders and experts fall into this category, as do samples that are created by working through existing social networks, e.g., identifying one sample unit and then asking that individual to identify other individuals, usually according to some criteria. When farmers are asked to identify others who use the same techniques for farming, or when "experts" are asked to identify units that are typical of some population, a structural sampling approach is being employed.

As a data gathering technique, purposive sampling is particularly useful when we want data on unusual groups within a larger population. The data we gather with these methods can be used to draw conclusions about the units we have studied. However, we cannot use or accept data from a purposive sample to reach conclusions about a larger population. As managers, we need to be able to identify and avoid situations in which an attempt is being made to use purposive sample data as if it were representative, i.e., equivalent to probability sample data.

## C. SAMPLE FRAMES

Sample frames are ways of organizing a study population so that the probability or purposive sampling approach we have selected can be applied. All types of probability samples, and a number of the purposive samples discussed above can only be applied when we are able to identify population units or clusters of units. Two types of frameworks are used with some regularity to organize study populations so that sampling procedures can be applied. These are: list frames and area frames.

A list frame is an enumeration of all of the units of the population we wish to sample, e.g., all of the farms in a province, all of the households that have electricity. For a list frame to be adequate it must be comprehensive and up-to-date. No unit may be listed more than once, and none can be left out. If a list frame is to have practical value, the units must be clearly demarcated, i.e., fieldworkers must be able to identify the units we have selected when they go to collect data.

For many of the populations we wish to examine, listings of units do not exist. In some areas there is no recent, high quality, census listing of families and perhaps no list at all

of who owns which hectares, or cattle, or of the patients who use the health clinic. Where lists do not exist we have two options: either create a list or use an alternative framework for ordering the population.

The most commonly used alternative framework is an area frame, a geographic arrangement of our populations, that can be used as the basis for sampling. Area frames can be developed in a number of ways, including dividing maps into sections, urban areas into blocks, etc. In most situations area frames are clusters of the population units we want to sample, and we apply the rules for cluster sampling in their development and use. Area frames, which are frequently used in studies of agricultural practices and productivity in the U.S., have proven extremely useful in the developing countries -- where existing lists are often inadequate and new lists are expensive to develop.

Area frames, like list frames, must cover the entire population of interest. All population units must fall into one and only one area segment and the boundaries of area segments must be recognizable on the ground, e.g., roads, large structures, etc. These make the type of boundaries that fieldworkers can find and use to tell, for example, which farms are in one or another area segment.

Once we have created a list, or used geographic segments to cluster population units, we can follow the procedures required to select the sample units we will actually examine.

## D. APPLYING SAMPLING APPROACHES

Once we have selected our basic sampling approach(es) and constructed a sample frame, we have the basis for addressing several issues that can affect the quality of our sample and the data it yields. While these issues are normally considered critical for probability samples, they should not be ignored completely when purposive samples are to be used.

The two main factors that can affect the quality of sample data are: errors which stem from the fact that samples differ from each other and from the populations from which they are drawn, i.e., sampling error, and mistakes we make in carrying out our efforts to secure data from a sample, i.e., human or nonsampling errors. Either type of error can ruin our data. In taking steps to minimize error we need to take a balanced approach. There is no point in working very hard to reduce sampling error and then pay no attention to nonsampling errors -- our fieldworker mistakes can distort the data despite all the efforts we make to reduce our sampling error, and vice versa.

## 1. Sampling Error and Sample Size

There is no single right answer to the question of how large a sample should be. Our confidence about the degree to which a sample represents the population from which it was drawn is largely a function of its absolute size. In determining what size sample we need we must consider both the degree of confidence we want, i.e., how minimal a sampling error, and the level of detail we will need to analyze our data. The size of the population from which we will select sample units is of secondary importance in our decision.

While it may at first seem counter-intuitive, managers should be aware of the fact that we can achieve the same level of confidence with roughly similar sample sizes in situations where our study populations differ dramatically in size, e.g., with populations of 10,000 and 100,000. We can often reach a 90%+ level of confidence that the expected result (the result we would have gotten by taking a census) lies within a specifiable range with relatively small samples, i.e., 40 to 50 observations. We may, however, need to add a large number of observations to reach a 98% or 99% level of confidence in the accuracy of our sample data. Since we know that social science research tends to be plagued by nonsampling errors that distort the data, many social scientists are satisfied with a 90%+ level of confidence when it is coupled with a significant effort to control for human errors. This contrasts with the practice in such fields as engineering, where nonsampling errors are minimal, and the additional investment required to achieve a 98% or 99% confidence level is often made.

A second key factor to consider in determining the size of a sample is the type of analyses that are to be performed. We often need a minimum of 30-35 observations for each detailed data item of interest to us, especially if comparative tests of statistical difference are to be made between two subgroups of the total population.

## 2. Nonsampling Errors

Nonsampling errors are errors of measurement and human errors in judgment committed in the course of our data collection efforts, e.g., as we attempt to follow procedures, transcribe data, etc. Their effects can seriously distort the results of a well conceived study. Errors of this type are common to both probability and purposive sampling efforts.

The catalogue of potential nonsampling errors is too long to list here. Instead, we may summarize by saying they can cover a

wide range of problems, including such things as interviewing errors committed by not using the correct wording or leading the respondent, respondent errors caused by misunderstandings or memory failure, conceptual errors caused by poorly designed or ambiguous questions, or processing errors such as coding or keypunching mistakes. Suffice it to say that the best antidote is adequate pretesting of our instruments and all procedures coupled with a rigorous training program that gives fieldworkers practice with each procedure they must follow.

An additional safeguard against nonsampling errors is careful field supervision of a data collection effort. If there is a supervisor on hand, data collection teams will be less likely to guess when they are in doubt or attempt to find shortcuts in the procedures. A clearly written set of instructions for the fieldworkers is also a must.

# DATA COLLECTION TECHNIQUES

A study approach is the overall fieldwork strategy for conducting a study. Methods or techniques for securing data from a study population are the specific tactics of that strategy. The approaches we use in field studies -- sample surveys, case studies and the like -- rely heavily on three basic techniques for acquiring data: direct measurement, observation and interrogation (usually interview) methods. Often a field study plan will employ more than one of these techniques. For example, in a study of the nutritional status of a target population we might conduct a sample survey in which we collect both interview data and direct measurements of height and weight from our sample.

In this chapter the basic techniques of gathering data from a study population are considered. Both direct measurement and observational methods can be used to secure data from human and other populations. Interrogation methods are, of course, relevant only for the study of human populations.

## A. DIRECT MEASUREMENT METHODS

Direct measures tend to be physical measures. Normally we utilize some type of measurement device in collecting our data, e.g., thermometers, weight scales, surveying equipment and the like. Measurements of this sort are recorded in standard units that have been devised to isolate differences along some spectrum or dimension of interest. For the most part, the measurement systems and standard units we use with these techniques already exist, i.e., we use conventional ways of measuring distance, temperature, etc. When we do create our own categories and measurement scales it tends to increase the complexity and length of our studies. New measurement techniques generally need to be pretested to determine their validity and reliability.

Well calibrated direct measurement methods will usually provide highly accurate data. The procedures used in making these

measurements, whether simple or complex, tend to be standardized. Thus the fieldworker is not required to use judgment, in any great measure, in the data collection effort. In most situations, the data collected using direct measures of population characteristics are freer from bias due to fieldworker or study subject preconceptions than is the case when observational or interview methods are used. Data on the bacteriological properties of well water in a rural village should be the same whether collected by a stranger or village resident. The degree to which data collected by direct measurement are free from human error is primarily a function of how well we have trained those who will apply the measurement procedures.

When we use direct measures it is usually difficult to avoid having others know that we are collecting data. The equipment we use to test water quality, weigh children and make other direct measurements is obvious. Some of these devices may be unfamiliar to residents of the areas where we carry out our studies. Explanation of what the instrument does and does not do may be needed before we can begin to collect data. Regardless of whether these techniques are obtrusive or not, the data they yield tend to be consistent. The number of meters, degrees, cubic feet or kilometers that describe a specific study unit will be the same irrespective of what people know or think about the fact that we are collecting data.

There are a number of types of project-related data that are best collected using direct measures. Maps that display physical distances, medical measurements and environmental measures are often required by project decisionmakers. Further, direct measures sometimes give us a way to validate the data we collect using other techniques, e.g., whether people are undernourished, whether the rainfall and soil conditions in the project area are adequate to support specific forms of vegetation, etc.

Mapping efforts that determine the size of an area, the way it is divided, its resources, population concentrations and the like provide basic information for project decisionmaking. Such efforts can cover more than simple physical relationships. We can use direct measures to determine not only how far a barrio lies from the closest health center but also the travel time involved in reaching the center, given the condition of local roads and vehicles.

In the clinical setting we often use direct measurement techniques to detect pregnancy, identify the cause of a disease, determine blood counts, weight, height, etc. These measures, together with data on the incidence of specific diseases, help us determine the current health and nutritional status of a target population as well as plan appropriate interventions. Similarly, data on the quality of water, soil and the degree of rainfall, sun, etc., in an area are most efficiently gathered

using the direct measurement devices that have been created for this purpose.

The main drawbacks to using direct measurement in project data collection efforts are of two sorts. The complexity, cost and training requirements associated with a particular direct measurement technique may make its use inappropriate. Or, use of a direct measurement technique may not be acceptable for social or cultural reasons. In this later category, study planners need to consider whether the measurement techniques they might use are familiar and unlikely to produce fear or other negative reactions among the population in the study area.

## B. OBSERVATIONAL METHODS

Observational methods rely on the ability of the observer to perceive facts, patterns and relationships. Observation, as a technique for collecting data, can be undertaken in either a participatory or a nonparticipatory manner. It can be used to collect either quantitative or qualitative data. What is more important, perhaps, is the fact that observation is an inadvertent part of virtually all our data collection efforts. When we collect direct measures of population characteristics, we still rely on an individual to use our measurement scales and observe what the instruments record about weight, acidity, and the like. When we interview we cannot help but notice the facial expressions of those with whom we talk and the physical surroundings in which our study is taking place. Since observation is always a part of our field studies, we should have a conscious plan for capturing this type of data and adding it to the other material we have collected.

Observation tends to be a reasonably unobtrusive method of collecting data. In contrast to interview methods and direct measurement techniques, we can usually make a series of observations without calling attention to the fact that we are collecting data. This feature of observational methods gives us an advantage in situations where we are concerned about reactive effects. These are distortions in the study data that can be introduced when study subjects are overly conscious of the fact that they are being studied, already familiar with the data collection instruments and procedures, etc.

Observational methods are also appropriate when we expect that memory, or our respondent's lack of skill in using measurement concepts, will distort the study data. For example, the question: How much rice does this family have? might better be answered by looking at the pile of rice in the shed than by asking individuals who do not know the metric system to respond in numbers of kilos. Aerial photography, another observational technique, can be used to count cattle, estimate the percentage

of land under cultivation, etc., when it is expected that interview data would give us misleading answers.

The most common forms of observation as a method of data collection are the classic participant-observer techniques used by anthropologists and a range of nonparticipatory methods used with some frequency in medical and educational settings.

1. Participant Observation

The participant-observer lives and works as a member of the social unit under study, attempting to achieve rapport and deep insight into the community process. While it is true that such outsiders can never entirely come to live, think and feel as the village farmer, if we are studying village farmers there is much to recommend living among them in order to come as close to that ideal as possible.

Participant observation is the way most anthropologists have collected their data since the pioneering work of Bronislaw Malinowski in the Trobriand Islands just after World War I. Anthropological fieldwork begins with a period of sustained immersion in the culture. The anthropologist "joins" the community for a period of months to years. The anthropologist learns the language, lives as a member of the community and records data from the perspective of a participant. Familiarity with the language, with seasonal activities and with the nature of community affairs makes it possible for him to secure intimate details about the local practices, motivations, and attitudes.

The anthropological fieldworker normally identifies and works with local informants who provide him with data. The researcher tries to select informants who are representative of the social milieu. Usually, anthropologists will try to have a number of informants of the same sex, similar socioeconomic status, similar age, etc. Ideally, one informant's reports can be checked against those of another.

The strength of this method lies in the fact that it can produce high quality, meaningful data. The anthropologist not only records observations, he also provides the background material that may explain these observations, e.g., material that helps us understand why production is low, or why certain people use the health clinic while others ignore it.

There are several major drawbacks to the selection of participant observation as a data collection method for project-related research. First, the initial investment of time in participant-observation studies is often quite high. However, these costs can usually be amortized over a fairly long period. The anthropologists who undertake these studies inevitably develop a

reservoir of experiences that can be tapped to answer questions about the field site well after the observation period has terminated. Secondly, the method depends on the skill and objectivity of individuals. Personal biases and individual limitations can easily affect the quality of the data. Further, there may be situations in which participant-observers of one sex or the other may have difficulty gaining access to some types of data, e.g., birth control practices. Such difficulties may arise just as easily for other reasons, e.g., a young data collector might not be able to gather much information about the decision process used by the village elders. The potential effects of personal biases and other aspects of the interaction between the participant observer and the study population need to be examined carefully. This should occur early in the study period, when corrective action can be taken.

2. Nonparticipant Observation

Nonparticipant observation subsumes a variety of techniques that, like participant observation, rely on the ability of an observer to notice and record patterns, relationships and the like. Unlike participant observation, techniques in this category do not require that the fieldworker merge himself with the subject of his study. Nonparticipant observation methods can be used to gather data from human and other populations.

The methods included in this category have some of the drawbacks noted for participant observation: they are susceptible to observer bias and the data they yield cannot always be verified in a cost-effective way. However, they do not necessarily involve an extended period of fieldwork, which gives them an advantage over participant observation when resources are a constraint.

We use nonparticipant methods whenever we observe populations of cattle, crops, textbooks, etc. When observation is used to examine these types of populations, we can often gather data on such characteristics as number, quality, utilization (of tools and other resources, such as irrigation water and fertilizer), "healthiness" and other attributes of interest. When we observe human populations in a nonparticipatory way, we tend to use one of three basic techniques: mass observation, institutional observation or clinical observation. Each of these methods is described briefly below:

- Mass Observation -- describes those situations where the observer watches and listens to individuals without becoming involved with them directly or taking part in their activities. Such observations might be made in markets, by the village well, at community meetings, etc. The objective of this type of observation is to

gain data on the individuals and their activities, including information on who participates, in what role, with which other individuals, etc.

- Institutional Observation -- describes observations made of individuals and groups in structured settings such as schools, clinics, government departments and other formal institutions. Again, the observer keeps interaction to a minimum and concentrates on watching and listening to the study subjects to gain data on their processes and relationships.

- Clinical Observation -- tends to include those observations we make of individuals and groups to determine how they are acting or reacting in response to a specific stimulus. The observations made by physicians and psychologists about individual behavior are often part of a process through which the source or type of illness is detected. Observations made under experimental conditions, e.g., through a mirror, also fall within this category. Clinical observations are not totally nonparticipatory, since the observer often has a relationship with the subjects he observes.

## C. INTERROGATION METHODS

When we seek to learn about the attitudes or past experiences of individuals, we must often depend upon interrogation methods for collecting data. Asking questions, either through interviews or questionnaires has become common prattice and something of an art form over the past several decades. It has become one of the main data collection techniques used in field research and it can be used to gather a wide variety of information.

One advantage of these methods is that they can often be used to gather data from a large population relatively quickly. When a census is conducted, interview techniques tend to be used for gathering data. Frequently we find that either interviews or questionnaires are the basic data collection mode in sample surveys. The asking of questions is also a basic technique for developing case study data.

Interviews and questionnaires are techniques with which many people are familiar. Thus, they tend to be accepted as appropriate methods by those who procure studies. This familiarity, however, may at times mislead us. Interrogation methods are not always appropriate and we need to ascertain whether their use will both secure the data we need and be acceptable in the study situation.

When we interrogate someone and ask him to tell us what we want to know, we are heavily dependent on his cooperation if we are

to obtain data for our study. The individual we interrogate must both understand what we are asking and be willing to give us the information we seek. We need to be fairly certain that this individual has no reason to give us false information. The people we question in our studies do not know us; often they come from cultures that dictate quite specifically the acceptable level and type of interactions with "strangers." When they do answer our questions, we need to test their answer against our sense of why they are talking to us at all, e.g., fear, desire to influence us, to be polite, etc.

A major weakness in many studies that use interviews and questionnaires is that they are frequently designed by people with no real understanding of the particular social context or the respondents. In a given community one must know what kinds of questions it is permissible to ask. Before designing an interview schedule or questionnaire we may need to know whether it is proper to ask, for example, what kind of education a man wants for his children. We need to know whether the people we question fear that giving honest answers will have negative consequences, e.g., cause their taxes to increase.

Any interrogation procedure relies on the testimony of respondents about themselves or about other facts with which they are familiar. Self-reporting is obtrusive. It probes areas that may make the subject uncomfortable. The data it yields can be influenced by other subjective factors as well: What the subject thinks of the fieldworker, what he thinks about being questioned, why he thinks he is being questioned and how he wants the researcher to view him.

The issue of data quality is further complicated by the need to achieve shared meanings between the data collection instrument and the person being examined through an interview or questionnaire. If the person being questioned does not understand the terms being used, or uses those terms in an entirely different way, or simply distrusts the measure, it will not apply. The validity of the data will be lost through evasion, misunderstanding or falsification.

The above two points underscore the fact that respondents must be able and willing to answer our questions. Our questions must take into account sociocultural as well as language differences. What this suggests is that the person who designs our interview schedule or questionnaire should know as much as possible about the social and economic background and status of the study subjects. Background information on what different tribal, age, sex and occupational groups will be involved is important for instrument design. Finally, this individual should be well acquainted with the language in which our questions will be asked and answered.

Expert advice is often needed when we contemplate using interviews or questionnaires. The experience and observations of these individuals can help us determine what types of questions can be asked and how they should be asked. It is also useful to know whether the type of instrument we are considering has been used before in the study area and with what success. Information on the respondents' familiarity with the techniques we are considering will help us to decide how much time fieldworkers need to spend in the area before beginning to collect data and what type of explanation should be provided about the interview or questionnaire purpose and procedure. Expert advice is also helpful in determining who should administer our study instrument. Yet even when the advice of experts is used, we, as managers, should require that the instruments be pretested before they are applied to the full study population.

A pretest is a small scale study carried out in advance of the main study. To the degree possible, the pretest conditions should approximate the full study conditions. A pretest is a "dress rehearsal" for the study instruments and procedures. The pretest should cover both the substantive and procedural aspects of the fieldwork, including the procedures for selecting sample units. The pretest period is the appropriate time to determine whether there are weaknesses in the wording of questions, in response categories, in the interview procedures for dealing with study subjects, in village preparation for the arrival of data collectors and in the logistics, budget estimates and other elements of the study plan.

The training of a field team should be separated from the pretest of the instruments. Sometimes we will pretest our instruments before we hire and train a field team. When this occurs we will need to create a practice situation that allows the field team to develop skills in using the instrument.

While advice from those familiar with the study situation will help, a number of other factors need to be considered in making staffing decisions when interviews and questionnaires are used. The claim is often made that studies which employ interviews and questionnaires can be carried out cheaply because relatively unskilled individuals can administer these instruments. Occasionally this is the case, but we cannot assume this adage will be true in our situation.

Different studies require different types of fieldworkers with different abilities. If local people are trained to administer our study instruments and their work proves unsatisfactory, it may be hard to dismiss them. When well educated fieldworkers are used we may find that there is resistance to spending long periods of time in what these individuals consider "backward" villages. In addition, the very fact of their education may create a social distance between them and the study subjects

which makes fieldwork difficult if not impossible. Thus, in each study we will need to consider various staffing options and weigh in our minds their advantages and disadvantages. If we find that we cannot reach a decision, because we simply do not know enough about what works best in our study environment, we should experiment with different types of fieldworkers and make our final decision after assessing the quality of data secured by alternative fieldwork candidates.

Once we know what type of fieldworkers we need, a profile and a job description should be prepared. These guidelines should be used in selecting the field team. While it may be difficult to recruit individuals who fit our profile, care needs to be taken to ensure that we do not deviate unintentionally from the criteria we have set, i.e., hiring people just because they are readily available may have unfavorable consequences.

The training we provide for fieldworkers must be geared to the successful achievement of our study objectives. Lectures are an inadequate method for preparing fieldworkers. What is needed is involvement and practice. The fieldworker needs to understand why we are asking certain questions. This can provide him with the information he needs to let the study director know, during a pretest period, that some questions are ambiguous or too difficult for the respondents. Practice also gives the fieldworker a chance to make and correct mistakes before the actual data collection period.

Field supervision is an extension of training and it is particularly important in studies where interviews are used and where some or all of the sampling procedures will be executed in the field. Supervisors need to be able to provide continuing in-service training as well as deal with problems of measurement and personalities. Data problems can sometimes be traced back to fieldworker confusion, dislocation or feelings of alienation in the study setting. Low morale can have a serious effect on data quality. The supervisor's role often turns out to be multi-dimensional, involving logistics, coaching, moral support and many other activities upon which the success of the effort depends.

As the preceding discussion suggests, two basic forms of interrogation are commonly used for gathering data within the framework of a sample survey, microstudy or other field data collection approach:

- Interview and other researcher-administered techniques.

- Respondent-administered techniques such as questionnaires and psychometric measurement techniques.

In the following paragraphs the various methods falling within each of these categories are briefly reviewed.

1. Researcher-Administered Techniques

Researcher-administered techniques include the range of ways we, as data collectors, orally question the subjects of our study to secure information. All the techniques in this category require the physical presence of the researcher. He is either with the respondent or he uses a telephone or some other device to establish contact and ask the study questions.

A variety of types of questions can be used in interviews. Open-ended interviews are those in which we ask only a few broad questions. In other interviews we may use a larger number of narrowly focused questions. The type of question used varies depending on what we are trying to learn. When we seek only confirmation concerning the presence or absence of specific resources, a history of past illnesses, etc., a set of narrow questions may be appropriate. However, when we know very little about the subject we are studying, broad, open-ended questions may provide better information. Occasionally, when a series of interviews will be conducted , we might begin with interviews that use broad questions and, over time, substitute more specific questions as we grow to understand the subject and context we are studying.

Below, we classify interviewing techniques by the degree of "structure" that each achieves for both questions and response categories. The two classes are nondirective and directive interviewing. We are mostly concerned with directive interviewing in development research.

a. Nondirective Interview Techniques

Nondirective and semidirective ways of interrogating study subjects are characterized by an absence of predetermined response categories. These methods allow the respondent to give us answers that may help us formulate, but will not help us reject hypotheses. Rather, they inform us about what is important to the respondent, what frame of reference he uses, what is true and not true given that frame of reference, etc. These methods, in effect, provide us with a window on the thinking of our study subjects. They are particularly useful when we know very little about a study population. The basic forms of nondirective interviews are:

- In-Depth Interviews -- which may be totally unstructured or focused on a particular range of topics. They can be used to gather information from individuals or from groups. The value of an in-depth interview lies in the fact that we have the freedom and time to pursue the

meaning of comments made by those we interview. Through successive questions that follow the line of conversation initiated by a respondent, we are able to uncover the assumptions, beliefs and cultural traits that underlie more superficial statements. In-depth interviews tend to be time consuming and must usually be carried out by trained professionals.

- Projective Tests -- which ask the respondent to react verbally to a stimulus as opposed to a specific question from the test administrator. While there are not many instances in which the cross-cultural validity of a psychological device such as the Rorschach (ink blot) test has been established, projective instruments are being used with some success in studies overseas. The tests used involve such problems as sentence completion, interpretation of ambiguous drawings, associating words with other words and ideas, interpreting the meaning of symbols and the significance of color, etc. These tests may be useful at the point where we are trying to understand a study population and develop hypotheses about how members of the population will vary their behavior in response to our project interventions. The use of projective tests requires skilled administration. Often, it also requires that respondents be able to use abstract reasoning.

Nondirective interviewing is more likely to be appropriate in microstudies than in other fieldwork approaches.

b. Directive Interview Techniques

In directive interviews, questioning follows the specific intentions of the researcher, not the conversational inclinations of the respondent. Response (answer) categories are sometimes unstructured and sometimes predetermined.

The advantage of directive interviewing is that all people are asked the same question in the same way, thus answers are comparable. When this type of interview is conducted as part of a census or in a sample survey, the fact that we can compare and classify answers allows us to make general statements about the population as a whole. We can identify what is a typical answer and we can isolate and examine those answers that are atypical.

When our questions are structured, but our answer categories are not predetermined, later efforts to classify answers may be required. One meaning of the term "content analysis" refers to the procedure we follow to make such a post-interview classification of responses. Although the use of open-ended questions -- those which do not have predetermined answer categories -- takes more time, it is often needed when we do not know enough

about a study population to predict the range of responses we might receive. One useful by-product of pretests can be the information we need to predefine categories of answers.

Face-to-face interviews and telephone interviews are the most commonly used procedures for conducting directive interviews:

- Face-to-face surveys -- Almost all surveys in developing countries involve face-to-face interviewing of groups or individuals. This technique requires direct contact with the respondents by the interviewer. In theory, this approach maximizes our control over the measurement process, since measurements are constant, preprinted on the page, and supposedly leave no alternative to the interviewer except to ask the question as written and in the sequence written. In reality, we know this is often wishful thinking. Interviewer biases, as indicated above, can be a crippling restriction on the quality of interview data.

- Telephone surveys -- As yet, there are very few populations for which the telephone survey is feasible. Of course, if desired, a survey of all households having telephones will produce a good sample of wealthy, highly educated, professional and influential people. For collecting data from any other types of respondents, telephone surveys in developing countries are obviously inappropriate.

2. Respondent-Administered Techniques

With a literate population, we can often accomplish our research objectives using self-administered questionnaires and tests. As in the case of interviews, these instruments can be either structured or unstructured. Two advantages are normally associated with such questionnaires. First, their use tends to reduce study costs, both because less labor and less highly skilled personnel are required to conduct the study. Secondly, where we are concerned about the introduction of interviewer and/or respondent bias in a study, self-administered instruments allow us to gain information without extensive contact between the researcher and his subject.

Because of low literacy rates, poorly defined populations and unreliable mail service, mail questionnaires are not often used in developing nations. However, mail questionnaires have been used with success in gathering data from easily defined urban and/or professional populations in these countries. A major disadvantage normally associated with mailed questionnaires is a low rate of response. Response rates on mailed questionnaires cannot always be closely predicted. To secure an adequate data



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base with this approach a study team usually has to follow up on its mailing either with repeated mailings or in person.

Yet another limitation we should consider with all interrogation methods, but particularly with mailed questionnaires, is that the people who complete and return their questionnaires are somehow different from those who do not. Both groups are self-selected. In analyzing our findings from questionnaire studies with low response rates, we must be extremely careful about the conclusions we draw. Usually we need to seek out a sample of our nonrespondents and determine how they differ from respondents before we can accurately characterize the questionnaire data or the self-selected sample from which it came.

When self-administered questionnaires are used, we face all of the same issues of question development as we do for interviews. The problems associated with asking questions in a clear and understandable manner are, of course, intensified in written questionnaires, i.e., we do not have the opportunity to rephrase a question on a questionnaire if it is not immediately understood. In addition, when questionnaires are used, the issue of format becomes important. We must come to understand whether our written instructions for completing the questionnaire are clear and whether there is enough room to write out each of the requested answers before we mail the instrument. The concern with format in mail questionnaires is also an issue with other methods, but not to the same degree.

In self-administered questionnaires, as in some types of interviews, we can combine some elements of data processing with data collection by prespecifying and precoding the answers to the study questions. That is, the questionnaire format allows respondents to select an answer by making a check in a box. This technique is often used when rapid analysis is required.

In addition to the techniques discussed above, there is a category of paper and pencil methods for collecting data that requires the use of measurement concepts as well as the interrogation of respondents. In this category fall the written examinations given to determine whether some body of knowledge has been absorbed and the "forced-choice" and other exercises used to secure data on attitudes. The latter are often referred to as psychometric measures. With these paper and pencil exercises we use units of measurement: percentage points and points on nominal, ordinal and other scales to classify the performance or attitudes of a respondent. When we consider a number of respondents at once in our data analysis, the techniques we use are those which best aggregate and display the numerical values we have assigned to individuals.

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   A. Analytical Approaches at the Program and Project Level

   B. Sectoral and Sub-Sectoral Analysis and Data Requirements

II. Data Requirements for Monitoring and Evaluation

III. Social Science Methodology and Statistics

IV. Data Collection Approaches and Techniques

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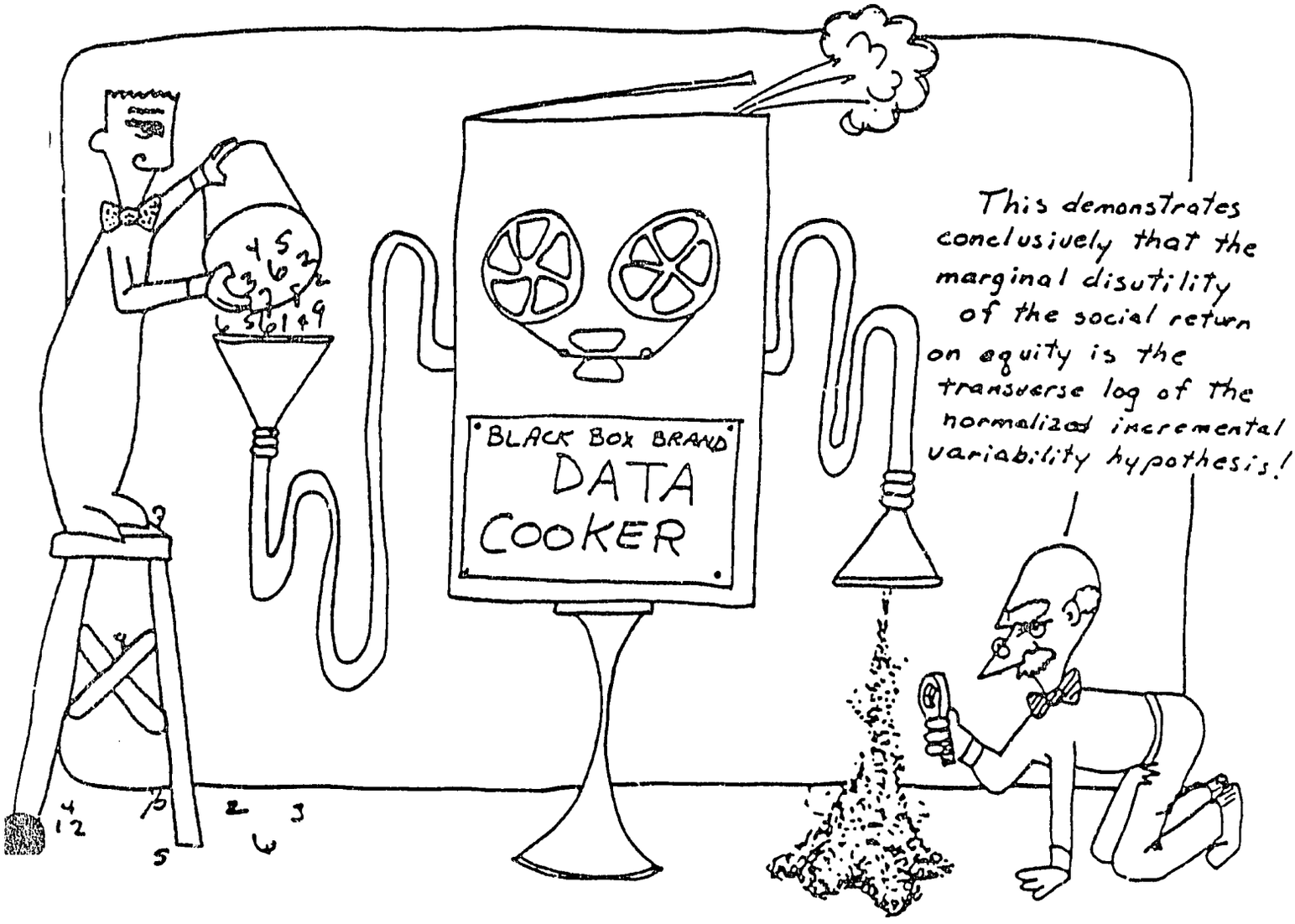
# II. PRESENTING EVALUATION RESULTS

# Data Analysis



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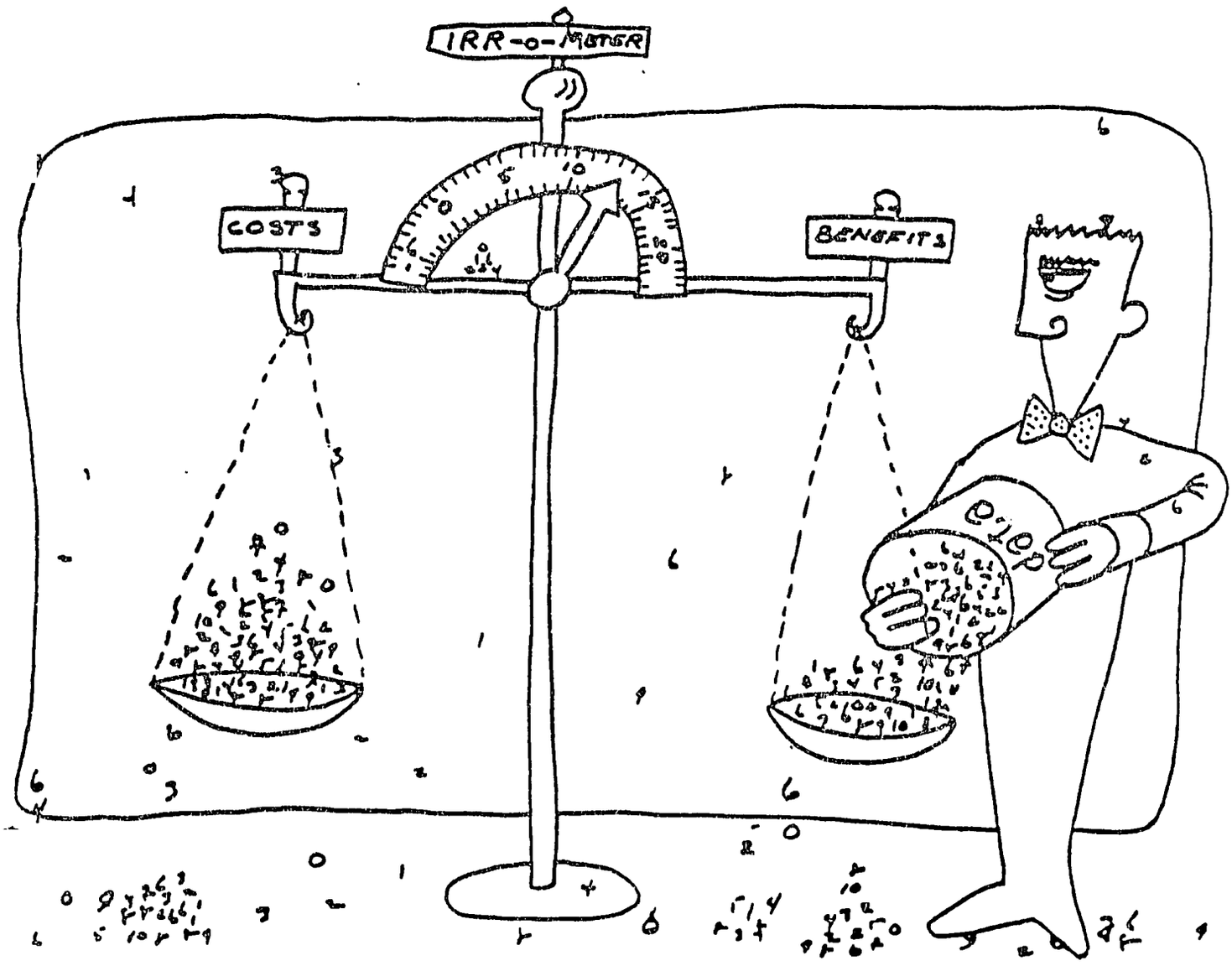
# Evaluation Synthesis




The deficiencies of field data may be overlooked during analysis

## A. PRESENTATION OF EVALUATION RESULTS

The purpose of evaluation is informed decisions. Consequently, it is essential that the data gathered through evaluation be processed and presented in ways that contribute effectively and responsibly to decisionmaking.

There are several dimensions to this transformation of data into useful information. These dimensions can be summarized in the following categories:

- general guidelines on information presentation
- formulation and presentation of findings, conclusions, and recommendations
  - reporting formats
  - data presentation
  - textual presentations
  - attribution of significance
  - congruence diagrams
- building a constituency for evaluation.

Several of these areas are very effectively summarized in the World Bank's recently published document, A Handbook on Monitoring and Evaluation of Agriculture and Rural Development Projects (World Bank, 1981, Part 10). This ~~document should be read as a supplement to the information presented on the~~ following pages.

### GENERAL GUIDELINES

Data is not information. It becomes information only when it is processed and transformed so as to be comprehensible and useful to a designated audience. This process of transformation is both science and art. Science sets the boundary conditions and rules for processing data and drawing valid and significant conclusions from that data. Art is dominant when devising ways to present this data, when creating plausible hypotheses for review and when building a constituency interested in using the results of the study for decisionmaking.

In presenting any study results, an evaluator's first consideration should be the audience not the data. Influencing decisions should be the objective with data quality considerations serving only as constraint on the scope and certainty with which results are presented. For each piece of information, then, the process of preparing data for presentations should begin with clear answers to the following questions:

- who needs this information and why?
- when does he/she need it by?
- how accurate is accurate enough?
- how can I maximize the probability that the information will be used to influence decisions?

It has been the experience of practitioners that, ironically, managers usually receive much more information than they require and still lack the information they need for decisions. The net effect of a rigorous application of the four questions noted above is normally at least a halving of the quantity of data transmitted and a corresponding increase in the relevance of what is transmitted.

Presentation of results can take any one of several forms depending on the nature of the information and the intended audience. These forms include:

a. informal verbal communication
b. formal verbal presentations
c. memoranda on urgent matters
d. periodic reports
e. formal reports on survey results or problem analyses
f. updating of charts and graphs.

## FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The relevance and coherence of any piece of objective analysis--be it anthropological case study or econometric calculation--is its ability to link findings, conclusions and recommendations together in a plausible and important fashion. "Plausible" refers to the significance, validity,and logic of the linkages; "important" refers to the correspondence between the issues addressed and the questions about which decisionmakers want and need additional information.

The graphic below helps to clarify the relationship among findings, conclusions, and recommendations. The use of the medical and legal analogies dramatizes the general point that:

-findings without recommendations are useless; and

-recommendations without findings are irresponsible.

| STUDY TERMINOLOGY | NORMAL LANGUAGE | MEDICAL ANALOGY | LEGAL ANALOGY |
|---|---|---|---|
| Findings<br>▽<br>Conclusions<br>▽<br>Recommendation | "Facts"<br>▽<br>"Interpretations"<br>▽<br>"Proposed Action" | Symptoms<br>▽<br>Diagnosis<br>▽<br>Prescription | Evidence<br>▽<br>Verdict<br>▽<br>Sentence |

Since the attribution of cause/effect relationships is never certain, it is never possible to "prove" an inductive conclusion. It is possible only to present evidence in support of a plausible interpretation and against alternative interpretations. Therefore, conclusions should never be confused with "facts" but should rather be recognized as the informed judgements they are. Similarly, there are invariably many recommendations which could, logically, follow from a given conclusion. The formulation of recommendations is, therefore, merely an informed proposal based on the evidence.

The following example demonstrates these relationships:

| | |
|---|---|
| Finding : | 50% of new crop rotting in the field |
| Conclusion: | Farm-to-market transportation inadequate |
| Recommendation: | Improve the road |

As a general rule, all studies should be presented in a manner which distinguishes findings, conclusions, and recommendations, and which relates all



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three elements to one another. As an annex to this document are presented the findings, conclusions, and recommendations from a recent MSI consultancy as an illustration of this analytical and presentational approach.

## CONGRUENCE DIAGRAMS

Congruence diagrams are a powerful tool for drawing conclusions from findings. They employ a simple graphic technique for making comparisons:

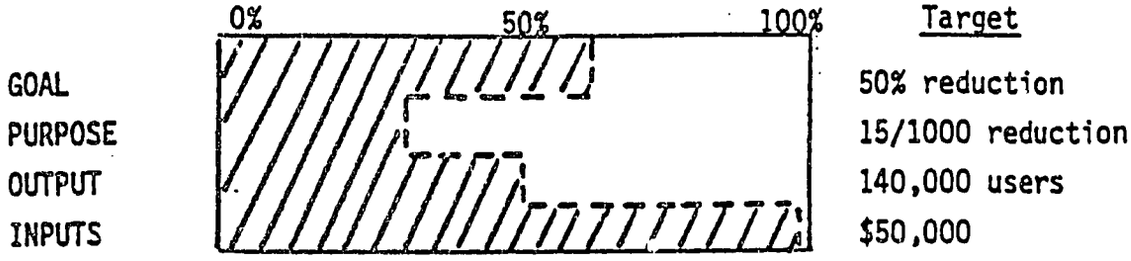
- between planned and actual accomplishments
- among the four levels of the Logical Framework.

The technique thereby measures the "congruence" of the actual project with its planned results.

Schematically, the diagram is a rectangle representing the planned project. The rectangle has four levels corresponding to the four levels of the LogFrame. Horizontally, a scale running from 0% to 100% measures the ratio of actual to planned accomplishment. The diagram is completed by drawing a shape which corresponds to observed project performance in comparison to pre-established targets. Since actual accomplishments can exceed planned targets, it is theoretically possible for the shape drawn to extend outside of the project rectangle.

A simple example can be drawn from a basic family planning project. The objectives and achievements of this hypothetical project are:

| | OBJECTIVE | PLANNED | ACTUAL |
|---|---|---|---|
| GOAL: | Dependency Ratio Reduced | from 1.0 to 0.5 in 15 years | from 1.0 to 0.7 in 15 years |
| PURPOSE: | Birth Rate Reduced | from 25/1000 to 10/1000 in 8 yrs | from 25/1000 to 20/1000 in 8 yrs |
| OUTPUT: | Birth Control Pills Used | by 140,000 women within 3 yrs | by 70,000 women within 3 yrs |
| INPUTS: | Pill Distribution & Education Program | at cost of $50,000 | at cost of $49,000 |




One plausible set of conclusions suggested by the diagram is that:

1) cost per adopter was higher than expected
2) adopters used pills less than diligently
3) infant mortality rates increased due to famine.

For each of these tentative conclusions there is a logically plausible alternative explanation. The diagram serves, however, to raise the important issues and to direct attention to promising areas of enquiry.

The congruence diagram represents a graphic test of principal hypotheses of the program or project. Comparing alternative conclusions is a matter of attribution and entails the systematic testing of the program or project's assumptions. The tentative conclusions cited above for the family planning project each represent statements about which the project made (seemingly incorrect) assumptions.

One difficulty in the use of congruence diagrams is the problem of aggregation. Since the horizontal axis measures proportional achievement of planned targets, the units of measurement are irrelevant and there is no difficulty in comparing inputs, outputs, purposes, and goals. There is a problem, however, in using this technique when there are many different types of inputs and/or many different outputs. Although solvable, these difficulties complicate the use of the technique. It is thus highly preferable, for preliminary analysis, to find some creative way to use a single measure of input use (usually dollars spent) and of output achievement.

| FINDINGS | CONCLUSIONS | RECOMMENDATIONS |
|---|---|---|
| 1a. No fully suitable sites for economic development of small hydropower for purposes of electrification of any one of five major towns (Enchi, Samreboi, Asankrangwa, Dadiaso and Akropong) in Western Region were found by the team.<br><br>1b. Although low head (less than 20 meters) hydro plants are technically feasible, the equipment costs for these plants are substantially greater than those for higher head plants. When extensive civil works construction costs are added to these equipment costs, site development must be examined carefully from an economic perspective. | 1. Small scale hydropower by itself does not appear to represent a viable technology for a program of decentralized electrification of rural towns in Western Region. | 1a. There is reason to believe that potential exists for higher head sites in Brong-Ahafo, Eastern and Volta Regions of Ghana. An assessment of the mini hydro potential vis-a-vis generation alternatives should be undertaken in those regions if and when energy supply investments are expected.<br><br>1b. Future assessments of mini-hydro potential should pay special attention to opportunities for combined water resource projects (such as irrigation schemes) where power generation would be a secondary benefit. |
| 2a. Existing diesel sites in Ghana are plagued with operational problems such as lack of fuel and spare parts. However, whereas small hydro is limited to certain sites, diesel generation can be accomplished anywhere at relatively competitive rates.<br><br>2b. Decentralized thermal plants are in operation in Ghana in connection with industries which produce the raw materials for fuel such as sugar and timber processing. Two plants visited supplied electricity to the local villages as an adjunct activity. | 2a. Unfortunately, diesel generation for decentralized electrification of rural towns in Western Region appears to be the only short run alternative for many areas.<br><br>2b. When tied to a productive consumer and/or an industry which produces the combustible material (e.g. bagasse, sawdust), decentralized thermal plants represent a viable technology for electrifying rural towns. | 2. In terms of short and medium run requirements, isolated communities with a potential for high productive demand should be served by decentralized diesel generation except where industries provide ample supplies of raw materials for steam generation or where hydrologic and topographic features favor small hydro applications. Additional effort should be made to ensure that these diesel plants have access to the needed spare parts and fuel. |

## TECHNICAL

| FINDINGS | CONCLUSIONS | RECOMMENDATIONS |
|---|---|---|
| 3. The existing grid comes close to, but does not serve, a large portion of Ghana's population. Also, certain distribution practices lead to operational problems. | 3. Expansion of the existing grid offers the optimum long run solution for rural electrification. | 3. In the long run, available resources for electrification should be concentrated primarily on rehabilitation and secondly on the eventual extension of the national grid. Such extension should be preceded by carefully performed feasibility studies. |
| 4. Sites for development of medium scale hydro potential have been identified on major rivers in Western Region. Feasibility studies for these sites were completed years ago. | 4. As far as hydropower goes, medium scale hydro appears to offer the optimum option for river basin development in Western Region. | 4. Additional investigation should be made of the potential for supplementing regional electricity generation in Western Region through already identified medium scale hydro potential. Such generation could energize a regional distribution system and/or supplement the national grid. The investigation should include a comparison to the feasibility of generation from the recently discovered natural gas deposits in the region. |

# ORGANIZATIONAL

| FINDINGS | CONCLUSIONS | RECOMMENDATIONS |
|---|---|---|
| 1a. Electricity is supplied in rural areas by several different groups including the Electricity Corporation of Ghana (ECG), private individuals or groups, district and local administrations.<br><br>1b. There is a proliferation of public sector organizations at all administrative levels in Ghana. | 1. There are many underutilized and partially overlapping organizations in Ghana, particularly in the public sector. | 1. Concentrate available technical assistance on strengthening of existing organizations, rather than the creation of new ones. |
| 2. For electrification purposes, localities are designated "rural" if they are served by decentralized generation and distribution systems and receive explicit central government subsidy. Thus, by definition rural electrification programs are not solvent. | 2. There are important potential advantages to increasing the commercial orientation of the electricity sector. | 2. Explore private sector alternatives for providing rural electrification. |
| 3a. No one outside the central ECG organization in Accra currently has responsibility for ensuring financial viability of individual supply areas, for promoting productive uses of electricity, or for encouraging new connections.<br><br>3b. Although ECG has representatives at the regional level, all key management decisions, financial as well as technical, are taken in Accra.<br><br>3c. Demands for extension of rural electrification originate at the district and regional levels, but are evaluated in Accra.<br><br>3d. Local administration in rural areas is not established as body corporate, but district and regional administrations are.<br><br>3e. Several countries, including the U.S., Great Britain, the Philippines and others, have had impressive success with rural electrification through the decentralization of management and operation of the sub-transmission and distribution facilities. | 3. There is some reason to believe that the provision and extension of electrication would be improved by decentralizing management and control of sub-transmission and distribution to regional and district administrations, respectively. | 3. Further consideration should be given to the decentralization of sub-transmission and distribution to the regional and/or district levels, and a decentralized program should perhaps be tried in one region. |

| FINDINGS | CONCLUSIONS | RECOMMENDATIONS |
|---|---|---|
| 1a. Electricity in rural areas is currently regarded and priced as a social service, thus unit costs of service are not a major consideration in selecting areas for rural electrification. | 1a. The current pattern of tariffs for rural electrification distorts utilization patterns and puts additional pressures on government budgets. | 1a. Rural electricity tariffs, expecially for decentralized schemes, should vary by locality and should be linked to the cost of service and/or other development objectives. |
| 1b. ECG's rural electrification schemes are operating under heavy subsidy (ratio of operating revenues to costs = 1:4). | 1b. The ability to charge economic tariffs in rural areas in dependent on the selection of sites offering low unit costs of service. | 1b. Priority for electrification of new sites should be linked to the ability to charge economic tariffs to consumers. This favors sites with low service costs and/or significant productive uses. |
| 1c. In some areas, rural consumers are expected to pay a substantial connection fee covering the costs of bringing electricity to their homes or businesses. There is some evidence that these fees act as a substantial deterrent to requests by consumers for service. The study team learned of no examples where this connection fee was amortized over monthly billings. | | |
| 2a. With the exception of large industrial users, electricity in rural areas of Ghana seems to be used primarily for street lighting and domestic lighting. | 2a. The ability to charge economic tariffs in rural areas is dependent on the existence of productive uses. | 2. Where electric service is already supplied or is being installed, a concerted campaign should be launched to encourage productive uses of electricity. |
| 2b. To date, productive uses of electricity in rural areas have been confined to use by the few major processing industries located in these areas. Other productive uses are currently limited by: the unreliability of electricity supply, the level of "sunk cost" in non-electrified machinery, the unavailability of electric machines and ancillary devices and the lack of promotional efforts. | 2b. Specific actions can be taken to increase the productive uses of electricity in rural areas. | |

## B. GUIDELINES FOR DEVELOPING AN EXECUTIVE SUMMARY

### 1. Why An Executive Summary Format Was Developed

The purpose of evaluation in AID is to provide information on the performance and impact of projects and programs to project planners, managers, and administrative decision makers. With shrinking resources, increased questioning regarding AID's impact, and a growing concern with learning the lessons of development, there exists a greater need than ever for generating project performance and impact information. In response to this need, the number of evaluations of AID's efforts have been steadily increasing. Unfortunately, however, few individuals have the time to sift through each of the reports that may be helpful to them in making the numerous decisions that are necessary on the funding, planning and/or developing of projects that they must deal with on a daily basis.

The Executive Summary format has been developed to ease the burden of utilizing evaluation findings by interested individuals who do not have the time to read entire reports. This format will also serve those who may have the time to read certain reports in their entirety but need first to assess the relevance of the reports's content to their tasks at hand.

### 2. Who Is To Use The Executive Summary Format

All individuals preparing evaluation studies will use the attached format in developing Executive Summaries for their reports. It will be the responsibility of the Mission Evaluation Officer and the appropriate AID/W Bureau evaluation staff to ensure that all reports contain an Executive Summary that conforms to this format.

### 3. How Is The Executive Summary Format To Be Used

In preparing an Executive Summary, evaluators should be aware that any one or combination of the following groups of individuals may constitute the audience for which the summary is written. By taking into consideration the perspective of each of the following potential readers when writing the summary

there is a greater likelihood of including the critical information that will serve their needs.

(a) Project Design Teams

Evaluation findings from Executive Summaries can be a rich source of institutional learning for individuals designing projects. They will be looking for what strategies seem to work and within what context. Also of interest will be strategies that are not working well and why--what obstacles prevented success and what, if any, adjustments or revisions are recommended.

(b) Project Evaluations

In designing an evaluation strategy, it is often valuable to review a description of other evaluation efforts of similar projects to the one currently being evaluated. Most useful to this audience will be brief descriptions of methodology schemes and critical indicators used to measure performances and impact and any obstacle they encountered in using the chosen methodololy and indicators within the particular context they were working.

(c) Administrative Decision Makers in Washington

Administrative decision makers in Washington are constantly faced with having to assess the value and viability of proposed new projects and extensions of existing projects. In addition, these administrators are faced with assessing the validity and logic of assumptions contained in various policy papers. With shrinking resources, the need for utilizing lessons learned from previous developmental efforts becomes critical in their decision-making process. For this audience, executive summaries should very clearly assess performance and impact of projects and offer recommendations for actions to be taken.

(d) Congressional Testimony

Often, AID officials are requested to give congressional testimony with regard to progress made in certain sectors or countries. Executive Summaries that offer clear statements regarding evaluation findings on project performance and impact will be most helpful to the audience. Also, it should be noted, that this audience in particular will want to see factual or statistical statements backing up narrative statements on progress.

## 4. FORMAT FOR AN EXECUTIVE SUMMARY

The Executive Summary is a two to three page, single-spaced document containing a clear, concise summary of the most critical elements of the report. It should be a self-contained document that can stand alone from the report. The summary should be written in such a way that individuals unfamiliar with the project can understand the project's basic elements and how the findings from the evaluation are related to it without having to refer to any other document.

1. Name of mission or AID/W office initiating the evaluation, followed by title and date of full evaluation report.

2. Purpose of the activity or activities evaluated. What constraints or opportunities does the activity address; what is it trying to do about the constraints? Specify the problem, then specify the solution and its relationship, if any, to overall mission or office strategy. State the logframe purpose and goal, if applicable.

3. Purpose of the evaluation and methodology used: Why (and if a single project or program evaluation, at what stage - interim, final, ex post) was the evaluation undertaken? Briefly describe the types and sources of evidence used to assess effectiveness and impact.

4. Findings and conclusions: Discuss major findings and interpretations related to the questions in the Scope of Work. Note any major assumptions about the activity that proved invalid, including policy related factors. Cite progress since any previous evaluation.

5. Recommendations for this activity and its offspring (in the mission country or in the office program). Specify the pertinent conclusions for A.I.D. in design and management of the activity, and for approval/disapproval and fundamental changes in any follow-on activities. Note any recommendations from a previous evaluation that are still valid but were not acted upon.

6. Lessons learned (for other activities and for A.I.D. generally). This is an opportunity to give A.I.D. colleagues advice about planning and implementation strategies, i.e., how to tackle a similar development problem, key design factors , factors pertinent to management and to evaluation itself. There may be no clear lessons. Don't stretch the findings by presenting vague generalizations in an effort to suggest broadly applicable lessons. If Items 4-5 above are succinctly covered, the reader can derive pertinent lessons. On the other hand, don't hold back clear lessons even when these may seem trite or naive. Address:

- Project Design Implications. Findings/conclusions about this activity that bear on the design or management of other similar activities and their assumptions.

- Broad action implications. Elements which suggest action beyond the activity evaluated, and which need to be considered in designing similar activities in other contexts (e.g., policy requirements, procedural matters, factors in the country that were particularly constraining or supportive).

## C. AID'S "EVALUATION SUMMARY" FORM

The "Evaluation Summary" will become an official AID form upon approval of the revised AID Evaluation Handbook. It will replace the existing "Project Evaluation Summary" (PES).

The "Evaluation Summary" differs from the earlier PES in the following respects:

- It is applicable to <u>all</u> evaluations, not only project evaluations.
- It subsumes, but is not limited to, the categories of information contained in the PES that are linked to the project Logical Framework (e.g., inputs, outputs).
- It requires a short "abstract" as well as a longer, self-contained narrative. The abstract will be used for AID's automated "memory" of program documents.
- It provides space for comments space by the sponsoring Mission or Office and the borrower/grantee.
- It requires data on the evaluation costs and level of effort.

# A.I.D. EVALUATION SUMMARY PART I

(BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS)

A. REPORTING A.I.D. UNIT (Mission or AID/W Office)

(ES # )

B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN?

yes ☐ slipped ☐ ad hoc ☐

Eval. Plan: FY__ Q__

C. EVALUATION TIMING

interim ☐ final ☐ ex post ☐ other ☐

D. ACTIVITY OR ACTIVITIES EVALUATED (List the following information for project(s) or program (s) evaluated; if not applicable, list title and date of the evaluation report)

| Project # | Project/Program Title (or title & date of evaluation report) | First PROAG or equivalent (FY) | Most recent PACD (mo/yr) | Planned LOP Cost ('000) | Amount Obligated to Date ('000) |
|---|---|---|---|---|---|

E. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

| Action(s) Required | Name of officer responsible for Action | Date Action to be Completed |
|---|---|---|

(Attach extra sheet if necessary)

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION mo__ day__ yr__ REPORT DATE: mo__ day__ yr__

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS:

| | Project/Program Officer | Representative of Borrower/Grantee | Evaluation Officer | Mission or AID/W Office Director |
|---|---|---|---|---|
| Signature | | | | |
| Typed Name | | | | |
| Date | | | | |

IMPORTANT NOTICE

H. EVALUATION ABSTRACT (do not exceed the space provided.

I. EVALUATION COSTS

1. Evaluation Team

| Name | Affiliation | Contract Number OR TDY Person Days | Contract Cost OR TDY Cost (US$) | Source of Funds |
|---|---|---|---|---|

2. Mission/Office Professional Staff Person Days (estimate) _____

3. Borrower/Grantee Professional Staff Person-Days (estimate) _____

# A.I.D. EVALUATION SUMMARY PART II

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS (Try not to exceed the 3 pages provided)
Address the following items:

- Name of Mission or Office
- Purpose of activity(ies) evaluated
- Purpose of evaluation and Methodology used
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Best Available Document

Date this summary prepared:

## INSTRUCTIONS FOR COMPLETING AND SUBMITTING "A.I.D. EVALUATION SUMMARY"

This form has two parts. Part I contains information to support future AID management action, and to process the evaluation into AID's automated "memory". Part II is a self-contained summary of key elements of the full evaluation report; it can be separated from the first part and distributed separately to interested AID staff.

### WHAT WILL THIS FORM BE USED FOR?

- Record of the decisions reached by responsible officials, so that the principals involved in the activity or activities evaluated are clear about their subsequent responsibilities, and so that headquarters are aware of anticipated actions by the reporting unit.
- Notification that an evaluation has been completed, either as planned in the current Annual Evaluation Plan or for ad hoc reasons.
- Summary of findings at the time of the evaluation for use in answering queries and for further research.
- Suggestions about lessons learned for use in planning and reviewing other activities of a similar nature. This form as well as the full evaluation report are processed by PPC/CDIE into the automated "memory" for later access by planners and managers.

**WHEN SHOULD THE FORM BE COMPLETED AND SUBMITTED?** After the Mission or AID/W office review of the evaluation, and after the full report has been put into a final draft (i.e., all pertinent comments included).

**WHO SHOULD COMPLETE THIS FORM?** The individual designated as the Mission or AID/W office evaluation officer is responsible for ensuring that the form is completed and submitted in a timely fashion. This individual may assign all or part of this task to others (e.g., the evaluation team can be required to complete the Abstract and the Summary of Findings, Conclusion, and Recommendations).

**WHERE SHOULD THE FORM BE SENT?** A copy of the form and attachment(s) should be sent to each of the following two places:

- The respective Bureau Evaluation Office, and
- SER/MO/PM, Room B930 NS, AID/W

PART I (Facesheet and Page 2)

A. REPORTING A.I.D. UNIT: Mission or AID/W office initiating the evaluation. Missions and offices which maintain a serial numbering system for their evaluation reports can use the next line for that purpose (e.g., ES# 86-3).

B. WAS EVALUATION SCHEDULED IN CURRENT FY ANNUAL EVALUATION PLAN? If this form is being submitted close to the date indicated in the current FY Annual Evaluation Plan (or if the final draft of the full evaluation report was submitted close to that date), check "yes". If it is begin submitted late or as carried over from a previous year's plan, check "slipped". In either case, indicate the FY and Quarter in which the evaluation was initially planned. If it is not included in this year's or last year's plan, check "ad hoc".

C. EVALUATION TIMING: If this is an evaluation of a single project or program, check the box most applicable to the timing of the evaluation relative to the anticipated life of the project or program. If this is the last evaluation expected to inform a decision about a subsequently phased or follow-on project, check "final" even though the project may have a year or more to run before its PACD. If this is an evaluation of more than a single project or program, check "other".

D. ACTIVITY OR ACTIVITIES EVALUATED: For an evaluation covering more than four projects or programs, only list the title and date of the full evaluation report.

E. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR: What is the Mission or office going to do based on the findings, conclusions, and recommendations of the evaluation; when are they going to do it; and who will be responsible for the actions required? List key decisions, actions to be taken, unresolved issues and any items requiring further study.

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION: Date when the internal Mission or Office review was held or completed. Also, indicate the date of the final evaluation report itself.

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS: As appropriate, the ranking representative of the borrower/grantee can sign beside the AID Project or Program Officer.

H. EVALUATION ABSTRACT: This one-paragraph abstract will be used by PPC/CDIE to enter information about the evaluation into AID's automated "memory". It should invite potentially interested readers to the longer summary in Part II and perhaps ultimately to the full evaluation report. It should inform the reader about the following:

- If the evaluated activity or activities have characteristics related to the reader's interests.
- The key findings, conclusions, and lessons.
- An idea of the research methods used and the nature/quality of the data supporting the findings.

Previous abstracts have often been deficient in one of two ways:

1. Too much information on design, implementation, and current status discourages readers before the reader can determine if there are important findings of interest.
2. A "remote" tone or style prevents the reader from getting a real flavor of the activity or activities evaluated.

In sequential sentences, the abstract should convey:

- The programming reason behind the evaluation and its timing;
- The purpose and basic characteristics of the activities evaluated;
- A picture of the status of the activities as disclosed in the full evaluation report;
- An idea of the research method and types of data sources used by the evaluators;
- The most important findings and conclusions; and key lessons learned.

Avoid the passive tense and vague adjectives. Where appropriate, use hard numbers. (An example of an abstract follows.)

EXAMPLE

The project aims to help the Government of Zaire (GOZ) establish a self-sustaining primary health care (PHC) system in 50 rural health zones (RHZ). The project is being implemented by the Church of Christ in Zaire and the GOZ's PHC Office. This mid-term evaluation (8/81-4/84) was conducted by a GOZ-USAID/Z team on the basis of a review of project documents (including a 4/84 project activity report), visits to nine RHZ's, and interviews with project personnel. The major findings and conclusions are:

- This well-managed and coordinated project should attain most objectives by its 1986 end.

- Progress has been good in establishing RHZ's, converting dispensaries into health centers, installing latrines (over double the target), and training medical zone chiefs, nurses, and auxiliary health workers. Long-term training has lagged however, and family planning and well construction targets have proven unviable.

- The assumption that doctors and nurses can organize and train village health committees seems invalid.

- User fees at health centers are insufficient to cover service costs. A.I.D.'s PRICOR project is currently studying self-financing procedures.

- Because of the project's strategic importance in Zaire's health development, it is strongly recommended to extend it 4-5 years and increase RHZ and health center targets, stressing pharmaceutical/medical supplies development and regional Training for Trainers Centers for nurses, supervisors, and village health workers.

The evaluators noted the following "lessons":

- The training of local leaders should begin as soon as the Project Identification Document is agreed upon.

- An annual national health conference spurs policy dialogue and development of donor subprojects.

- The project's institution-building nature rather than directly service nature has helped prepare thousands of Zairois to work with others in large health systems.

I. EVALUATION COSTS: Costs of the evaluation are presented in two ways. The first are the costs of the work of the evaluation team per se. If Mission or office staff served as members of the team, indicate the number of person-days in the third column. The second are the indirect estimated costs incurred by involvement of other AID and borrower/grantee staff in the broader evaluation process, including preparations and reviews.

PART II (Pages 3 - 6)

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS: The following guidelines reflect a consensus among AID's Bureaus on common elements to be included in a summary of any evaluation. The summary should not exceed the three pages provided. It should be self-contained and avoid "in-house" jargon. Spell out acronyms when first used. Avoid unnecessarily complicated explanations of the activity or activities evaluated, or of the evaluation methodology; the interested reader can find this information in the full evaluation report. Get all the critical facts and findings into the summary since a large proportion of readers will go no further. Cover the following elements, preferably in the order given (don't forget to fill in the date at the bottom of page 3):

1. Name of Mission or AID/W office initiating the evaluation, followed by title and date of full evaluation report.

2. Purpose of the activity or activities evaluated. What constraints or opportunities does the activity address;

   what is it trying to do about the constraints? Specify the problem, then specify the solution and its relationship, if any, to overall Mission or office strategy. State logframe purpose and goal, if applicable.

3. Purpose of the evaluation and methodology used. Why (and if a single project or program evaluation, at what stage--interim, final, ex post) was the evaluation undertaken? Briefly describe the types and sources of evidence used to assess effectiveness and impact.

4. Findings and conclusions: Discuss major findings and interpretations related to the questions in the Scope of Work. Note any major assumptions about the activity that proved invalid, including policy related factors. Cite progress since any previous evaluation.

5. Recommendations for this activity and its offspring (in the mission country or in the office program). Specify the pertinent conclusions for A.I.D. in design and management of the activity, and for approval/disapproval and fundamental changes in any follow-on activities. Note any recommendations from a previous evaluation that are still valid but were not acted upon.

6. Lessons learned (for other activities and for A.I.D. generally). This is an opportunity to give A.I.D. colleagues advice about planning and implementation strategies, i.e., how to tackle a similar development problem, key design factors, factors pertinent to management and to evaluation itself. There may be no clear lessons. Don't stretch the findings by presenting vague generalizations in an effort to suggest broadly applicable lessons. If Items 4-5 above are succinctly covered, the reader can derive pertinent lessons. On the other hand, don't hold back clear lessons even when these may seem trite or naive. Address:

   - Project Design Implications. Findings/conclusions about this activity that bear on the design or management of other similiar activities and their assumptions.

   - Broad action implications. Elements which suggest action beyond the activity evaluated, and which need to be considered in designing similar activities in other contexts (e.g., policy requirements, procedural matters, factors in the country that were particularly constraining or supportive).

NOTE: The above outline is identical to the outline recommended for the Executive Summary of the full evaluation report. At the discretion of the Mission or Office, the latter can be copied directly onto this form.

K. ATTACHMENTS: Always attach a copy of the full evaluation report. AID assumes that the bibliography of the full report will include all items considered relevant to the evaluation by the Mission or Office. NOTE: If the Mission or Office has prepared documents that (1) comment in detail on the full report or (2) go into greater detail on matters requiring future AID action, these can be attached to the A.I.D. Evaluation Summary form or submitted separately via memoranda or cables.

L. COMMENTS BY MISSION, AID/W AND BORROWER/GRANTEE: This section summarizes the comments of the Mission, AID/W Office, and the borrower/grantee on the full evaluation report. It should enable the reader to understand their views about the usefulness and quality of the evaluation, and why any recommendations may have been rejected. It can cover the following questions:

- To what extent does the evaluation meet the demands of the scope of work? Does the evaluation provide answers to the questions posed? Does it surface unforeseen issues of potential interest or concern to the Mission or Office?

- Did the evaluators spend sufficient time in the field to fully understand the activity, its impacts, and the problems encountered in managing the activity?

- Did any of the evaluators show particular biases which staff believe affected the findings? Avoid ad hominem discussions but cite objective evidence such as data overlooked, gaps in interviews, statements suggesting a lack of objectively, weaknesses in data underlying principal conclusions and recommendations.

- Did the evaluation employ innovative methods which would be applicable and useful in evaluating other projects known to the Mission or Office? Note the development of proxy measures of impact or benefit; efforts to construct baseline data; techniques that were particularly effective in isolating the effects of the activity from other concurrent factors.

- Do the findings and lessons learned that are cited in the report generally concur with the conclusions reached by AID staff and well-informed host country officials? Do lower priority findings in the evaluation warrant greater emphasis?

# COLLABORATIVE EVALUATION

I. Introduction

II. Defining Collaborative Evaluation

III. Host Country Involvement

IV. Types of Participation

V. Conclusion

# COLLABORATIVE EVALUATION

## I. INTRODUCTION

Development assistance involves donors working with cooperating countries. The cooperation adds a critical margin of resources and technical knowledge which promote the success of the development efforts. The activities which AID supports through bilateral assistance are not "AID's projects"; they are the activities of the developing country for which AID is providing assistance. Accordingly, AID emphasizes the initiative of cooperating countries in planning and in executing plans involving AID assistance.

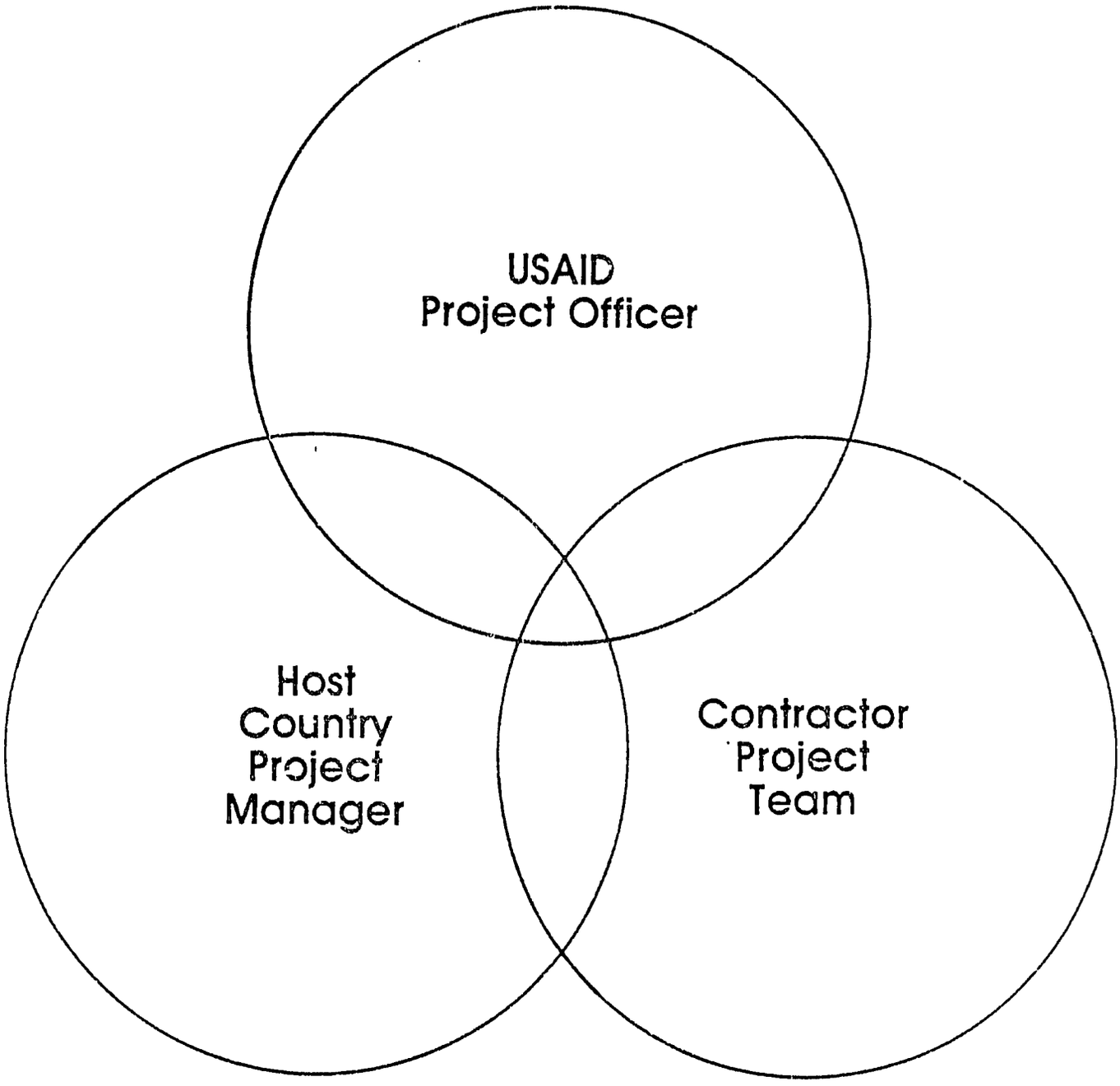
Consistent with this approach is mutual cooperation in planning, implementing, and evaluating AID-assisted activities. Diagram 1 depicts this collaborative relationship, from AID's perspective, in the case of a specific project. Those involved in the relationship will be somewhat different in the case of "non-project" assistance activities, and in the case of multi-project or sector program evaluations.

It is AID policy, and that of several other donors, to encourage and support joint evaluation of donor-assisted projects and programs, as mutually agreed to and as appropriate to the circumstances of each country and the nature of the projects and programs involved. Through experience in such collaborative evaluations, AID and its host country partners have developed several different arrangements through which cooperative efforts can be carried out, and have gained a better understanding of the conditions and requirements involved. From the perspective of AID, fully collaborative evaluation is not mandatory in all cases, but all cases should involve some appropriate and useful level of involvement by the host country borrower or grantee.

DIAGRAM 1

# Responsibilities & Relationships for Implementing AID-Assisted Projects

(FROM THE PERSPECTIVE OF AID)



## II. DEFINING COLLABORATIVE EVALUATION

A collaborative evaluation is an evaluation in which the development-related interests of the host country borrower/grantee and those of the donor are represented, as equivalent parties, or stakeholders, in the evaluation.

Collaborative evaluation:

- Requires mutual understanding of the social, economic, political, and administrative context within which each principal party expects to use evaluative information for decision-making purposes. (Diagram 2 suggests the complexity of the context in which each party must usually operate.)

- Requires each party to state their respective questions and concerns, and involves a conscious, deliberate, mutual process of determining the questions for evaluation.

- Respects the needs of each party for information most useful and pertinent to their respective requirements.

- Supports the management capacity of the borrower or grantee, by introducing or establishing practical evaluation procedures and routines, and by training staff in useful evaluation skills.

- Expects that each party will disseminate and use evaluation findings and will seek to apply "lessons learned" to future programs and projects.

- Ensures that each party will gain some practical benefits related to development purposes and goals.

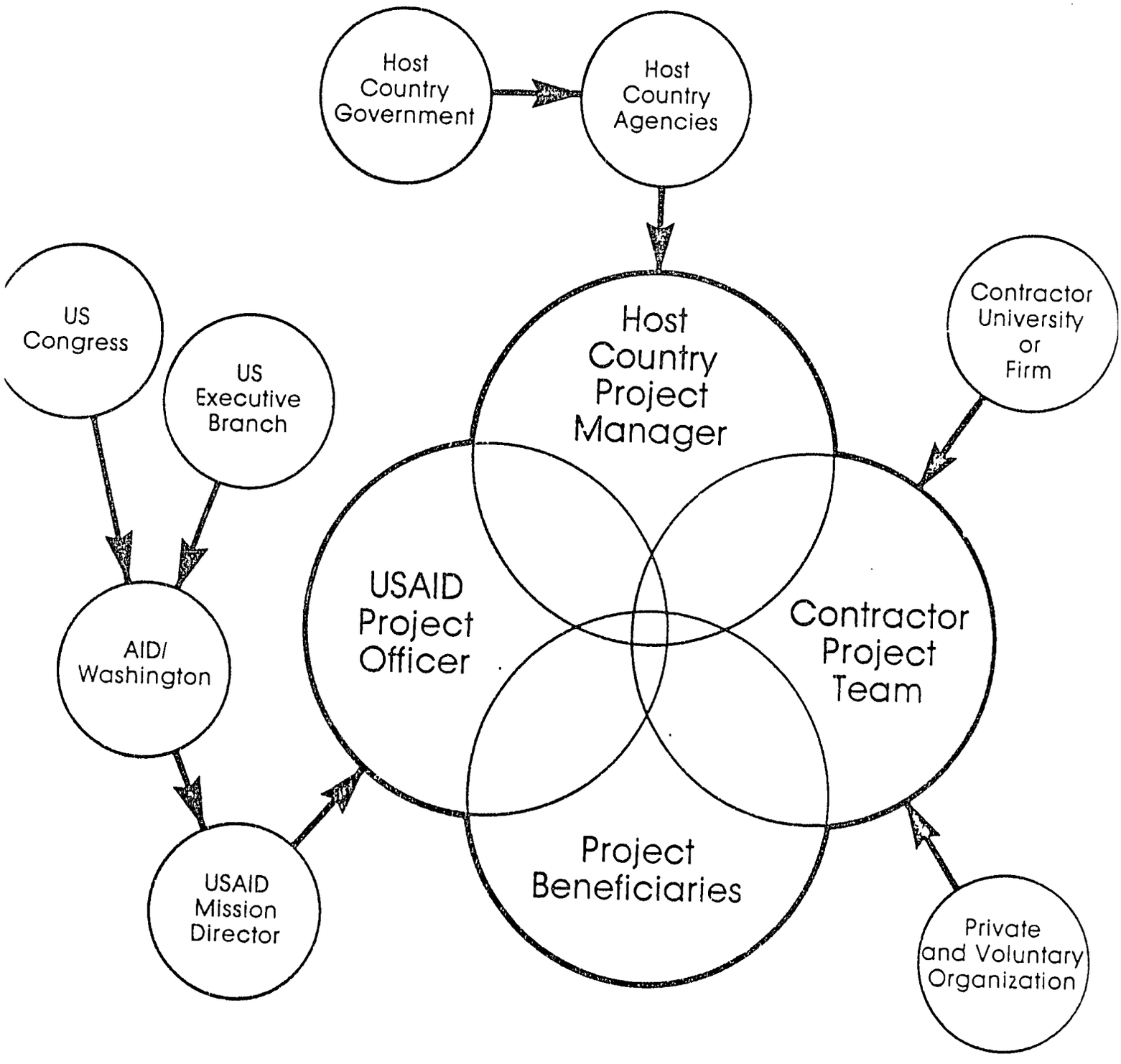
## III. HOST COUNTRY INVOLVEMENT

Common sense, experience, and all past AID guidance provide compelling reasons for gaining the highest possible level of host country participation with AID in project and program evaluations.

AID seeks an evaluation process that results in:

DIAGRAM 2

# "Stake-Holders" in Collaborative Project Evaluation




(Note: "Project Beneficiaries" are often overlooked as major stakeholders in an evaluation.)

An opportunity for organized USAID-host country cooperative study, discussion and recording of what a given assistance project or program is accomplishing; how it works or does not; and why. The objective is to improve implementation of ongoing projects or to assist in the design of future development efforts. A related objective is to strengthen the capacity of the host government to independently evaluate any development project.

In addition to its intrinsic merits as an active symbol of broader cooperation in development, collaborative evaluation yields several practical benefits. These include:

- Better and more complete data available to evaluators, leading to a more realistic evaluation and to more feasible, practical recommendations.

- A stronger "constituency" (in a political sense) for taking actions based on the findings and recommendations of the evaluation, since the evaluation will be more responsive to the needs and concerns of all key parties involved in the project.

- More effective communication and "team-building", leading to improvements in project implementation.

- Stronger institutional capacity for project monitoring and evaluation, in both the cooperating country and in the AID Mission. Joint evaluations are themselves vehicles for transferring modern "management technologies".

Unfortunately, participation by host country personnel in evaluations has been uneven. This problem varies from country to country. Nevertheless, there is a wide-spread perception in AID and host countries themselves that some host countries are not attuned to evaluation, that evaluation equates to audit and inspection, and that evaluation as a learning process is an "American" management tool which will take time to transfer to the local environment.



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Collaborative evaluation is often not given the attention it deserves because of the difficulties and special requirements encountered. Joint evaluation is usually more cumbersome than evaluations carried out separately. More time is usually required to plan the scope of work or the agenda for the investigation, to agree on a practical analytical approach, to agree on the specific steps in collecting data, and to determine the most appropriate and useful way to present findings, conclusions and recommendations. Busy officials, both in the cooperating agencies and in the AID Mission, are subjected to another burden on their time. This results in the need to plan for evaluations that derive the greatest benefit from the time invested. Language differences may complicate the evaluation process; but these language complications are not necessarily more of a problem in collaborative evaluation than they are in a more unilateral evaluation.

While AID's bureaucratic procedures are usually reasonably clear to both AID staff and host country counterparts, the same is not necessarily the case for the host country context. Cooperating countries often have jurisdictional characteristics that make it difficult for AID to determine the responsible Ministry or Office. These same characteristics may make it difficult for immediate host country counterparts to determine the most important issues of their colleagues, supervisors or counterparts in other Ministries.

Clearly, more rigorous attention to overcoming these weaknesses is required. For its part, in the Project Paper evaluation plans AID now encourages the discussion of the degree of host country interest in and capacity for participation in the planned evaluations of the project, including host country capacity for collecting and analyzing baseline and other relevant data. AID Missions should also provide the full text of the project evaluation plan to the host country as an annex to the Project Paper, as an annex to the Project Agreement (ProAg), or in a Project Implementation Letter (PIL). Where the type of project or mangnitude of investment warrants it, training elements to support host country evaluation capacity may be integrated into the project.

Potential difficulties may be at least partly obviated by selecting an appropriate type of participation during one or more stages in a project or program, and by careful and thoughtful mutual planning.

## IV. TYPES OF PARTICIPATION

Collaboration is no longer just a catchword; it is a strategy that produces mutually beneficial results. The collaborative process requires decisions about whether and when to include people from USAID, AID/W, the project team, host government ministries, the beneficiaries, or external evaluators. Further, decisions must be made about the degree to which each of these groups will help design, conduct, and use the evaluation.

Strategies to form the evaluation team will depend largely on the objectives you wish to achieve. Clarifying objectives for collaboration will help you determine who in the host country to include, how to include them, and when to include them.

To help clarify the objectives for collaborative evaluation it is useful to think of an evaluation as a "project". Like any project, an evaluation passes through cycles; first it is designed, then implemented, and then evaluated, or in this case, utilized. As a project, evaluation has inputs, outputs, purposes and goals.

There are opportunities for collaboration during all three phases. At the design stage, collaborators can help determine the inputs of the evaluation. For example, they can help make decisions about the study design, scope of work, team members, and timing of the evaluation.

The borrower/grantee should have the fullest possible opportunity to participate to the same extent as the AID sponsor. Specifically, AID encourages:

- Borrower/grantee participation in the initial definition of the questions that will be included in the scope of work and that will help focus the efforts of the evaluators.

- Deliberate efforts by the AID sponsor to communicate and explain AID's own questions and criteria to the borrower/grantee.

- Collaborators can also be involved in indentifying purpose-level questions and concerns as well as selecting goal-level issues and impacts.

Before approving the evaluation design, both AID and the host country should agree that the inputs are appropriate and that the outputs of the evaluation (i.e., its findings and recommendations) will contribute to achieving the purposes and goals of the project, program, or overall development strategy being evaluated.

In the implementation stage there are also varying degrees to which counterparts can be involved. The counterparts can: (1) conduct related studies; (2) assist with money, access, and logistics; (3) provide data; (4) collect data; or (5) analyze data.

The degree to which host country representatives are involved during the implementation of the evaluation will affect not only the quality of the report, but also whether they will use the evaluation or ever follow up on its recommendations. Including appropriate host country representatives as part of the evaluation team will help ensure that the purpose of the evaluation is achieved and that institutionalization of evaluation concepts and skills will follow.

Once the evaluation is complete, there are additional opportunities for counterparts' involvement. They can co-issue and distribute the report; refine specific recommendations; or participate in the discussion and debriefing.

Perhaps the most important aspect of the evaluation is ensuring that the results are used. Host country representatives are most likely to respond to evaluation findings if they were involved in designing and implementing the evaluation.

Collaboration is more than a yes-or-no decision. It is a tactical and strategic decision that requires careful consideration about who should be involved and at which stages they should be involved. These decisions can be facilitated by considering your objectives in respect to all the stakeholders, or participants, in the evaluation. The following matrix can help you determine, by stage, who you will include in each of the tasks of the evaluation.



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MATRIX FOR ANALYZING OPTIONS FOR COLLABORATION

| STAGE/APPROACH | PARTICIPANTS | | | | | | |
|---|---|---|---|---|---|---|---|
| | USAID | AID/W | PROJT. TEAM | HOST Govt. Min.#1 | HOST Govt. Min #2 | BENEFI-CIARIES | OUTSIDE EVALU. TEAM |
| I. Design<br>-Select projects and issues<br>-Identify questions and concerns<br>-Determine study design, sow, team, timing | | | | | | | |
| II. Implementation<br>-Analyze data<br>-Collect data<br>-Provide data<br>-Provide money, access and logistics<br>-Conduct related studies | | | | | | | |
| III. Evaluation<br>-Apply results<br>-Co-issue and/or distribute report<br>-Receive specific recommendations<br>-Participate in discussions and debriefings | | | | | | | |

## V. CONCLUSION

The evaluation process is most effective when AID exploits opportunities for collaboration, without forcing participation when it is not wanted, appropriate, or feasible. In any case, AID sponsors of evaluation have an obligation to instruct evaluators to keep the principal parties fully informed as the evaluation proceeds, to solicit counterpart interest, to ensure the fullest possible mutual understanding of the evaluation process, and to draw on informal counterpart advice.

I. ACRONYMS

II. GLOSSARY

# AID ACRONYMS

## A

| | |
|---|---|
| AA | Assistant Administrator |
| AAA | Associate Assistant Administrator |
| AAAS | American Academy for the Advancement of Science |
| AAASA | Association for the Advancement of Agricultural Sciences in Africa |
| AAC | Administrator's Advisory Council |
| A/AID | Administrator; Office of the Administrator (AID) |
| AAO | AID Affairs Officer |
| AAPC | Afro-American Procurement Center |
| AB | Assignment Board |
| ABS | Annual Budget Submission |
| ACDA | Arms Control and Disarmament Agency |
| ACDI | Agricultural Cooperative Development International |
| ACIAR | Australian Centre for International Agricultural Research |
| ACO | Area Contracting Officer, Authorized Certifying Officer |
| ACRIS | AID Consultant Registry Information System |
| ACS | Activity Characteristic Sheet |
| ACT | Action |
| ACVFA | Advisory Committee on Voluntary Foreign Aid |
| AD | Administratively Determined; Administrative Decision |
| ADAB | Australian Development Assistance Bureau |
| ADB | Asian Development Bank |
| ADC | Advanced Developing Country; Agriculture Development Council Office of Arab Donor Coordination (AID) |
| ADDS | AID Document Distribution System |
| ADO | Area Development Office(r) |
| ADP | Automated Data Processing |
| AF | Bureau of African Affairs (State); The Asia Foundation |
| AFDB | African Development Bank |
| AFEO | AID-financed Export Opportunities |
| AFGE | American Federation of Government Employees |
| AFM | American Family Member |
| AFR | Bureau for Africa (AID) |
| AFSA | American Foreign Service Association |
| AG | Auditor General |
| AGRIS | Agricultural Information Service (FAO) |

| | |
|---|---|
| AID | Agency for International Development |
| AIDAR | Agency for International Development Acquisition Regulation |
| AIDMIS | AID Management Information System |
| AID/W | Agency for International Development/ Washington, D.C. |
| AL | Annual Leave |
| AMED | Administrative Management Executive Development Program |
| ANE | Bureau for Asia and Near East (AID) |
| AOAD | Arab Organization for Agricultural Development |
| AOSC | Agency Occupational Specialty Code |
| APHA | American Public Health Association |
| APO | Army Post Office |
| APA | Bureau of Inter-American Affairs (State) |
| AS | Administrative Services |
| ASAP | As Soon as Possible |
| ASEAN | Association of South East Asian Nations |
| ASHA | American Schools and Hospitals Abroad |
| ASSET | Automated Small Suppliers for Export Trade |
| ATI | Appropriate Technology Institute |
| AUB | American University of Beirut |
| AUSUDIAP | Association of U.S. University Directors of International Agricultural Programs |
| AWOL | Absent Without Leave |
| AVRDC | Asian Vegetable Research and Development Center |

B

| | |
|---|---|
| BANEX | Agroindustrial and Export Bank (Costa Rica) |
| BERR | Business Enterprise Rate of Return |
| B/G | Borrower/Grantee |
| BHN | Basic Human Needs |
| BIFAD | Board for International Food and Agricultural Development |
| BIFAD/S | BIFAD Support Staff (AID) |
| B/L | Bill of Lading |
| BLANDEX | Latin America Export Bank |
| BOP | Balance of Payment |
| BOPS | Beginning of Project Status |
| BS | Backstop |
| BX | Base Exchange |

## C

| | |
|---|---|
| C | Counselor of the Department (State) |
| C&R | Communications and Records |
| CAB | Commonwelath Agricultural Bureau |
| CABEI | Central American Bank for Economic Integration |
| CACIPEX | Central American Center for International Marketing and Export Promotion |
| CACM | Central American Common Market |
| CADA | Concerted Action for Development in Africa |
| CAIC | Caribbean Association of Industry & Commerce |
| C/AID | Counselor (AID) |
| CAMO | Central Administrative Management Organization |
| CAMSF | Central American Monetary Stabilization Fund |
| CAP | Capital Assistance (loan) Paper |
| CAR | Capital Assistance Request |
| CARICOM | Caribbean Community and Common Market |
| CARE | Cooperative for American Relief Everywhere |
| CAREC | Caribbean Epidemiological Center |
| CATIE | Center for Research and Training in Tropical Africulture (Costa Rica) |
| CBD | Commerce Business Daily |
| CBI | Caribbean Basin Initiative |
| CCC | Commodity Credit Corporation |
| CCN | Cooperating Country National |
| CCR | Commission on Civil Rights |
| CD | Community Development |
| CDA | Cooperation for Development in Africa |
| CDIE | Center for Development Information & Evaluation |
| CDO | Country Development Office(r)<br>Community Development Office(r)<br>Capital Development Office(r) |
| CDSS | Country Development Strategy Statement |
| CEQ | Council on Environmental Quality |
| CERDS | Charter for Economic Rights and Duties of States |
| CERP | Comprehensive Economic Reporting Program |
| CFF | Compensatory Financing Facility (IMF) |
| CG | Consultative Group |
| CGIAR | Consultative Group in International Agricultural Research |
| CIA | Central Intelligence Agency |
| CIAT | International Center for Tropical Agriculture |
| CID | Consortium on International Development |

| | |
|---|---|
| CIDA | Committee on International Disaster Assistance; Canadian International Development Agency |
| CIEC | Conference on Internatioinal Economic Cooperation |
| CIF | Cost (of the commodity) plus (ocean) freight |
| CILSS | Permanent Interstate Committee for Drought Control in the Sahel |
| CIMMYT | International Maize and Wheat Improvement Center (Mexico) |
| CINDE | Costa Rican Coalition for Development Initiatives |
| CINEC | Community Integrated Nutrition & Education Centers |
| CIP | Commodity Import Program<br>Centro Internacional de la Papa (Peru) |
| CLO | Congressional Liaison Officer<br>Community Liaison Office(r) |
| CLUSA | Cooperative League of the U.S.A. |
| CM | Contract Management (Office of) |
| CMP | Complement |
| CN | Congressional Notification |
| CO | Contracting Officer |
| COAR | Completion of Assignment Report |
| COB | Close of Business |
| COM | Commodity Management (Office of) |
| COMENER | Central American Commission for Energy |
| COORS | Contract on Line Reporting System |
| CP | Condition Precedent |
| CPDB | Country Program Data Bank |
| CPI | Critical Performance Indicator |
| CPM | Critical Path Method |
| CPWG | Congressional Presentation Working Group |
| CR | Continuing Resolution |
| CRB | Communications Review Board |
| CRS | Catholic Relief Service<br>Congressional Research Service |
| CRSP | Collaborative Research Support Program |
| CSIRO | Commonwealth Scientific and Industrial Research Organization |
| CWS | Church World Services |
| CY | Calendar Year |

## D

| | |
|---|---|
| D | Office of the Deputy Secretary (State) |
| DA | Development Assistance; Department of Army |
| DA/AID | Deputy Administrator of AID |
| DAC | Development Assistance Committee of the OECD |



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| | |
|---|---|
| DAP | Development Assistance Plan |
| DAS | Deputy Assistant Secretary (State) |
| DCC | Development Coordination Committee |
| DCM | Deputy Chief of Mission |
| DEOB | Deobligation |
| DH | Direct Hire |
| DIA | Defense Intelligence Agency |
| DIS | Development Information System |
| DIU | Development Information Utilization Service |
| DLC | Development Loan Committee |
| DLSC | Development Loan Staff Committee |
| DOD | Department of Defense |
| DOE | Department of Energy |
| DOT | Department of Transportation |
| DP | Development Planning |
| DPG | Development Program |
| DRA | Direct Reimbursement Authority |
| DSP | Development Studies Program |
| DTR | Department of the Treasury |

## E

| | |
|---|---|
| E | Under Secretary for Economic Affairs (State) |
| EA | Bureau of East Asian and Pacific Affairs(State) |
| EAC | East African Community |
| EAORA | East African Office of Regional Activities |
| EB | Bureau of Economic and Business Affairs (State) |
| ECOSOC | United Nations Economic and Social Council |
| EDF | European Development Fund |
| EDI | Economic Development Institute (World Bank) |
| EDR | Employee Data Record |
| EEOC | Equal Employment Opportunity Commission |
| EER | Employee Evaluation Report |
| E&E | Emergency and Evacuation<br>Escape and Evasion |
| EMRB | Executive Manpower Resource Boards |
| EMS | Executive Management Staff |
| EO | Executive Order |
| EOD | Entry on Duty |
| EOP | Office of Equal Opportunity Programs |
| EOPS | End of Project Status |
| EPA | Environmental Protection Agency |
| EPAP | Executive Personnel Assignment Panel |
| ERB | Executive Resource Board |
| ES | Office of the Executive Secretary (AID) |
| ESCAP | Economic and Social Commission for Asia and the Pacific |

| | |
|---|---|
| ESDB | Economic and Social Data Bank |
| ESF | Economic Support Fund |
| ETA | Estimated Time of Arrival |
| ETD | Estimated Time of Departure |
| EUR | Bureau of European Affairs (State) |
| EVT | Emergency Visitation Travel |
| EXIMBANK | Export-Import Bank of the United States |
| EXO | Executive Officer |

## F

| | |
|---|---|
| FAA | Foreign Assistance Act of 1961, as amended |
| FAAS | Foreign Affairs Administration Support |
| FAC | Federal Advisory Committee |
| FAO | Food and Agriculture Organization of U.N. |
| FAM | Foreign Affairs Manual Order |
| FARA | Foreign Affairs Recreation Association |
| FAR | Fixed Amount Reimbursement; Federal Acquisition Regulation |
| FAS | Foreign Agricultural Service (USDA) |
| FBIS | Foreign Broadcast Information Service |
| FBO | Foreign Buildings Overseas |
| FBS | Field Budget Submission |
| FCC | Federal Communications Commission |
| FCD | Final Contribution Date |
| FCS | Foreign Commerical Service (Dept. of Commerce) |
| FDA | Food and Drug Administration |
| FDIC | Federal Deposit Insurance Corporation |
| FDRC | Foreign Disaster Relief Coordinator |
| FEGLI | Federal Employee Group Life Insurance |
| FEHB | Federal Employee Health Benefits Program |
| FEOC | Federal Executive Officers Corps |
| FERP | Far East Refugee Program |
| FF | Ford Foundation |
| FFP | Food For Peace |
| FFW | Food for Work |
| FICA | Federal Insurance Contribution Act (Social Security) |
| FIS | Financial Information System |
| FITC | Foundation for International Technological Cooperation |
| FLO | Family Liaison Office(r) (State) |
| FM | Office of Financial Management |
| FMIS | Financial Management Information System |
| FMS | Foreign Military Sales |
| FOA | Foreign Operations Administration |
| FOB | Free On Board |
| FOC | Field of Concentration |
| FOMIN | Foreign Ministry; Foreign Minister |
| FPO | Fleet Post Office |

| | |
|---|---|
| FPR | Federal Procurement Regulations |
| FR | Financing Request |
| FRLC | Federal Reserve Letter of Credit |
| FRS | Federal Reserve System |
| FS | Foreign Service |
| FSA | Foreign Service Act |
| FSI | Foreign Service Institute |
| FSN | Foreign Service National |
| FSO | Foreign Service Officer |
| FSP | Foreign Service Personnel; Farming Systems Program |
| FSR | Foreign Service Reserve |
| FSRDS | Foreign Service Retirement and Disability System |
| FSRL | Foreign Service Reserve Limited |
| FSS | Foreign Service Staff |
| FTC | Federal Trade Commissison |
| FTEPP | Full-time Employees Permanent Positions |
| FTS | Federal Telecommunications System |
| FVA | Bureau for Food for Peace and Voluntary Assistance |
| FY | Fiscal Year |
| FYI | For Your Information |

## G

| | |
|---|---|
| GA | UN General Assembly |
| GAO | General Accounting Office |
| GATT | General Agreement on Tariffs and Trade |
| GBL | Government Bill of Lading |
| GC | Office of the General Counsel |
| GDP | Gross Domestic Product |
| GEO | U.S. Geological Survey |
| GEU | Genetic Evaluation and Utilization Program |
| GHI | Government Health Insurance |
| GLI | Government Life Insurance |
| GNP | Gross National Product |
| GO_ | Government of_____ [See HG] |
| GPO | Government Printing Office |
| GPOI | Goal, Purpose, Outputs, Inputs (Logframe) |
| GS | General Schedule |
| GSA | General Services Administration |
| GSO | General Services Office(r) |
| GSP | Generalized System of Preferences |
| G-77 | "Group of 77" (Consortium of Developing Nations) |
| GTR | Government Transportation Request |
| GTZ | German Agency for Technical Cooperation |
| GVW | Gross Vehicle Weight |



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## H

| | |
|---|---|
| H | Congressional Relations (State) |
| HA | Bureau of Human Rights and Humanitarian Affairs (State) |
| HAC | House Appropriations Committee |
| HACHO | Haitian-American Community Health Organization |
| HBCU | Historically Black Colleges and Universities |
| HC | Host Country |
| HCC | Host Country Contract |
| HCA | Head of Contracting Activity |
| HFAC | House Foreign Affairs Committee |
| HG | Host Government |
| HHE | Household Effects |
| HIG | Housing Investment Guarantee |
| HL | Home Leave |
| HL/RPT | Home Leave and Return to Post Orders |
| HL/TRF | Home Leave and Transfer Orders |
| HHS | Department of Health and Human Services |
| HUD | Department of Housing and Urban Development |

## I

| | |
|---|---|
| IAC | Interagency Council on Administrative Support |
| IADS | International Agricultural Development Service (Private U.S. Organization) |
| IAEA | International Atomic Energy Agency |
| IAF | Inter-American Foundation |
| IARC | International Agricultural Research Center |
| IASP | Office of Interbureau Affairs and Special Projects, Bureau for External Affairs (AID) |
| IBPGR | International Board for Plant Genetic Resources |
| IBRD | International Bank for Reconstruction and Development (World Bank) |
| ICA | International Communication Agency |
| ICAITI | Central American Industrial Research Institute |
| ICARDA | International Center for Agricultural Research in Dry Areas |
| ICC | Interstate Commerce Commission |
| ICDDR/B | International Center for Diarrheal Disease Research/Bangladesh |
| ICIPE | International Center for Insect Physiology and Ecology |
| ICLARM | International Center for Living Aquatic Resources Management |
| ICRAF | International Council for Research in Agroforestry |
| ICRC | International Committee of the Red Cross |

| | |
|---|---|
| ICRISAT | International Crops Research Institute for the Semi-arid Tropics |
| IDA | International Development Association |
| IDB | Inter-American Development Bank |
| IDCA | International Development Cooperating Agency |
| IDI | International Development Intern |
| IDRC | International Development Research Centre |
| IDS | International Development Strategy |
| IEA | International Energy Agency |
| IESC | International Executive Service Corps |
| IFAD | International Fund for Agricultural Development |
| IFB | Invitation for Bids |
| IFC | International Finance Corporation |
| IFDC | International Fertilizer Development Center |
| IFI | International Financial Institute |
| IFPRI | International Food Policy Research Institute |
| IFS | International Foundation for Science |
| IG | Office of the Inspector General |
| IGA | Inspector General of Foreign Assistance |
| IIA | Intragovernmental and International Affairs Bureau |
| IICA | Inter-American Institute of Agricultural Cooperation (Costa Rica) |
| IIE | Institute of International Education |
| IIMI | International Irrigation Management Institute |
| IIRR | International Institute for Rural Reconstruction |
| IIS | Inspection and Investigation Office |
| IITA | International Institute for Tropical Agriculture |
| ILCA | International Livestock Centre for Africa |
| ILI | International Lending Institutions |
| ILO | International Labor Organization |
| ILRAD | International Laboratory for Research on Animal Diseases |
| IMET | International Military Education Training |
| IMF | International Monetary Fund |
| INCAE | Central American Business School (Costa Rica) |
| INCAP | Nutrition Institute for Central America and Panama |
| INM | Bureau for International Narcotics Matters (State) |
| INR | Bureau of Intelligence and Research (State) |
| INRA | International Natural Rubber Agreement |
| INSFFER | International Network on Soil Fertility and Fertilizer Evaluation for Rice |
| INTSOY | International Soybean Center |
| IO | Bureau of International Affairs (State) |
| IPA | Intergovernmental Personnel Act |
| IPETF | President's Task Force on International Private Enterprise |



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| | |
|---|---|
| IPIAC | International Private Investment Advisory Council on Foreign Aid |
| IPM | Integrated Pest Management |
| IQC | Indefinite Quantity Contract |
| IRM | Information Resources Management |
| IRR | Intensive Review Request; Internal Rate of Return |
| IRRI | International Rice Research Institute |
| IRTP | International Rice Testing Program |
| ISC | Interagency Staff Committee |
| ISNAR | International Service for National Agricultural Research |
| ISTC | Institute for Scientific and Technical Cooperation |
| ITA | International Trade Administration |
| ITC | International Trade Commission; International Institute for for Aerial Survey and Earth Sciences |
| ITF | Interdepartmental Task Force |
| IVACG | International Vitamin A Consultative Group |
| IVS | International Voluntary Service |

## J

| | |
|---|---|
| JACC | Joint Agribusiness Consultative Committee |
| JAO | Joint Administrative Operation |
| JAS | Joint Administrative Services |
| JCARD | Joint Committee on Agricultural Research and Development |
| JCC | Joint Career Corps |
| JOT | Junior Officer Trainee (replaced by IDI) |
| JPIP | Joint Project Implementation Plan |
| JRB | Joint Regulations Board (Interagency-State/AID/USIA) |

## K

## L

| | |
|---|---|
| L | Legal Advisor (State) |
| LAAD | Latin America Agribusiness Development Cooperation |
| LAC | Bureau for Latin America and the Caribbean (AID) |
| LAIS | Loan Accounting Information System |

| | |
|---|---|
| LASPAU | Latin America Scholarship Programs at American Universities |
| LATF | Latin America Teaching Fellowship |
| LC | Letter of Credit |
| LCE | Limited Career Extension |
| L/COMM | Letter of Commitment |
| LDC | Less Developed Country |
| LEG | Office of Legislative Affairs (AID) |
| LLDCs | Least Developed Countries |
| LN | Local National |
| LOB | Line of Balance |
| LOC-TFCS | Letter of Credit-Treasury Financial Communications System |
| LOGFRAME | Logical Framework |
| LOP | Length of Project |
| LWOP | Leave Without Pay |

## M

| | |
|---|---|
| M | Under Secretary for Management (State); Bureau for Management (AID) |
| MAAG | Military Assistance Advisory Group |
| MAP | Military Assistance Program |
| MBE | Minority Business Enterprise |
| MCH | Maternal and Child Health |
| MDA | Master Disbursing Account |
| MDBs | Multilateral Development Banks |
| MFA | Multifiber Agreement |
| M/FM | Office of Financial Management |
| MED | Office of Medical Services (State) |
| MEDEVAC | Medical Evacuation |
| MFN | Most Favored Nation |
| MIAC | Mid-America International Agricultural Consortium |
| MIC | Middle Income Country |
| MINAG | Ministry of Agriculture |
| MINISIS | Computer software package for bibliographical data |
| MinPlan | Ministry of Planning |
| MIS | Management Information System |
| MLAT | Modern Language Aptitude Test |
| MO | Management Operations |
| MODE | Monitoring Overseas Direct Employment |
| MODEM | Modulation-demodulation device for computer transmission of data |
| MOE | Ministry of Education |
| MOH | Ministry of Health |
| MOU | Memorandum of Understanding |
| M/PM | Office of Personnel Management |

| | |
|---|---|
| MS | Marital Status |
| M/SER | Directorate for Program and Management Services (AID) |
| MT | Metric Tons |
| MTN | Multilateral Trade Negotiations |
| MUCIA | Midwest Universities Consortium for International Activities |

## N

| | |
|---|---|
| NA | Not Applicable |
| NAN | No Action Necessary |
| NAPA | National Association of Partners of the Americas |
| NASA | National Aeronautics and Space Administration |
| NASULGC | National Association of State Universities and Land Grant Colleges |
| NATO | North Atlantic Treaty Organization |
| NBS | National Bureau of Standards |
| NEA | Near Eastern and South Asian Affairs (State) |
| NECID | North East Council for International Development |
| NGO | Non-Governmental Organization |
| NICs | Newly Industrialized Countries |
| NIEO | New International Economic Order |
| NiFTAL | Nitrogen Fixation by Tropical Agricultural Legumes |
| NIH | National Institutes of Health |
| NLRB | National Labor Relations Board |
| NLT | Not Later Than |
| NNRR | Net National Rate of Return |
| NOA | New Obligational Authority |
| NOAA | National Oceanic and Atmospheric Administration |
| NPRB | Non-Competitive Procurement Review Board |
| NPV | Net Present Value |
| NRC | Nuclear Regulatory Commission |
| NS | New State Department Building (Main State) |
| NSB | National Security Board |
| NSC | National Security Council |
| NSF | National Science Foundation |
| NTE | Not to Exceed |
| NTIS | National Technical Information Services (Dept. of Commerce) |
| NXP | Non-Expandable Property |

## O

| | |
|---|---|
| OAS | Organization of American States; Operations Appraisal Staff |
| OAU | Organization of African Unity |
| OBE | Overtaken by Events |
| OBR | Office of Business Relations |
| OD | Other Donor; Organizational Development |
| ODA | Official Development Assistance; Overseas Development Administration |
| ODC | Overseas Development Council |
| OE | Operating Expenses |
| OECD | Organization for Economic Cooperation and Development |
| OES | Bureau of Oceans and International Environmental and Scientific Affairs (State) |
| OFDA | Office of U.S. Foreign Disaster Assistance (AID) |
| OFPP | Office of Federal Procurement Policy |
| OICD | Office of International Cooperation and Development (USDA) |
| OICI | Opportunities Industrialization Center International |
| OJT | On-the-job Training |
| OMB | Office of Management and Budget |
| OLAB | Office of Labor Affairs |
| OPA | Office of Public Affairs |
| OPEC | Organization of Petroleum Exporting Countries |
| OPG | Operations Program Grant |
| OPIC | Overseas Private Investment Corporation |
| OPM | Office of Personnel Management |
| Origin | The country in which a commodity has been mined, grown, produced, manufactured or assembled. |
| ORT | Oral Rehydration Therapy |
| O/S | Overseas |
| OSARAC | Office of Southern Africa Regional Activities Coordination |
| OSDBU | Office of Small and Disadvantaged Business Utilization (AID) |
| OT | Overtime |
| OYB | Operational Year Budget |

## P

| | |
|---|---|
| P | Under Secretary for Political Affairs (State) |
| PA | Bureau of Public Affairs (State) |
| PAAD | Project Assistance Approval Document |

| | |
|---|---|
| PACD | Project Assistance Completion Date |
| PAF | Project Authorization and Request for Allotment of Funds |
| PAHO | Pan American Health Organization |
| PAIS | Project Accounting Information System |
| PA/PR | Procurement Authorization/Purchasing Requisition |
| PAR | Project Appraisal Report |
| PARIS | Project Analysis and Reporting Information System |
| PAS | Project Appraisal Report |
| PASA | Participating Agency Service Agreement |
| PBS | Program Budget Submission |
| PC | Peace Corps |
| PCGP | Productive(ion) Credit Guaranty Program |
| PCV | Peace Corps Volunteer |
| PD | Program Determination |
| PD&E | Program Design and Evaluation |
| PDG | Policy Discussion Group |
| PD&M | Program Design and Management |
| PD&S | Program Development and Support |
| PEA | Peace Corps Advisory Council |
| PEC | Program Evaluation Committee |
| PELLERZI TEST | Test of what possibilities exist to contract inside before taking contract outside |
| PER | Personnel Evaluation Report |
| PERT | Program Evaluation Review Technique |
| PES | Program Evaluation Summmary |
| PHC | Primary Health Care |
| PHS | Public Health Service |
| PIB | Public Health Service |
| PID | Project Identification Document |
| PIL | Project Implementation Letter |
| PIO | Project Implementation Order |
| PIO/C | Project Implementation Order/Commodity |
| PIO/P | Project Implementation Order/Participant |
| PIO/T | Project Implementation Order/Technical Services |
| PIP | Project Implementation Plan; Post-harvest Institute for Perishables |
| PISCES | Program for Investment in the Small Capital Enterprise Sector |

| | |
|---|---|
| PL | Public Law (i.e., PL-480) |
| PL 480 | The Agricultural Trade, Development and Assistance Act |
| PM | Office of Personnel Management (AID) |
| PM/TD | Personnel Management/Training Division |
| PO | Purchase Order |
| | Program Office(r) |
| | Project Officer |
| POL | Political; Petroleum, Oil and Lubricants |
| POV | Privately Owned Vehicle |
| PP | Project Paper |
| PPAP | Procedure Policy Advisory Panel |
| PPC | Bureau for Program and Policy Coordination |
| PRE | Bureau for Private Enterprise |
| PRITECH | Technology for Primary Health Care |
| PROAG (ProAg) | Project Agreement |
| PROG | Program; Programming Information System |
| PSB | Performance Standards Boards |
| PSC | Personal Services Contract |
| PTIS | Participant Training Information System |
| PVO | Private Voluntary Organization |
| PX | Post Exchange |
| PY | Person Years |

## Q

## R

| | |
|---|---|
| R | U.S. Refugee Coordinator (State) |
| R&S | Research and Studies |
| RAC | Research Advisory Committee (AID) |
| R&D | Research and Development |
| R&R | Rest and Recuperation |
| RAMPS | Revised Automated Manpower and Personnel System |
| RAPID | Resources for the Awareness of Population Impact in Development |
| RCA | Request for Contract Action |
| RCO | Regional Contracting Officer |
| RD | Rural Development |
| RDO | Rural Development Office(r); Regional Development Office(r) |
| RDO/C | Regional Development Office/Caribbean |
| RDOEA | Regional Development Office for East Asia |
| RED | Regional Economic Development |
| REDSO | Regional Economic Development Service Office |
| REDSO/EA | REDSO/East Africa (Kenya) |
| REDSO/WA | REDSO/West Africa (Ivory Coast) |

| | |
|---|---|
| REOB | Reobligation |
| RF | Rockefeller Foundation |
| RFP | Request for Proposal |
| RFQ | Request for Quotation |
| RFTP | Request for Technical Proposal |
| RHUDO | Regional Housing and Urban Development Office |
| RIF | Reduction in Force |
| RIG | Regional Inspector General |
| RIR | Registry of International Resources |
| RLA | Regional Legal Advisor |
| RLDC | Relatively Least Developed Country |
| RMO | Regional Medical Officer |
| ROCAP | Regional Office for Central American Program |
| RP | Rosslyn Plaza |
| RPCV | Returned Peace Corps Volunteer (Organization) |
| RPE | Rosslyn Plaza East |
| RSSA | Resources Support Services Agreement |
| RTA | Retroactive Terms Adjustment |
| RTD | Return to Duty |
| RTP | Return to Post |

## S

| | |
|---|---|
| S | Office of the Secretary (State) |
| SA | Supporting Assistance; Special Assistant; State Annex |
| SAA | Senior Assistant Administrator |
| SAC | Senate Appropriations Committee |
| SALT | Strategic Arms Limitation Talks |
| SAREC | Swedish Agency for Research Cooperation with Developing Countries |
| SAS | Shared Administrative Support |
| SBA | Small Business Administration |
| SBM | AID Small Business Memo |
| SCD | Service Computation Date |
| SCHED B | Schedule B (Dept. of Commerce), commodities for export identified by a seven digit code |
| SCI | Office of Science Advisor (AID) |
| SDA | Selected Development Activities |
| SDB | Small and Disadvantaged Business |
| SDRs | Special Drawing Rights |
| SEC | Securities and Exchange Commission |
| SECID | South East Consortium for International Development |
| SEL | Statement of Earnings and Leave |
| SER | Program and Management Services Bureau |
| SER/CM | Office of Contract Management |
| SER/COM | Office of Commodity Management |

| | |
|---|---|
| SER/DM | Office of Data Management |
| SER/MO | Office of Management Operations |
| SER/MP | Office of Management Planning |
| SES | Senior Executive Service |
| SES/PRB | Senior Executive Service/Performance Review Board |
| SF | Standard Form (i.e., SF-171) |
| SFRC | Senate Foreign Relations Committee |
| SFS | Senior Foreign Service |
| SHORTLIST | Listing of potential contractors deemed qualified after an evaluation of submitted prequalification information |
| SID | Society for International Development |
| SIECA | Permanent Secretariat of the General Treaty for Central American Economic Integration |
| SLC | Special Letter of Credit-Bank Issued |
| SLDC | Selected Less Developed Countries |
| SMA | Separate Maintenance Allowance |
| SOG | Senior Operations Group |
| Source | The country from which a commodity is shipped country where the commodity is located at the time of purchase |
| SOW | Scope of Work |
| S/P | Policy Planning Staff (State) |
| SPAR | Staffing Pattern Action Request |
| SRB | Special Review Board |
| S/S | Executive Secretariat (State) |
| SSA | Social Security Administration |
| SSM | Sinai Support Mission |
| S&T | Bureau for Science and Technology |
| START | Strategic Arms Reduction Talks |

## T

| | |
|---|---|
| T | Under Secretary for Security Assistance, Science and Technology (State) |
| TA | Travel Authorization; Technical Assistance |
| T&A | Time and Attendance |
| TBA | To Be Announced |
| TCN | Third Country National |
| TDD | Terminal Disbursement Date |
| TDP | Trade and Development Program |
| TDY | Temporary Duty |
| TFAF | Interagency Task Force on African Emergency |
| TFF | Trade Financing Facility |
| TGIF | "Thank God It's Friday!" |
| TIC | Time in Class (Foreign Service) |
| Title XII | New section of the Foreign Assistance Act which places heavy emphasis on utilization of land grant universities and other institutions in fostering development in food and agriculture |
| TTLA | Termination Time Limited Appointment |

## U

| | |
|---|---|
| UBA | Unaccompanied Air Baggage |
| UN | United Nations |
| UN/AID | Universal North Building (AID Annex) |
| UNCDF | United Nations Capital Development Fund |
| UNCTAD | United Nations Conference on Trade and Development |
| UNCSTD | United Nations Conference on Science and Technology for Development |
| UNDP | United Nations Development Programs |
| UNDRO | United Nations Disaster Relief Organization |
| UNESCO | United Nations Educational, Scientific, and Cultural Organization |
| UNFPA | United Nations Fund for Population Activity |
| UNGA | United Nations General Assembly |
| UNHCR | United Nations High Commissioner for Refugees |
| UNICEF | United Nations International Children's Fund |
| UNIDO | United Nations Industrial Development Organization |
| UNITAR | United Nations Institute for Training and Research |
| UNRISD | United Nations Research Institute for Social Development |
| UNRWA | United Nations Relief and Works Agency |
| USAID | Country Mission of the United States Agency of International Development |
| USC | United States Code |
| USDA | United States Department of Agriculture |
| USDH | United States Direct Hire |
| USG | United States Government |
| USIA | United States Information Agency (Washington, D.C.) |
| USIS | United States Information Service (Overseas) |
| USOAS | U.S. Representative to Organization of American States |
| USOM | United States Operations Mission (Overseas Mission) |
| USRP | United States Refugee Program |
| USTR | U.S. Trade Representative |
| USUN | United States Mission to the United Nations |

## V

| | |
|---|---|
| VA | Veterans Administration |
| VOA | Voice of America |
| VOLAG | Voluntary Agencies |

## W

| | |
|---|---|
| WAO | Women's Action Organization |
| WARDA | West Africa Rice Development Association |
| WASH | Water and Sanitation for Health |
| WBS | Work Breakdown Structure |
| WFC | World Food Conference |
| WFP | World Food Program |
| WHO | World Health Organization |
| WID | Women in Development |

## X-Y-Z

| | |
|---|---|
| XA | Bureau for External Affairs (AID) |
| ZBB | Zero Base Budgeting |



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