

THE IMPACT OF PARTICIPANT TRAINING ON THE ATTAINMENT OF DEVELOPMENT GOALS

Report No. 2 THE STUDY IN THE PHILIPPINES

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PREFACE AND ACKNOWLEDGMENTS

This is a report on a study of the impact of participant training on the attainment of development goals in the Philippines. This study was part of a second phase in the development of a methodology useful for conducting impact assessments. The first phase was a feasibility study to determine whether techniques could be devised for measuring the effectiveness of participant training in terms of the impact of returned participants on the development of their countries. This second phase was designed to test the methodological design in live, operational settings. The study in the Philippines was conducted in the agriculture and public administration sectors from 16 June to 1 July 1975. Companion studies were conducted in Korea and Brazil.

This report consists of the following:

Prologue, which briefly reviews the Phase I research and summarizes the methodology resulting from that effort. It serves as a background to the activities described in the remainder of this report.

I. Introduction outlines the Phase II objectives and places the Philippines study within the context of the entire project. It describes the preliminary activities prior to conducting the actual data collection.

II. Description of the Samples defines the criteria used both in selecting the sectors to be studied and the participants to be sampled. It also includes a profile which characterizes respondents in both the agriculture and public administration sectors.

III. Interview Procedures describes the criteria used to recruit and select local interviewers and discusses their role in the study. It also describes the approach used to conduct these interviews.

IV. The Impact of Participants Trained in Agriculture presents the results of our findings in agriculture and discusses the types of impact which returned participants have achieved in this area.

V. The Impact of Participants Trained in Public Administration presents the results of the findings in public administration and discusses the types of impact which returned participants have achieved in this area.

VI. Summary concludes with a description of what the findings revealed in terms of revising strategies and procedures for the subsequent country studies.

The study in the Philippines was made possible by the combined efforts of numerous people in both the United States and the Philippines. Dr. Philip I. Sperling, Office of International Training, continued his role as Technical Monitor for the early part of the project; he was instrumental in the initial developmental stages of this methodological research. Mr. Robert Halligan, Program Officer, and Mr. Sibley Kawi, Training Officer, USAID/Philippines, assisted us in launching this effort by introducing us to local representatives with whom we worked closely throughout the entire study.

The Philippines Association of Technical Assistance Participants provided invaluable support in helping us establish contact with the former participants. Our appreciation is extended to the Board of Directors and Mr. Nicanor Fuentes, President, for their endorsement of our work. Special acknowledgment goes to Ms. Ligaya Jorge, Executive Secretary, for her tireless efforts in contacting all the agencies and arranging our interviews. Her assistance in carrying out the study in the Philippines was inestimable.

The local interviewers demonstrated capability and dedication to the performance of their tasks. We are grateful for their strong support. Our appreciation is also extended to the many former participants who took time from their work to meet with the project staff.

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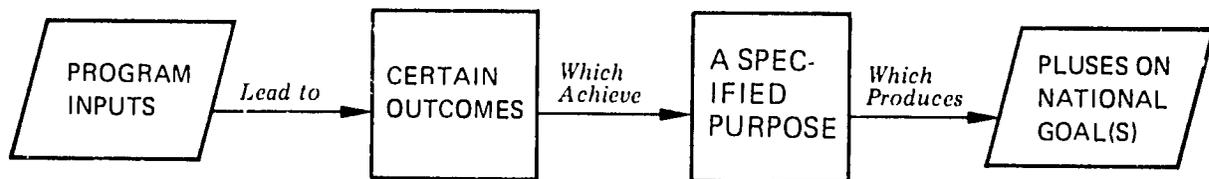
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PROLOGUE: THE PHASE I FEASIBILITY STUDY

In March 1974, the American Institutes for Research submitted its report on Work Order No. 3 of Contract AID/csd-3377*. The scope of Work Order 3 was essentially that of a feasibility study. The question which the study addressed was whether techniques could be devised for measuring effectiveness of participant training in terms of the impact produced by returned participants on the development of their countries. The answer was in the affirmative and took the form of a prototype methodology for carrying out such impact-oriented assessments. The course of the Phase I development will be recapitulated as a prologue to the work to be presented in this report.

The Methodological Problem of Phase I

In AID's Logical Framework, the input-impact relationship is displayed as a sequence of four kinds of events, as follows:



The "rationale" of any type of technical assistance activity can be conveniently displayed in this manner as a guide to planning or impact assessment. In the case of participant training,

- the inputs might be defined as the learning experiences that are provided to the trainee;
- the outcomes as the new performance capabilities that he acquires;
- the purpose as the greater effectiveness of the operations to which the participant applies these new capabilities when he returns; and
- the increment in national goals as the ultimate payoffs of these more effective operations on the development targets that they directly affect.

*Assessing the impact of participant training on the attainment of development goals. Phase I: Methodological Research. Final Report. Washington, D. C.: American Institutes for Research, March 1974.

In this way, the link between participant training and technical assistance objectives is made explicit.

For general analytic purposes, the simple schematic is sufficient. But, for the derivation of specific indicators of impact that one might use in an actual field assessment, it is too abbreviated a representation. One reason for this is that the flow from the achievement of the immediate outcomes to their eventual impact on national goals normally consists of a linked chain of many, many specific events. It is conceivable, perhaps, that a trainee in geology could come back to his country and promptly discover unknown oil deposits that change the economy overnight. But, more typically, an action he takes on the basis of his newly acquired skills will trigger a change in some procedure that will in turn have some modest effect that will in turn cause another person to change his behavior that will in turn . . . etc., etc., etc.

A second complexity that must be considered is that the participant is obviously not the only player who gets into the act. Other elements (people, laws, customs, etc.) interact with the things that he does or tries to do. And these other elements can transmit, increase, decrease, or block the impact of the participant's action.

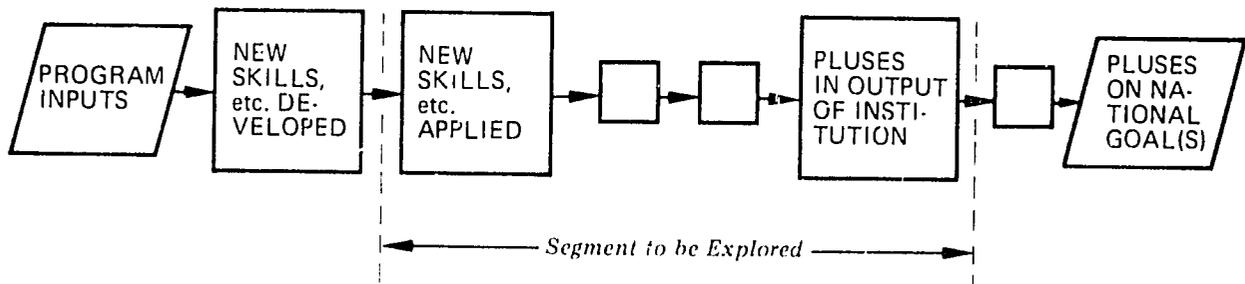
The upshot of these complexities is to create a tug-of-war between the two basic requirements that have to be met in impact assessment, of not only identifying the contributions that have been made to national goals, but of also attributing these contributions to a specified input, such as participant training.

If the checklist used for assessment counts an event such as "participant introduced an evaluation questionnaire into the courses that he is teaching of the type used in the training workshop that he attended" as an indicator of impact, for example, there is no problem in attributing this outcome to his training. But there is a real problem in claiming tangible impact in support of any national goal. If, on the other hand, the indicators are limited to such ultimate outcomes as "developed a new method of sericulture which doubled the amount of silk produced," there can be no

question concerning the importance of the contribution, but there may be great difficulty in attributing part or all of the change to a specifiable facet of the participant training.

The Approach Taken

The AIR approach was based on two strategic decisions. The first of these was that we would concentrate the search for suitable indicators within a fixed segment of the long chain of events that links the training inputs to the ultimate goal of national development gains. The earliest event that we would consider as a potential indicator for purposes of assessment would be an application of a skill or attribute the participant acquired in training to the actual operations of the institution to which he is presently assigned. The most distal event that we would consider as a potential indicator would be a visible change in the output of this institution, in terms of the quality of the services or products that it provides. In schematic form, the following segment would be the one on which we would focus our search:



Events to the right of this segment, we felt, would be too far removed from participant training to permit credible attribution, while events to the left would be too tentative to be counted as contributions. As a rock-bottom minimum, the returned participant would have at least to have applied the presumed training outcome to the improvement of internal job operations.

The second strategic decision was that we would look for indicators in this segment with a search process precisely opposite to that used in earlier participant follow-up studies. Instead of beginning with the outcomes of the training program and looking for their effects in or on the institution, we would begin with the identification of visible improvements or achievements, and then trace these "backward" to their antecedents, if

any, in the training experiences the participant had received. Our first cast of the net would try to surface any and all events that might prove serviceable as indicators for assessment, without reference to their relationships to participant training.

In accordance with these decisions, we proposed a three-step process for developing the indicators required. Step 1 would be to obtain from a sample of former participants and their supervisors, reports of specific improvements that have occurred in the output of the institution or in its operations since the participant's return. Step 2 would be to seek from the same respondents such evidence as they might be able to cite concerning the relationships, if any, of these achievements to experiences during participant training. Step 3 would be to deduce from these data the types of achievements that most effectively straddle the contribution-attribution dilemma, and to fashion these into prototype indicators for impact assessment.

The major product of Phase I was to be the master list of indicators; detailed procedures for applying them in operational assessments would be developed in a later phase, provided that the initial task could, in fact, be accomplished.

The Field Studies in Ghana and Thailand

In accordance with the basic study design, the first stage of the data collection process concentrated on the contribution part of the problem. The two major objectives of the survey in Ghana were:

1. To devise a data collection procedure that is efficient and effective in cataloging tangible improvements in the output or operations of the institutions to which returned participants have been assigned, and
2. To apply this procedure to a sufficiently large sample of participants and institutions to identify the kinds of improvements that are most likely to occur and be noted.

One hundred people, at levels at or above senior officer, were interviewed.*

*Several data collection approaches were used, but we will be concerned here only with the one which proved most effective; the details are available in the cited Phase I report.

Each participant was asked to report and describe events in which he or she participated (or observed) which were illustrative of his or her major achievements. Reports that did not describe a specific event or that did not meet the minimum criterion of representing a tangible improvement were dropped from the data base. This left a total of 292 usable reports as the major outcome of the study in Ghana. Except for such information as the interviewees volunteered about training antecedents, nothing was learned about the attribution characteristics of the potential indicators that had been assembled.

Overall, the Ghana study demonstrated that returned participants effect a variety of improvements in the output or operations of their institutions, that these impacts can be cataloged by a simple interviewing technique, and that the kinds of impacts that emerge from these data occur with sufficient frequency to be potentially useful indicators for impact assessment. The outcomes, in brief, demonstrated the feasibility of the basic idea.

The design of the Thailand research was based directly on the findings in Ghana. Its two major objectives were:

1. To assemble additional reports of participant achievements, so as to amplify and enrich the set of potential indicators developed in Ghana, and to check the generalizability of these indicators to other cultural settings, and
2. To assemble the best possible information about the antecedents of the achievements reported, to determine which of them reasonably could be attributed to participant training.

In view of the limited information that had at that stage been assembled about the attribution problem, the latter was the crucial objective.

Three types of questions were asked each interviewee. The first was totally unstructured questions about specific achievements since returning from training. The second set of questions asked for achievements, if any, in a number of specified areas that reflected the kinds of impacts most often reported in Ghana. The third set of questions asked for attribution comments on each of the achievements the participant had reported.

A total of 200 additional reports of specific participant achievements was assembled from 34 interviewees. This was approximately double the rate of reports per interviewee that had been achieved in Ghana, and was no doubt attributable to the additional "triggers" to recall that the structured questions derived from the Ghana findings provided.

The kinds of impacts reported confirmed both the comprehensiveness and the generalizability of the catalog of potential indicators developed in Ghana. The Thailand reports produced no indicators that did not fit within one of the categories derived from the Ghana data, and all but one of the Ghana categories reappeared in the Thailand sample. This suggested that the catalog was reasonably complete and that further data collection was not likely to expand it.

Adding the Thailand reports to those collected in Ghana did much to sharpen the categorization, however. With a combined sample of 500 reports, the nature of the potential indicators could be delineated much more precisely, and the initial catalog was modified in a number of important respects. The information on attribution collected in Thailand represented a significant addition to the data base. For, unlike the fragmentary attribution comments assembled in Ghana, each of the achievements reported in Thailand was accompanied by an explicit statement of its probable antecedents.

Overall, the Thailand research confirmed the generalizability of the data collected in Ghana, permitted a more precise definition of the indicators that can be applied in assessments, and established the linkages between achieved impacts and experiences during participant training. In conjunction with the Ghana findings, they provided the raw data for the development of prototype assessment procedures.

The Catalog of Participant Achievements

Each of the 492 reports collected in Ghana and Thailand described a certain segment of the impact sequence that was described earlier as a chain of discrete, successive events. Some focused on outcomes at or near the point of impact on national goals. Some reported more intermediate

accomplishments in improving the output, capacity, or operations of the institution in which the former participant works. Some were reasonably broad segments, extending from the point of impact all the way back to participant training; some revealed only a few links of the chain. Each showed a slice of one of the sequences whereby impacts occur, and the main task in the analysis of the data was to sort these slices in accordance with the sequence from which each was snipped, and then to fit the pieces together.

As a first step, we sorted the reports on the basis of the nature of the impact that was the end product of the participant's input or action. In each report we identified the final event of the segment described, and then we grouped the reports that ended in similar types of achievements. We obtained 20 separate groupings, as shown below.

IMPACT ON DEVELOPMENT TARGETS

1. Influenced development strategies or emphases, or a specific investment decision
2. Introduced a new agricultural, industrial, or commercial enterprise in the country
3. Developed a local capability for an activity formerly dependent on external resources
4. Discovered a solution or a more promising approach to a significant development problem
5. Stimulated the more widespread adoption of a preferred practice or other desired public response

IMPACT ON INSTITUTIONAL OUTPUTS

6. Initiated a new service or program
7. Raised standards of products or services provided
8. Changed rules or procedures to be more responsive to needs of clients
9. Avoid disruption of service by timely action, despite difficulties or risk
10. Performed task that required special effort or skill

11. Improved or expanded dissemination programs, techniques

IMPACT ON OUTSIDE SUPPORTS

12. Expanded institution's authority, status, or charter
13. Developed more effective working relationships with local agencies or sources of external aid

IMPACT ON INTERNAL OPERATIONS

14. Introduced or expanded the use of analytic, data-based management aids
15. Introduced cost- or time-saving measures, ideas
16. Imposed tighter structure or controls on staff or vendor performance
17. Improved the allocation or organization of responsibilities and functions
18. Upgraded the caliber, capabilities, or morale of the staff
19. Upgraded physical facilities or equipment
20. Improved record-keeping or information retrieval systems

These twenty categories (defined and illustrated in the Phase I report) range from highly dramatic impacts to achievements that do no more than set the stage for impact. But the data suggest that these latter events should not be discounted as indicators of tangible development gains. For impact is a sequence of events and an adequate assessment procedure must tap in at varying places in the chain.

These twenty categories constituted the project's answer to the contribution half of the contribution-attribution problem. But, as end-points of the reported segments, they provide no information about their antecedents, and consequently establish no links to participant training.

The Impact-Producing Characteristics

To identify the various paths the participants took to bring about these 20 kinds of achievements, we reexamined the reports from this point of view. We found that 464 of them specified the path as well as the result, and from each of these extracted the "impact-producing characteristic," which we defined as the specific skill, attitude, or other resource that the participant brought to the situation to effect the impact reported. Then we categorized the reports a second time, in accordance with these characteristics, and obtained fourteen groupings, listed below.

- A. Technical capabilities, sophistication
- B. Awareness of other possibilities, approaches
- C. Appreciation of nature and magnitude of inputs required
- D. Acceptance of new or expanded objectives
- E. Commitment to principles, convictions
- F. Willingness to take responsibility, act
- G. Data orientation
- H. Goal orientation
- I. Efficiency orientation
- J. Skill in human relations
- K. Familiarity with equipment
- L. Familiarity with workable operating routines
- M. Access to external sources of information or help
- N. Credibility and credentials

If each of these fourteen characteristics could produce each of the 20 types of achievements, there would be a total of 280 separate sequences for which indicators could be developed. But many of these theoretically conceivable sequences are too remote or improbable to be useful for impact assessment. In the existing data base, 111 of the 280 possible sequences were reported, 70 of them two times or more. These 70 sequences were prime

candidates as appropriate foci for impact assessment. But one final question had to be answered: Which of them typically are initiated by an experience provided by participant training?

Attributions to Participant Training

Three hundred and fifty-four (354) reports contained sufficient information to permit attribution decisions. On the basis of the attribution information contained in the reports, they were classified into five groups, representing decreasing attributability to participant training. The resulting classification is shown below.

- I. Reasonably clear-cut links to training
 - (a) Specific technique or theory applied
 - (b) Specific practice or model adopted
 - (c) U. S. source or product applied
 - (d) Practical job experience cited
 - (e) Incidental skill learned
 - (f) Credentials applied
 - (g) Before-after changes observed

- II. Probable links to training
 - (a) Technical background cited
 - (b) U. S. work style cited
 - (c) Timing of the event
 - (d) Requirement for technical knowledge
 - (e) Conformity of approach to U. S. standard

- III. Possible links to training
 - (a) Claim of increased self-assurance
 - (b) Claim of attitude change

- IV. Doubtful links to training
 - (a) Personal characteristics
 - (b) Clever ideas

- V. No links to training

In the data base of 354 reports, nearly 80 percent were classified in Categories I and II.

This analysis added a third dimension to the classification of the reports. At this stage each had been allocated to:

- a. one of twenty categories of achievements,
 - b. one of fourteen categories of impact-producing characteristics, and
 - c. one of five categories of attributability,
- representing three "points" of the impact sequence that it described. An example of a report and its classification is given below.

ILLUSTRATIVE REPORT

Solved problems of cotton spoilage by setting up research study that identified six fungicides as effective cures for the causal disease. Three of these fungicides are now being used and are giving good results.

Credits U. S. journals for information on the specific fungicides that it would be most promising to try.

Classification:

Impact Category	4: Discovered solution to significant problem
Characteristic	M: Access to external sources of information
Attribution	Clear-cut; use of U. S. sources

Reports of this type, classified along three dimensions, were the basis for the development of prototype indicators.

Prototype Indicators for Impact Assessment

Table I summarizes the impact sequences which were most frequently attributable to participant training. There were 36 clear-cut sequences (indicated by X in Table 1) and six which appeared promising (indicated by ? in Table 1). From this analysis, 39 prototype questions were derived, such as

(7) Have you had any success in encouraging your country's farmers (or other client groups) to invest more time or energy in a particular operation, by convincing them that this is important?

and

(13) Have you had occasion to detect a technical error or shortcoming that no one else caught, and that you had to take special steps to correct?

Table I

Combinations Most Frequently Attributable to Participant Training

	A : Tech. Soph.	B : Possibilities	C : Requirements	D : New Goals	E : Convictions	F : Take Resp.	G : Data Orient.	H : Goal Orient.	I : Efficiency	J : Hum. Rel.	K : Equipment	L : Routines	M: Sources	N: Credentials
1: Development Decisions				X										
2: New Enterprises		X												
3: Local Capabilities		X												
4: Discoveries/Solutions	X												X	
5: Public Adoption	X	X	X									X		
6: New Programs	X	X	X											X
7: Higher Standards	X		X								X		X	
8: Client Needs				X										
9: Timely Actions						?		?						
10: Lemanding Tasks	X												X	
11: More Dissemination	X	X											X	X
12: Institutional Charter														
13: Outside Relations														
14: Data-Based Aids							X							
15: Cost Savings												X		
16: Tighter Controls	X		X				X					X		
17: Organiz. Structure												X		
18: Better Staff	X		X							?		X	X	
19: Equipment											X			
20: Record-Keeping	?		?								?			

These 39 questions formed the master list; it was suggested that actual assessments would use a subset composed of those most appropriate for the sector being assessed. It was also suggested that further development of the procedures might be accomplished in the context of actual assessments; the central objective of the feasibility study had been accomplished.

I. INTRODUCTION

Design of Phase II

The Phase II scope of work included the following activities:

1. Select two fields or sectors that contain a sizable participant training component on which detailed, diagnostic feedback data would be of special interest to AID;
2. Prepare for each of these two training activities a step-by-step field assessment procedure, based on the prototype methods developed during Phase I;
3. Apply these procedures in one developing country to generate follow-up data on a sample of fifty former participants in each of the two fields selected;
4. Introduce indicated procedural modifications as necessary during the conduct of the assessment and in the analysis of the results thereafter, and prepare revised second-generation procedures;
5. Apply these revised procedures in two additional developing countries on samples of former participants comparable to the above;
6. Analyze the results in terms both of their action implications for the conduct of participant training in these fields, and of their further methodological implications; and
7. Prepare diagnostic evaluation reports on the two participant training activities and a final methodological report that includes materials and instructions for the conduct of regular field assessments.

The initial field assessment was carried out in Korea. The Philippines study followed the initial assessment and focused on the fifth and sixth activities listed above; the revised procedures were also applied in Brazil.

Arrangements for Site Visit

Mr. Robert Halligan, Program Officer, USAID/Philippines, was contacted regarding the feasibility of applying the revised field assessment procedures in the Philippines. The Philippines was selected because of the well-organized returned participant organization operating there. On 5 May 1975, Dr. Jane G. Schubert from AIR met with Mr. Halligan in

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Manila to brief him on the nature of the proposed activity. Mr. Sibley Kawi, Training Officer, was also present at the meeting. Mr. Kawi then arranged for Dr. Schubert to meet with Ms. Ligaya Jorge, Secretary of the Philippine Association of Technical Assistance Participants (PATAP) on 6 May. This meeting focused on the ways in which PATAP could assist the AIR evaluation team in selecting and contacting returned participants, in selecting local interviewers, and in arranging and carrying out interviews. Dr. Schubert confirmed the arrangements made in a follow-up letter to Ms. Jorge and submitted a formal letter requesting permission to work through PATAP to Mr. Nicanor Fuentes, PATAP President. Approval for the field assessment was granted by USAID/Philippines immediately following Dr. Schubert's visit and was confirmed by AID/W.

Modification of the Assessment Procedures

Based on the experiences of the Korea field assessment team, a number of modifications were made in the assessment procedures:

1. After using the set of trigger questions developed in Phase I and finding them to be too complex, the field assessment team replaced the questions with a list of impact areas which had been taken from the Phase I study in somewhat modified form. The respondents were asked to read through the list, circling those areas in which they had contributed, and then were asked to give specific examples of the contributions they had made in each area circled. This modification improved the quantity and quality of the information being collected, but the list contained too many areas for the respondent to consider, and the wording remained too complex. Following the Korea study, the list of twenty-one areas was reduced to fourteen, and each statement was rewritten, making it shorter in length and simpler in structure. Written instructions for responding were also prepared.
2. When the incidents collected in Korea were classified, the field assessment team found that in some instances, one or more aspects of the incident had not been recorded by the interviewer. To increase the interviewer's thoroughness in data recording in the Philippines study, the data card was expanded to provide space for recording the behavior, outcome, enabling characteristics, and attribution information for each incident. In addition, a set of sample questions was prepared to which the interviewers could refer during their interviews. It was felt that these modifications would reduce the

likelihood that the interviewer would fail to collect or record any of the necessary portions of an incident.

3. One of the questions used in the Korea study focused upon the ways in which the respondents had been changed by the experience of being in another country. The field assessment team was interested in the effects of living experiences on the respondents as contrasted with their experiences in formal educational settings. However, only a few incidents were generated in response to this question. For the Philippines study, the American experience question was rephrased, and several related questions added to see if more information on the topic could be obtained.
4. In the Korea study, each interview began with some brief introductory statements which explained the purpose of the meeting. For the Philippines study, this information was summarized in two one-page statements, one describing the purpose of the interview and the other explaining the critical incident approach. These statements were prepared so that the respondents would understand the nature of the information they were being asked to provide, and the explanation would be consistent across interviews. This was important in the Philippines study since the number of local interviewers was to be much larger than that used in Korea.
5. The methodology developed in the Phase I study called for critical incidents to be collected orally during an interview. The Korea study followed this procedure. Critical incidents have traditionally been collected in written form, and for the Philippines study, a procedure for collecting written incidents was developed to see if an adaptation of the original approach would be a useful addition to the assessment methodology. The procedure for collecting written incidents is described in the chapter on interview procedures.
6. One aspect of the evaluation package to be developed in the Phase II study was a set of orientation materials on how to carry out the field assessment procedure. For the Philippines study, a brief self-instructional training document on the critical incident approach was prepared to try out during the training sessions with the local interviewers.* The document defined a critical incident and what was meant by the terms

* Dr. Daniel B. Felker took the lead in developing these training materials.

behavior, outcome, characteristic, and attribution, and provided the interviewer with practice in identifying examples of each.

Personnel

The field work in the Philippines was conducted from 16 June to 1 July 1975. The site visit was coordinated from Washington by Dr. Robert E. Krug, Vice-President of AIR and Washington Office Director, an active participant in the data collection and development of the Phase I methodology. The field assessment team consisted of Dr. Jane G. Schubert, Evaluation Generalist, who has participated in a variety of on-site program evaluations both domestically and internationally, and who had participated in the study in Korea; and Dr. Kathleen Fernandes, Evaluation Generalist, whose professional experience also includes program development and evaluation.

Mr. Sibley Kawi, who had been present at one of the earlier meetings concerning site visit arrangements, served as contact person at AID/Philippines for the AIR team and prepared the lists of returned participants who were to be interviewed. The team worked closely with Ms. Ligaya Jorge who assisted in the selection of agencies containing substantial numbers of returned participants and who arranged for interviews through PATAP in all of the agencies selected.

II. DESCRIPTION OF THE SAMPLES

Sector Selection

The selection of the two sectors to be covered during the Phase II study was based on the following criteria:

1. The results of the sector analysis must be potentially useful for the design and planning of future training programs.
2. The sector must be of sufficient size to allow a sample of at least fifty participants to be drawn.
3. The sector must be a highly visible one with planned continued training components.
4. The sector must be one that could probably be assessed in two other developing countries in order to build a data base of at least 150 participants and approximately 1,500 separate reports in that sector.

The Phase I findings suggested that regulatory agencies such as economic planning and agencies that conducted development-related research such as agriculture were sectors which might meet these criteria. For the purpose of the Phase II study, economic planning and agriculture were the preferred areas to assess in all three countries. These sectors were used in the Korea study because each contained a large number of returned participants, and, if feasible in the two other countries, were to be selected again in those studies. The AIR team discussed their preferences for the Philippines study with Ms. Jorge and Mr. Kawi. A review of their participant list organized by governmental agency indicated that of the two sectors, only agriculture contained a sufficient number of participants from which to sample. Many of the more specialized areas usually subsumed under economic planning were found under public administration; since this sector appeared to be of sufficient size for sampling, and was the one most comparable to economic planning, it appeared to be the best available choice. The possibility of selecting other sectors was discussed, but it was decided that public administration and agriculture would be the two areas from which returned participants would be drawn for the study.

Sample Selection

The criteria for sample selection were:

1. Length of training. Initially, only participants with a minimum of six months of training overseas were to be included in the study. This criterion was found to eliminate a major portion of the participants in both sectors. After consulting with Ms. Jorge and Mr. Kawi, it was decided to include participants who had trained overseas for six weeks or more. By modifying this criterion, the sample was expanded to include participants whose training consisted of observation tours requiring extensive travel to various sites, along with participants who had enrolled in a specific course of study or program.
2. Location. Although it appeared highly desirable to interview participants living and working in both urban and rural settings, the duration of the study and the limited funds available reduced travel to sites located within two hours driving time from the Manila-Quezon City area. A large-scale governmental reorganization was occurring at the time of the site visit, and many governmental workers and sometimes entire agencies were being moved from the urban centers into the provinces. This meant that many of the participants who had worked in the Manila-Quezon City area a few months before the site visit were no longer accessible for interviewing. The reorganization had a major effect on the availability of participants in the agricultural agencies since much of the developmental work in this area must be carried out in rural settings. The reorganization also resulted in substantial reductions in the number of participants in some of the public administration agencies.
3. Job level. The samples in both sectors were drawn from all job levels. In public administration, some of the job levels sampled included Bureau heads and Commissioners, regional officers, personnel specialists, air traffic controllers, and office and department chiefs. Examples of job levels from the agriculture sector were directors and deputy commissioners, engineers, scientists, professors, market analysts, and administrative officers. A broad range of positions was used so that the impact of participants in similar positions in each sector could be compared.
4. Time of training. Initially, the sample was to be limited to participants who received training anytime from the early 1960's through 1974. Many of the participants in the Philippines had trained prior to the 1960's so it was decided to broaden this criterion to include participants who had been trained as early as the 1950's. This meant

that in some instances, over twenty years had elapsed since the participant had returned from his overseas training.

Using these criteria, samples in each sector were drawn from the list of governmental agencies in which the participants had been working. Agencies thought to contain a substantial number of participants were selected, and senior personnel in each agency were contacted by Ms. Jorge to secure permission to visit the agency and interview the participants who were still employed there. This procedure resulted in the selection of a broad range of both agencies and participants in agriculture and public administration. It was an effective method of securing the necessary number of participants for each sample.

Tables II-1 and II-2 describe the samples actually interviewed in terms of two of the above criteria: length of training and time of training.

Table II-1. Length of Training as a Participant
for the Philippines Sample

	<u>Agriculture</u>	<u>Public Administration</u>
Less than 6 months	10	26
6 to 11 months	28	85
12 to 23 months	15	16
24 to 35 months	3	0
36 to 47 months	1	0
Unknown	9	20
Totals	<u>66</u>	<u>147</u>

Table II-2. Time of Training as a Participant
for the Philippines Sample

	<u>Agriculture</u>	<u>Public Administration</u>
Year training began		
1951-55	8	15
1956-60	22	36
1961-65	18	27
1966-67	2	30
1968-69	1	24
1970-71	5	2
1972-73	7	2
1974	0	3
Unknown	3	8
Totals	<u>66</u>	<u>147</u>

Table II-3 shows the distribution of interviews and incidents by sector. As stated earlier, one of the goals of the Phase II study was to interview at least 50 former participants in each of two fields and to collect a total of 1,000 incidents. Both portions of this goal were achieved. In fact, well over twice the number of interviews planned were conducted, most of these with former participants in the public administration sector. Such a large number of interviews was necessary in order to reach the goal of 1,000 incidents. It was anticipated that each interview

Table II-3. Distribution of Interviews and Incidents by Sector

	<u>Agriculture</u>	<u>Public Administration</u>	<u>Total</u>
Number of oral interviews	55	139	194
Number of written interviews	<u>11</u>	<u>8</u>	<u>19</u>
Total	66	147	213
Incidents from oral interviews			
Collected	281	730	1011
Discarded	0	9	9
Used	281	721	1002
Incidents from written interviews			
Collected	33	33	66
Discarded	4	4	8
Used	<u>29</u>	<u>29</u>	<u>58</u>
Total number of usable incidents	<u>310</u>	<u>750</u>	<u>1060</u>
Average number of usable incidents per oral interview	5.11	5.19	5.16
Average number of usable incidents per written interview	2.64	3.63	3.05

would produce an average of 10 incidents. As can be seen in the table, however, the average number of usable incidents per oral interview was slightly more than five and the average number per written interview was only three. A major factor contributing to the reduced number of incidents per interview was the revisions made in the data collection procedures. Greater structure had been imposed on the oral interviews, and more time

was needed to orient the respondent to the study and the kinds of information required. In order to complete the expanded data cards, the interviewers had to probe for more information about each incident and, as a result, could collect fewer incidents in a limited amount of time. In situations where written incidents were collected, many of the respondents were unaccustomed to writing and found responding to the questions to be a slow and tedious process.

Description of the Agriculture Sample

Table II-4 shows the agencies sampled in the agriculture sector and the number of interviews and usable incidents obtained in each agency. Most of the respondents were technically or scientifically trained in specific fields such as soil science, horticulture, animal husbandry, forestry, and hydrogeology, and frequently held research positions. Nearly one-fourth

Table II-4. Distribution of Interviews and Incidents
by Agency in the Agriculture Sector

<u>Agency</u>	<u>Number of interviews</u>	<u>Number of usable incidents</u>
Agriculture Credit and Cooperative Institute	1	11
Bureau of Agricultural Extension	6	34
Bureau of Agriculture Economics	6	12
Bureau of Animal Industry	3	16
Bureau of Forest Development	6	26
Bureau of Plant Industry	7	29
Bureau of Soils	2	7
Department of Agrarian Reform	2	14
Department of Natural Resources	2	8
Forest Products Research and Industries Development	4	25
Land Bank	1	7
National Food and Agriculture Council	2	9
National Irrigation Administration	9	50
University of the Philippines, Los Baños, Colleges of Forestry and Agriculture	<u>15</u>	<u>62</u>
Totals	66	310

of the sample was composed of professors at the University of the Philippines, Los Baños where teaching responsibilities could be combined with developmental work in their special areas of expertise. Individuals in administrative positions in a bureau or department usually possessed a technical background in some field of agriculture.

Description of the Public Administration Sample

Table II-5 shows the agencies sampled in the public administration sector and the number of interviews and usable incidents obtained in each. The respondents in this sector were drawn from a very broad range of governmental agencies as well as a small number of city departments and organizations in the private sector. The agencies in which most of the respondents were found were the Bureau of Internal Revenue, Civil Aeronautics Administration, Bureau of the Treasury, and Budget Commission. Just as there was a variety of agencies sampled, so was there real diversity in the job functions and responsibilities of the individuals interviewed. Some of the participants were in positions with considerable decision-making authority, such as commission or bureau heads, who had been involved in the creation of new governmental agencies, had formulated new tax policies, or had introduced new budgetary procedures for governmental operations. Others had responsibilities that were focused in a specific, sometimes technical area. This group included some who had implemented more efficient aircraft communication or routing procedures or had developed computerized systems for recording tax collections or for maintaining civil service eligibility lists.

Table II-5. Distribution of Interviews and Incidents
by Agency in the Public Administration Sector

<u>Agency</u>	<u>Number of interviews</u>	<u>Number of usable interviews</u>
Budget Commission	10	61
Building Construction Department, City of Manila	1	4
Bureau of Building and Real Property Management	2	10
Bureau of Census and Statistics	4	15
Bureau of Customs	4	21
Bureau of Internal Revenue	20	91
Bureau of Lands	2	16
Bureau of Printing	1	4
Bureau of Public Works	6	22
Bureau of the Treasury	11	60
Central Bank of the Philippines	6	19
Civil Aeronautics Administration	16	86
Civil Service Commission	8	59
Commission on Audit	5	40
Department of Finance	3	8
Department of Foreign Affairs	1	5
Department of General Services	2	14
Department of Labor	3	9
Department of Local Government and Community Development	6	35
Industrial Textiles Manufacturing Company of the Philippines	1	1
Metropolitan Police Force	1	10
National Census and Statistics Office	8	38
National Economic and Development Authority	4	29
National Tax Research Center	9	40
Philippine Long Distance Telephone Company	1	3
Philippine National Bank	2	7
Philippine Sugar Industry	2	10
Professional Regulation Commission	2	10
Tariff Commission	1	6
Wage and Position Classification Office	5	17
Totals	147	750

III. INTERVIEW PROCEDURES

In Chapter I we described how local personnel would be utilized in conducting the field assessment. In the Philippines, Ms. Ligaya Jorge recruited local staff on the basis of the following criteria:

1. Education. A bachelor's degree in the field of psychology or equivalent work experience. Graduate work would be a bonus, but not essential.
2. Work experience. Interviewing experience would be very desirable; in the absence of such experience, evidence that the individual would be able to think and respond quickly during an interview. Although trigger questions existed, an interviewer needed to follow through with appropriate questions to collect complete data on each reported event.
3. Language. Knowledge and use of written and oral English was critical for communication with the project staff and for completion of the data cards.

Ten individuals were selected to join the field assessment team:

Ms. Carmen Abadilla, Ms. Glenda Andes, Ms. Florita Castro, Mr. Romeo Fortes, Ms. Melissa Gaza, Ms. Bettina Manalang, Ms. Teresita Mendoza, Ms. Linda Noriega, Mr. Henry Pablo, and Mr. Carlos Santa Ana. All of the people chosen met the criteria for selection as staff members. All possessed college degrees, and several were involved in graduate study. All had experience in interviewing, and all were fluent in English. Two members of the group had heard of the critical incident technique, and one had collected information using the procedure. One person was designated to assist Ms. Jorge in preparing lists of participants in each sector, in establishing contacts with some of the agencies, and in scheduling appointments. The remainder of the group served as interviewers.

A two-day orientation was held for the local personnel to familiarize them with the methodology of the study and with the interview format and reporting procedure. Each person read the training material on the critical incident technique, completed the attached exercises, and then met as a group to practice identifying and recording the information necessary in an incident. The AIR staff provided the group with background on the development of the methodology and the goals of the Phase II study, and distributed portions of the Phase I report to use during the period of data

collection. The AIR staff role-played an interview, then had the group work in pairs to practice collecting and recording incidents. Some of the topics discussed during the orientation included identifying the necessary information for an incident, asking the right questions to probe for information, understanding the concept of an incident, and knowing when all of the necessary information has been collected. Each person was given an interview outline and a list of suggested probe questions to use in addition to copies of the materials that the respondent would be reading and marking. Following the first interview, each person met with an AIR staff member to review and critique the incidents collected. Necessary changes were discussed, and incidents were revised or, in some instances, rewritten. Review sessions of this type were held every few days with each interviewer so that training continued throughout the period of data collection. All of the incidents were reviewed in this manner.

Scheduling of Interviews

All interviews were conducted from 17 June through 1 July 1975. Interviews were scheduled through a senior agency official and, when more than one participant was available, were frequently scheduled in groups. An AIR staff member accompanied by several interviewers sometimes met with all of the participants at an agency to give them a brief overview of the study. Interviewers were then assigned to participants, and the pair returned to the participant's office where the interview took place. Sometimes, the AIR staff member would interview the senior member among the participants or would conduct a group session where the participants completed the written forms. Each interview lasted between one and two hours, averaging about one and one-half hours. In instances where the participant's schedule did not allow for this amount of time, the interview lasted thirty to forty-five minutes or was conducted during two or more separate sessions.

Data Recording

Data from the oral interviews were recorded on cards. Each card contained (1) the interview and incident number, (2) the number of the impact area to which the individual was responding, (3) the position and agency of the individual, and (4) spaces for recording the three-tiered

classification. In addition, space was provided for the interviewer to describe the behavior, outcome, enabling characteristic, and attribution information for the incident. On the first data card of each interview, the interviewer also recorded the date, length, and location of the participant's training and the topics studied. On the written form, the participants recorded the incident number in the space provided and the impact area to which they were responding, then answered six questions designed to elicit the necessary information about the incident. Space was available at the bottom of the page for the classification to be entered. Respondents were asked to record the date, length, and location of their training and the topics studied on the first page of the written forms they completed.

Format of the Oral Interviews

The interviews usually began with some introductory statements by the interviewer which reiterated the purpose of the meeting. These statements were frequently quite brief if many of the respondents had attended a group meeting prior to the interview at which the background of the study had been described. The interviewer confirmed the position and agency of the respondent, then asked him to give a brief description of his job. This description oriented the interviewer to the kinds of impact statements that might be expected from the respondent and to the kinds of probe questions that might be useful in eliciting the information necessary for each incident. The respondent then read the pages on the purpose of the interview and on the critical incident approach. Any questions that he had were answered by the interviewer. The respondent was next given the list of impact areas and asked to circle those in which he had taken specific actions. The circled items were used by the interviewer to structure the remainder of the interview. The respondent was asked to describe a specific action that he had in mind when he circled an item. The interviewer had to recognize when the respondent stated a behavior or event that had impact; once the behavior was identified, the interviewer collected the remainder of the information about the behavior that was necessary for the incident. For example, one respondent reported that he had been involved in drafting the performance budgeting legislation which eventually became law. The interviewer would then want to find out what effect the legislation would have, what the respondent's role had been, what factors enabled him to

perform the task, and where he had learned about this type of budgeting.

The interviewer frequently had to question the respondent about the action being described in order to focus upon the specific behavior involved before the interviewer could proceed to collect the remainder of the information needed to complete the incident. The interviewer was assisted in this task by the set of suggested probe questions which had been distributed during the orientation and by the information that the respondent had provided at the beginning of the interview about his job. The latter information was also useful in eliciting behaviors from respondents who felt they could not relate their jobs to any of the impact areas listed. Although a tentative structure had been imposed on the interview, the interviewer was responsible for constructing many of his own probe questions, for picking up cues about possible impacts from the respondent's job description, for focusing the respondent's thinking on events he may not have otherwise considered, and for recognizing when an impact event had been fully reported.

The interviewer progressed through each of the circled impact areas, collecting as many examples from each area as the respondent could provide. The interviewer asked if there were any aspects of the respondent's job that were not covered in the list of areas, then collected incidents on those aspects. The last portion of the interview dealt with the respondent's overseas experiences and asked questions about the influences that his experiences have had on his life. In addition to eliciting some important information about the effects of training on the individual, these questions provided a final opportunity to collect incidents which might not have occurred to the respondent. Following the interview, the interviewer reviewed his notes and transferred the information to data cards which were submitted to the AIR staff for review.

Format of the Written Interviews

The written interviews were usually conducted by an AIR staff member in a group setting, with from two to eight individuals present. After providing the respondents with some background about the study, the staff member distributed to each person the pages on the purpose of the

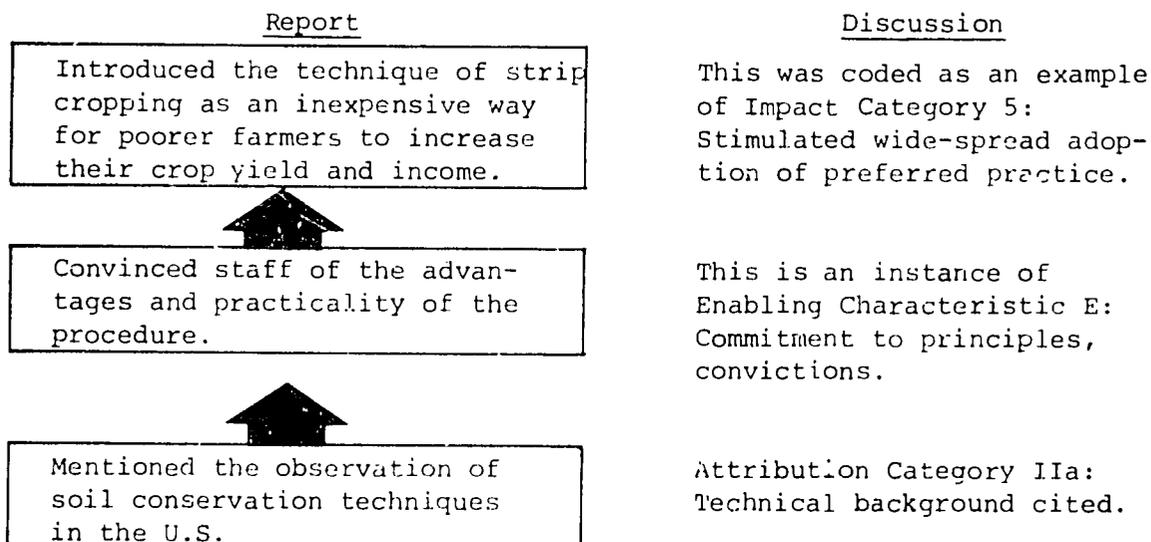
study and the critical incident approach, the list of impact areas, and several of the written incident forms. Taken together, these pages explained the respondent's task and provided the instructions and materials for responding. One reason for developing the written format was to determine if the assessment procedure could be self-administered and thus packaged for use in group settings. As a result, after the initial description of the study, the respondents were directed to their materials for instructions, and assistance was provided on an individual basis only as questions arose. The procedure followed by the respondent was much the same as that followed in the oral interviews. The respondent circled the items from the impact list in which he had taken specific actions, then completed one of the written forms for each of the actions. The questions on the form were designed to elicit the same information about the impact sequence as the probe questions used by the interviewer during an oral interview. Unlike the oral interview, however, the written procedure omitted the open-ended question about aspects of the job not covered in the impact list and the questions on the respondent's American experiences.

IV. THE IMPACT OF PARTICIPANTS TRAINED IN AGRICULTURE

In the Prologue, impact was conceptualized as a linked sequence of events which culminates in some measurable improvement in the attainment of a national goal. Our data, which consist of specific examples of achievements reported by former participants, represent a sample of points along such chains. Some reports document an ultimate impact, such as a new variety of soybean which was an effective meat substitute. Others describe events which occur very early in a chain which may or may not ultimately produce a measurable gain. But if enough of these preconditions for impact occur, and, for example, many mechanisms are developed to disseminate research results, we can be certain that some of these will lead to real improvement, and that each one has such potential.

The Philippine participants in the agricultural sector reported 310 events, representing achievements in 19 of the 20 impact categories. Overall, it is fair to say that the support of this training by USAID has made a significant contribution to the impressive gains in agricultural production. In the following sections we will describe (a) the nature of this impact, (b) the impact-producing characteristics, and (c) the extent to which these impacts can fairly be attributed to the participant training experience.

As an example of the relationship among these three classes, one of the 310 reports was:



The Nature of Impact

Table IV-1 shows the distribution of reports by impact category. For a more complete description of each category, refer to the prologue of this document or to the Phase I Final Report cited earlier.

Impact on internal operations. In agriculture, returned participants most extensively influenced the subset of impacts related to internal operations. Forty-two percent of the agriculture events were scattered among the seven categories in this subset, with nearly half of these falling into two categories, upgrading physical facilities and equipment and upgrading the caliber, capabilities, and morale of the staff. An emphasis upon facilities and equipment would be expected, given the technical and scientific background of many of the participants. Events in this category generally focused upon improving access to rural areas where agricultural assistance was needed and upon outfitting their laboratories with the complex tools and machinery, including computers, necessary for their work. This focus is illustrated in the following examples.

- Recommended purchase of computer so that office could handle increase in data analyses to be done for staff.
- Sponsored a program to distribute vehicles for his field staff to use so they could reach more of the farming community with information about food programs.
- Selected the best type of tools and equipment for farming and pest control to be distributed to farmers in the provinces.
- Recommended purchase of equipment to improve the accuracy of the chemical analyses carried out in the lab.

These events indicate that returned participants were helping to develop institutional capabilities by getting equipment which permitted work in areas not previously possible. They have been able to improve the accuracy of their results and to increase the quality of research being conducted, and thus have established the first link of the chain that leads to the achievement of significant development goals.

Upgrading staff caliber and morale accounted for 10 percent of the total number of incidents. It is reasonable to suppose that this emphasis on staff development derives in part from the important role that training played in the participant's own development. This emphasis results

Table IV-1

Distribution of Reports by Impact Category: Agriculture

Categories	No. of Reports	Percentages
IMPACT ON DEVELOPMENT TARGETS		
1. Influenced development strategies...	3	1.0
2. Introduced a new enterprise...	7	2.3
3. Developed a local capability...	0	0
4. Discovered a solution...	27	8.7
5. Stimulated the widespread adoption of...	<u>6</u>	<u>1.9</u>
	43	13.9
IMPACT ON INSTITUTIONAL OUTPUTS		
6. Initiated a new service...	25	8.1
7. Raised standards of products...	21	6.8
8. Changed procedures to increase responses to client needs...	8	2.6
9. Avoid disruption of service by timely action...	3	1.0
10. Used special effort or skill...	21	6.8
11. Improved dissemination programs...	<u>29</u>	<u>9.4</u>
	107	34.7
IMPACT ON OUTSIDE SUPPORTS		
12. Expanded institutional status...	11	3.5
13. Developed working relationships with local or external agencies...	<u>18</u>	<u>5.8</u>
	29	9.3
IMPACT ON INTERNAL OPERATIONS		
14. Introduced data-based management aids...	18	5.8
15. Introduced cost- or time-saving measures...	22	7.1
16. Imposed tighter staff controls...	4	1.3
17. Improved organization of responsibilities and functions...	18	5.8
18. Upgraded staff morale...	31	10.0
19. Upgraded physical facilities/equipment...	35	11.3
20. Improved record keeping/information retrieval...	<u>3</u>	<u>1.0</u>
	<u>131</u>	<u>42.3</u>
Totals	310	100.2

ultimately in stronger institutions for the developing country, for staff capabilities increase faster as more in-country training occurs and the reliance on non-Philippine sources for technical assistance diminishes. Many of the incidents in this impact category were concerned with providing professional development opportunities for staff members so that they could also profit from some of the new ideas and approaches encountered by the participants. Other incidents related to modifications in staff assignments and responsibilities, promotion criteria, salary policies, and probably reflected the influences of the governmental reorganization on operations in this sector. The following are examples of training activities cited by returned participants.

- Conducted lectures for members of the staff so they would become familiar with better and more up-to-date research methods.
- Developed an office library of relevant journals and other materials to improve the efficiency and performance of her staff.
- Changed the basis of promotion in his office from length of service to amount of training completed to encourage his staff to increase their technical sophistication.
- Prepared a course outline to be used by trainers in conducting workshops on seed certification for staff members.

Impact on institutional outputs. This subset ranked second among the impact categories, with more than one-third of the agriculture incidents falling within this area. Seventeen percent of the incidents were concerned with improving dissemination programs or techniques and with initiating new services or programs. The concentration of incidents focusing on dissemination implies a strong interest in sharing information with a broad audience. As can be seen in the following examples, the concerns of the agriculturalists included increasing public awareness, attracting commercial producers through promotional efforts, and improving outreach to client populations.

- Designed a poster on forestry for the public which has been disseminated during seminars and in-service training on forest development by his bureau.
- Recommended the publication of agricultural information in the different dialects of the Philippines so that it could be understood by more farmers in the regions.

- Organized barrio councils to disseminate information about the amount of homestead fees required by the government so that people would not be overcharged by dishonest fee collectors.
- Conducted training sessions on sorghum production for farmers and commercial seed-growers to inform them of the latest developments in the field and to interest them in increasing national production.

The second category under institutional outputs containing a high percentage of events was initiating a new service or program. The developmental impact of these achievements toward national goals is reflected in the events cited by the returned participants.

- Developed training courses on agricultural cooperatives for use in Southeast Asian countries.
- Began a student recruitment program for the College of Forestry which has doubled the number of students enrolled.
- Introduced a program which integrated population education into the home economics programs for housewives in the barrio.
- Set up a laboratory for studying ways to prevent decay in wood products.

In some instances, the development of new programs will expand the research capabilities of the country to meet specific national needs; in others, the effect will be to increase the number of professionals who can both continue and expand the ongoing work of the institution.

Impact on development targets. The subset of events which most clearly demonstrates an advance toward national development goals contained nearly 14 percent of the reported achievements. The events within the five categories of this subset go beyond institutional activities to impinge more directly on national development goals. Of the five categories, the largest concentration of events was in the area of discovering a solution or more promising approach to a significant development problem. The following examples illustrate some of the achievements in agricultural innovation.

- Produced a new variety of soybean which could be produced commercially and used as an effective meat substitute by low-income families.
- Introduced new procedures to the national rat control program which reduced crop loss by 20 percent.

- Introduced the use of wind mills as part of the irrigation system in rural areas not reached by governmental irrigation units.
- Introduced the practice of relay cropping by which farmers could plant and harvest extra crops from their rice fields.

Describing the achievements of a participant in terms of the nature of the impact identifies the end product of his actions and tells what he has contributed to date. In addition, it suggests something about the potential impact which a participant will have because, presumably, he continues to function now as in the past, perhaps gaining in responsibilities and capabilities. Thus, the incidents collected from each returned participant in our sample only began to describe the contribution that he is likely to make toward achieving his country's development goals.

The Enabling Characteristics

Table IV-2 shows the distribution of reports by enabling characteristics. A more complete description of this category can be found in the Phase I Final Report. This second major classification traces the path the participant used to achieve a specific impact. These 14 distinct paths refer to the skill, attitude or other resource which the participant employed as a tool; they are the impact-producing characteristics.

The table indicates that all of the characteristics contributed to some extent in producing impact. In more than 20 percent of the events, participants relied upon their technical capabilities and sophistication. Aspects of technical competence usually cited were knowledge of specific principles or theories, familiarity with more than one procedure or approach to a problem, ability to design and carry out a scientific test or research project, and unique skills in a field of specialization. The participants usually described their technical skills as the result of formal education. Awareness of other possibilities or approaches was mentioned in 12 percent of the incidents as the resource used by the participants to achieve a specific impact. In many instances, the participants' knowledge of other possibilities stemmed from the range of technical skills they possessed which could be applied toward achieving desired

Table IV-2

Distribution of Reports by Characteristic: Agriculture

	<u>No. of Reports</u>	<u>Percentages</u>
A: Technical capabilities, sophistication	72	23.2
B: Awareness of other possibilities, approaches	38	12.3
C: Appreciation of nature and magnitude of inputs required	17	5.5
D: Acceptance of new or expanded objectives	4	1.3
E: Commitment to principles, convictions	8	2.6
F: Willingness to take responsibility, act	18	5.8
G: Data orientation	12	3.9
H: Goal orientation	11	3.5
I: Efficiency orientation	32	10.3
J: Skill in human relations	8	2.6
K: Familiarity with equipment	18	5.8
L: Familiarity with workable operating routines	7	2.3
M: Access to external sources of information or help	31	10.0
N: Credibility and credentials	<u>34</u>	<u>11.0</u>
Totals	310	100.1

objectives. Three characteristics were mentioned in 10 to 11 percent of the incidents: concern for an attention to efficiency in both research and administrative operations; access to external sources of information or assistance such as journals, other publications, and consultants in the Philippines and abroad; and status within the participant's agency or in his field of expertise.

The Principal Sequences

Table IV-3 combines the distributions of impact categories and impact-producing characteristics to show one part of the impact sequence

Table IV-3
Combinations of Impact Categories and Impact-Producing Characteristics :

		Agriculture														
Categories		A	B	C	D	E	F	G	H	I	J	K	L	M	N	TOTAL
1			1	1										1		3
2		2	3	2												7
3																0
4		(10)	(6)			1		1				1	1	5	2	27
5		3	2			1										6
6		4	3	1	1		2		4					(7)	3	25
7		(7)	3				1	1		3			1	1	4	21
8		1	4				1			1				1		8
9		1			1									1		3
10		(12)	1	1			2							3	2	21
11		(6)	5	2	1		3	2	1	4			1	2	2	29
12		3	1	1		1	1								4	11
13		4		1			1		1	2	1		2	4	2	18
14		(6)	1				2	4		3				1	1	18
15		2	3			1	1	1		(9)		2	2	1		22
16		1							1	1					1	4
17		2	2			1	3	1		3	3			1	2	18
18		5	3	3	1	3	1		1	2	4	1			(7)	31
19		3		4				2	3	3		(14)		3	3	35
20				1						1					1	3
TOTALS		72	38	17	4	8	18	12	11	32	8	18	7	31	34	310

for returned participants in agriculture. The cells which are circled reveal the most frequent combinations of categories and characteristics. Many of the incidents that had impact on national development goals were achieved because the participants had either technical sophistication or

awareness of other possibilities. In agricultural research, one would expect a heavy reliance upon a well-developed area of expertise and a familiarity with different ways of approaching a problem. For impact categories dealing with institutional outputs, the participant's technical sophistication again played a major role, along with his access to sources of information. These combinations would also be expected, since progress in most areas of research depends upon such characteristics. Participants drew upon a variety of characteristics to achieve impact on internal operations, but the most frequently used were those related to technical skills, efficiency orientation, familiarity with equipment, and credentials. The reliance upon this set of characteristics makes sense given the kinds of events which have impact on the internal operations of an institution. For example, it would be expected that a concern for efficiency should have motivated many of the achievements in which cost- or time-saving measures were introduced, or that a participant's skill in using and evaluating equipment should have improved an institution's effectiveness in procuring and utilizing equipment.

Attribution to Training

The third segment of the impact sequence deals with the extent to which an impact can be linked with an experience which was a part of participant training, and it is to this segment of the impact sequence that we now turn. Table IV-4 shows the distribution of reports by attribution. The combined total of the first two headings indicates that 62 percent of the reported impacts can be linked to participant training. That the linkage to training can be made in such a high percentage of the incidents is impressive, given that more than one-third of the sample received their training prior to 1960. Nearly one-half of the incidents indicated reasonably clear-cut links. For example, participants reported that they built canal and irrigation systems following construction practices they had seen in the U.S., or that they duplicated a chemical analysis procedure they had learned while completing a master's degree in an American university. Most of the reports which indicate probable links to training cited the participant's broad technical background acquired during training or indicated his need to know technical information that was acquired in some phase of his training experience.

Table IV-4

Distribution of Reports by Attribution: Agriculture

	<u>No. of Reports</u>	<u>Percentages</u>		
I: Reasonably <u>clear-cut</u> links to training				
(a) Specific technique or theory applied	36	11.8		
(b) Specific practice or model adopted	52	17.0		
(c) U.S. source or product applied	18	5.9		
(d) Practical job experience cited	17	5.6		
(e) Incidental skill learned	8	2.6		
(f) Credentials applied	6	2.0		
(b) Before-after changes observed	<u>0</u>	<u>0</u>	137	44.9
II: <u>Probable</u> links to training				
(a) Technical background cited	22	7.2		
(b) U.S. work style cited	6	2.0		
(c) Timing of the event	0	0		
(d) Requirement for technical knowledge	21	6.9		
(e) Conformity of approach to U.S. standard	<u>3</u>	<u>1.0</u>	52	17.1
III: <u>Possible</u> links to training				
(a) Claim of increased self-assurance	8	2.6		
(b) Claim of attitude change	<u>1</u>	<u>.3</u>	9	2.9
IV: <u>Doubtful</u> links to training				
(a) Personal characteristics	0	0		
(b) Clever ideas	0	0		
(c) General educational experience	<u>0</u>	<u>0</u>	0	0
V: <u>No</u> links to training			<u>107</u>	<u>35.1</u>
Totals			305	100.0

Of the reported impacts, 35 percent were considered by the participants to be unrelated to training. Attribution in these instances was made to a variety of other experiences. Some participants felt the schooling they had completed in the Philippines was responsible for a particular achievement. Others, particularly senior officials, credited experience in their positions since completing training.

V. THE IMPACT OF PARTICIPANTS TRAINED IN PUBLIC ADMINISTRATION

This chapter presents a discussion of the results of the impact assessment in public administration. As in the discussion of agriculture, the results are presented in terms of impact, characteristics, and attribution categories. Of the 213 interviews conducted with participants in the Philippines, 147 were with individuals in the public administration sector. Of the 1,060 usable incidents, 750 described a specific achievement in public administration. The participants represented a variety of governmental services and programs under the general umbrella of public administration and included all of the individuals in this sector that were available in the Manila-Quezon City area. At the time of the study, the Philippine government was in the midst of a major reorganization, the purpose of which was to increase governmental efficiency and to decentralize operations from urban areas to the provinces. As a result, some of the achievements described by the participants focused upon actions they had taken in response to the reorganization plan.

The Nature of Impact

Table V-1 shows the distribution of reports by impact category. A more complete description of each category is provided in the prologue of this document and in the Phase I Final Report cited earlier.

Impact on internal operations. In public administration, returned participants most extensively influenced the subset of impacts related to internal operations, with more than half of the incidents scattered among the categories in this subset. In over 30 percent of the incidents, participants reported upgrading staff caliber and morale, introducing cost- or time-saving measures, and improving the allocation of responsibilities within the agency. Achievements which affected staff capabilities accounted for almost 16 percent of the total number of incidents and spanned a broad range of concerns. Some of the improvements included providing training opportunities for staff or improving existing ones, involving staff in decision-making on matters directly affecting them, developing job criteria and performance evaluation criteria, and improving salaries and other benefits such as cost-of-living allowances, clothing allowances, and

Table V-1

Distribution of Reports by Impact Category: Public Administration

Categories	No. of Reports		Percentages	
IMPACT ON DEVELOPMENT TARGETS				
1. Influenced development strategies...	15		2.0	
2. Introduced a new enterprise...	1		.1	
3. Developed a local capability...	0		0	
4. Discovered a solution...	11		1.5	
5. Stimulated the widespread adoption of...	<u>17</u>	44	<u>2.3</u>	5.9
IMPACT ON INSTITUTIONAL OUTPUTS				
6. Initiated a new service...	51		6.8	
7. Raised standards of products...	77		10.4	
8. Changed procedures to increase client responses to client needs...	50		6.7	
9. Avoid disruption of service by timely action...	5		.7	
10. Used special effort or skill...	39		5.2	
11. Improved dissemination programs...	<u>38</u>	260	<u>5.1</u>	34.7
IMPACT ON OUTSIDE SUPPORTS				
12. Expanded institutional status...	41		5.5	
13. Developed working relationships with local or external agencies...	<u>18</u>	59	<u>2.4</u>	7.9
IMPACT ON INTERNAL OPERATIONS				
14. Introduced data-based management aids...	36		4.8	
15. Introduced cost- or time-saving measures...	74		9.9	
16. Imposed tighter staff controls...	38		5.1	
17. Improved organization of responsibilities and functions...	48		6.4	
18. Upgraded staff morale...	117		15.6	
19. Upgraded physical facilities/equipment...	45		6.0	
20. Improved record keeping/information retrieval...	<u>29</u>	<u>387</u>	<u>3.9</u>	<u>51.6</u>
Totals		750	100.1	

overtime payments. The following are examples of specific achievements cited by participants in this area.

- Made arrangements for the creation of 25 additional positions in his department so that deserving employees could be given promotions.

- Initiated a program wherein personnel in the central office were scheduled for field work on week-ends so that they would have a better understanding of the work of the field staff.
- Developed a general mental ability test to be used for employee selection in the department.
- Developed a merit promotion plan for Civil Service Commission personnel to eliminate nepotism in appointments and promotions.

The introduction of cost- or time-saving measures was the focus of 10 percent of the reported events. In some cases, the steps taken by the participants were relatively minor, such as having multiple forms printed in different colors using a routing slip, and affected only some small aspect of their agencies' operations. In other instances, however, the changes made involved improvements in procedures, such as in filing tax forms or civil service forms, which would have impact on how the agency interacted with the general public. The following examples describe some of the changes introduced by participants in the public administration area.

- Introduced the practice of direct payment to suppliers by the Bureau of the Treasury to reduce departmental red tape and delays in delivery.
- Introduced the use of the Gantt Chart for closer monitoring of construction and installation projects at the airport.
- Developed a Project Monitoring System for internal use by top-level individuals in the government to improve the speed and efficiency of project reporting.

The third impact category under internal operations was concerned with improvements in the allocation or organization of responsibilities and functions. Some of these improvements were made in response to the governmental reorganization plan and included changes which defined the responsibilities of an agency and its relationship to other parts of the government and which specified the role of regional offices in the overall operations of the agency. Illustrations of incidents from this category follow.

- Assisted in the preparation of qualification standards for the Bureaus of Transportation which had been created in the implementation of the reorganization plan.

- Developed comprehensive procedures for staff to follow in the processing of tax returns from filing through the payment of a refund.
- Recommended transferring the job of reviewing emergency currency notes from his division to one with more closely related functions.
- Recommended splitting one section of the commission into two separate sections so that each would have its own responsibilities and would be accountable for its own work.

Impact on institutional outputs. This subset ranked second among the impact categories. Thirty-five percent of the reports were in this subset, with most falling in the categories of introducing new services or programs; raising standards of products or services provided, and changing rules or procedures to be more responsive to the needs of clients. Many of the programs and services introduced by participants were directed toward increasing the efficiency of their own agency's operations, as can be seen in the following examples.

- Introduced the use of computerized civil service exams so that the papers could be corrected more quickly and the public could get their results sooner.
- Prepared the first estimate of capital formation for dissemination to all government agencies in the industrial sector.
- Created an internal audit service for each of the offices in the national government.
- Devised an improved system for delivering supplies and materials which were needed in different repair and maintenance projects.

Achievements in the area of raising standards accounted for 10 percent of the public administration incidents and included such events as the following.

- Suggested an automatic remittance system which enabled government agencies to make their payments to the Government Service Insurance System on time.
- Devised a simplified credit procedure for directing the flow of funds to farmers for rice, corn, cotton, and native tobacco crops.
- Designed standard procedures for departure from and arrival at terminal areas in the big national airports as a safety measure to avoid accidents.
- Integrated the procedures of the Bureau of Internal Revenue with those of the Central Bank to reduce the likelihood of inaccuracies in the payment of taxes by the public.

Under the category of rule and procedural changes, many of the improvements introduced by participants were "extras" in a program or service that made it more convenient for users. As indicated in some of the following examples, the users could be the general public, co-workers, other governmental agencies, or policymakers in other developing countries.

- Introduced the practice of having his staff use motorcycles to increase their mobility in serving the different barrios in his district.
- Founded a study group in tax administration and research composed of representatives from different Asian countries to provide information as it is needed by a member of the group.
- Devised a system of priorities for granting loans to farmers in selected municipalities in Mindanao.

The Enabling Characteristics

Table V-2 shows the distribution of reports by characteristic. Characteristics are those skills, attitudes, or other resources used by participants to achieve impact. The table indicates that all of the characteristics were used to some extent but that the dominant one was technical capabilities and sophistication. Participants usually cited knowledge of principles and theories or familiarity with specific technical procedures or approaches, and considered their skills to be the result of formal education. Other characteristics less frequently cited were efficiency orientation and credentials, both of which seemed compatible with a reliance on technical background. When these three characteristics were taken together, they encompassed more than 50 percent of the reports.

Table V-2

Distribution of Reports by Characteristic: Public Administration

	<u>No. of Reports</u>	<u>Percentages</u>
A: Technical capabilities, sophistication	164	21.9
B: Awareness of other possibilities, approaches	70	9.3
C: Appreciation of nature and magnitude of inputs required	45	6.0
D: Acceptance of new or expanded objectives	7	.9
E: Commitment to principles, convictions	22	2.9
F: Willingness to take responsibility, act	30	4.0
G: Data orientation	18	2.4
H: Goal orientation	24	3.2
I: Efficiency orientation	120	16.0
J: Skill in human relations	35	4.7
K: Familiarity with equipment	18	2.4
L: Familiarity with workable operating routines	32	4.3
M: Access to external sources of information or help	59	7.9
N: Credibility and credentials	<u>106</u>	<u>14.1</u>
Totals	750	100.0

The Principal Sequences

In Table V-3, the distribution of impact categories and characteristics are combined; the cells which are circled indicate the sequences which appear most frequently. Many of the impacts on institutional outputs were achieved through the use of technical skill. One would expect such a combination since a well-developed area of expertise would be a useful tool to apply when making improvements in the quality of an institution's products and services and in their delivery to client populations. Technical skill, usually in the area of planning and management, was also used by a number of participants who succeeded in upgrading the institutional status of their activities. Participants drew upon a variety of characteristics to achieve impact on internal operations, but the most frequently used were those related to technical skills, efficiency orientation, and skill in human relations. The pattern of impacts and characteristics within this subset of categories makes sense given the kinds of achievements which would have impact on the internal operations of an institution. Participants frequently cited technical sophistication as the resource used when they were called upon to use empirical data in decision-making and when they made changes to improve the allocation of responsibilities within their institutions. A concern for efficiency motivated many of the achievements in which cost- or time-saving measures were introduced. Participants reporting incidents of upgrading staff capabilities used an efficiency orientation and skills in human relations in reaching their goals in this area.

Attribution to Training

Table V-4 shows the distribution of reports by attribution. Clear-cut or probable links between impact and participant training were made in 53 percent of the incidents, with nearly one-third indicating reasonably clear-cut links to training. Many participants reported that they adopted a specific practice or model observed in the U.S., such as patterning various flight operations at the Manila International Airport after practices observed in the Federal Aviation Agency. Most of the reports which had probable links to training described a need to know technical information that resulted from some phase of the training experience. Forty-five percent of the reports made no link to participant training, citing instead a variety of other factors such as experience in the participant's current

Table V-3

Combinations of Impact Categories and Impact-Producing Characteristics:
Public Administration

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	TOTAL
Categories															
1	2	3	3	1				1	1				3	1	15
2		1													1
3															0
4	2	1	1					1	1				3	2	11
5	5	2				2							4	4	17
6	(17)	4	4	1	3	1		3	6		1	2	3	6	51
7	(26)	5				4		1	11	1		4	13	12	77
8	14	4	5	1	4		2	3	8			1	3	5	50
9	1	1			1			1						1	5
10	(18)	1	1				2	1	2	2		3	1	8	39
11	5	5	3	1	1	2			3	3		3	5	7	38
12	(15)	4	1	1	1	1	2	1	5			3		7	41
13	3	2	1			2	1	1	2	3		1		2	18
14	(16)	3	1	1		2	3	1	3				3	3	36
15	5	10	5		1	3	1	3	(25)		2	6	5	8	74
16	2	5	1		3	2	3	1	8	1	1	2		9	38
17	(16)	3	1				1	1	9	2		3	1	11	48
18	8	9	13	1	5	8		3	(22)	(21)		3	12	12	117
19	8	3	3			2	2	1	7	2	10	1		6	45
20	1	4	2		3	1	1	1	7		4		3	2	29
TOTALS	164	70	45	7	22	30	18	24	120	35	18	32	59	106	750

position and in previous assignments, contacts with individuals in other agencies, personal characteristics such as common sense and skills in dealing with people, and formal schooling completed in the Philippines or abroad (but not as an AID participant).

Table V-4

Distribution of Reports by Attribution: Public Administration

	<u>No. of Reports</u>	<u>Percentages</u>
I: <u>Reasonable clear-cut</u> links to training	240	32.1
(a) Specific technique or theory applied	61	8.2
(b) Specific practice or model adopted	110	14.7
(c) U.S. source or product applied	34	4.5
(d) Practical job experience cited	22	2.9
(e) Incidental skill learned	6	.8
(f) Credentials applied	7	.9
(g) Before-after changes observed	0	0
II: <u>Probable</u> links to training	158	21.1
(a) Technical background cited	40	5.3
(b) U.S. work style cited	29	3.9
(c) Timing of the event	2	.3
(d) Requirement for technical knowledge	86	11.5
(e) Conformity of approach to U.S. standard	1	.1
III: <u>Possible</u> links to training	16	2.1
(a) Claim of increased self-assurance	15	2.0
(b) Claim of attitude change	0	0
(c)	1	.1
IV: <u>Doubtful</u> links to training	0	0
(a) Personal characteristics	0	0
(b) Clever ideas	0	0
(c)	0	0
V: <u>No</u> links to training	33.4	44.7

VI. THE STUDY IN THE PHILIPPINES: A SUMMARY

The goal of the Phase II study was to devise techniques for measuring the effectiveness of participant training in terms of the impact which returned participants have on important development goals of their countries. A field assessment procedure was prepared on the basis of the prototype methods developed in Phase I and was tried out in Korea. Based on the data collected in Korea, procedural modifications were made, and the revised procedures were then applied in two additional countries. This report describes the results of the impact assessment for one of the countries, the Philippines. The principal outcomes are summarized below.

Methodological Findings

In general, the revised procedures worked very well and only minor "polishing" changes are required to make the package operational. The revised orientation procedure was quite successful: the local interviewers went directly from orientation to live interviewing, without the intervening stages found necessary in Korea. Improvements which should be made include (1) more practice in recording the events reported, (2) a better articulation of the "enabling characteristics" concept, and (3) more practice interview exercises.

The written version of the procedure did not work very well. It is probable that it could be used successfully if the local language were to be used; the requirement for using English would not arise in studies managed locally for local use. Because the written form is very economical, we do not recommend that it be dropped from further consideration.

The number of incidents collected per interview was about half the expected number, but the quality of the data was quite high. In the Korea tryout, we discarded about 10 percent of the reports, either because they were incomplete or reported something which was not really an impact. In the Philippines, this "wastage" dropped to about 1½ percent, which is quite acceptable. It is our opinion, based on considerable experience with the critical incident technique, that the incidents per interview rate would increase with increased interviewer experience.

Substantive Findings

The program areas of agriculture and public administration were selected for the Philippines study because it was felt that the results of the assessment in these areas would have potential value in designing and planning future training programs. Interviews were held with 213 returned participants (66 in agriculture and 147 in public administration), and a total of 1,060 incidents (310 in agriculture and 750 in public administration) was collected. Each incident was categorized according to the nature of the impact achieved by the participant, the enabling characteristic by which the impact was achieved, and the extent to which the impact could be attributed to participant training. The results in the two program areas were analyzed for each of these categories and for the impact sequence as a whole.

When the two program areas are considered together, the patterns of results are remarkably similar. In both areas, many of the achievements reported by participants had impact on aspects of the institution's output and on its internal operations. Common areas of impact lay in the introduction of new programs and services and in the upgrading of staff capabilities. In both agriculture and public administration, technical skill, a concern for efficiency, and status in one's field emerged as the dominant characteristics by which participants were able to achieve impact.

In more than half of the incidents collected in both program areas, some link was made between impact and participant training; in more than one-third of the incidents, the link could be considered to be reasonably clear-cut. Participants in both areas drew upon their training experiences in achieving impact in all of the areas where a large number of incidents were reported. In several of these impact areas, the bulk of the incidents reported by the participants were tied directly to their training. Given that many of the participants received their training as much as twenty years ago, the frequency with which these linkages can be made indicates that participant training has had a significant effect on the kinds of impacts made by participants on the development goals of the Philippines.

* * * * *

This report is one of five separate reports resulting from Phase II. The companion reports on the country studies conducted in Brazil and Korea have also been prepared. A fourth report presents an analysis of the two sectors, independent of the findings peculiar to each country. It represents an attempt to synthesize what was learned about two sectors in three countries. This report also contains detailed tabular data showing the distribution of reports by achievement, attribution, and impact-producing characteristics. The Final Report assembles documents and instruments to be used by local interviewers and comprises the evaluation kit that can be used to conduct field assessments in the future.