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A COMPARATIVE METHOD TO EVALUATE THE DEVELOPMENTAL IMPACTS OF AID-ASSISTED TRAINING

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SUMMARY

PURPOSE

The purpose of this report is to propose a methodology that can be used in a regular and systematic manner within reasonable time and cost constraints to assess some of the impacts that AID-assisted trainees have had on social and economic development in their home countries. Our objective is to design a practical methodology that will yield reliable and relevant results.

PROBLEM

Although there is general agreement on the value of increasing the current level of knowledge on in-country effects of participant training programs, a review of the literature on evaluations done for AID (and academic and research literature) failed to reveal a satisfactory approach to performing this type of assessment. A common failing of previous methods of evaluation has been a lack of focus so that they have tried to cover too much ground in areas that are already quite complex. Another shortcoming is the lack of comparison groups of trainees in these assessments. Without samples of trainees whose programs were in countries other than the U.S. and/or under different sponsorship than AID, it is impossible to measure the specific impact of AID-assisted training on in-country development (independent of other influences).

SCOPE

This report represents the first stage in the development of an evaluation methodology. Detailed in this initial stage will be the basic concepts and methodological approaches as well as the technical and managerial aspects of design implementation. The second stage would involve a field application of the methodology in one to four countries. In the third stage, the methodology would be incorporated as a component of regular and systematic evaluations of the development impact of AID-assisted training. Each stage is designed to be undertaken independently and will be of value in itself. Obviously, the implementation of the entire evaluation program would provide maximum information and insights to AID officials.

To keep the methodology for assessing impacts of participant training on economic and social development within reasonable bounds (in broad likely-costs/expected-benefits terms), we have concentrated the methodology for the first stage in the following ways:

1. The participants involved will be those individuals who were brought to the United States (U.S.) or other countries for degree-based training at the university level and who successfully completed at least one year of study.

2. The economic and social indicators of interest will be those associated with middle-range development, i.e., those developmental changes that are specific enough to be observed and associated with a participant and general enough to produce impacts that affect many people.

3. AID-assisted trainees will be selected by random sampling and interviewed to gather data on the indicators proposed in the methodology. Other trainees (i.e., non AID-assisted) will also be selected and interviewed to obtain the same types of information and conduct comparative analyses.

RESEARCH APPROACHES

The information in a given country will be obtained from experts, counterparts, trainees and their constituencies. Two general research approaches will be used to obtain this information. The top-down approach (deductive) will proceed from the definition of general development goals to the social and economic indicators to the middle-range developments associated with these indicators as identified by the in-country experts. When the experts and counterparts have identified the most important developments, the evaluation team will ascertain the contributions made by different groups of trainees to each development. The bottom-up approach (inductive) will simultaneously be used to identify and locate samples of different groups of trainees and gather information on the impacts they have had on middle-range development. This approach will make use of appropriately modified methods and instruments used in most survey research studies.

The two research approaches are complementary and interdependent. The top-down approach must eventually reach some of the individual trainees identified by the bottom-up approach to obtain details about organizational and group activities that have produced the middle-range developments identified by the in-country experts. The data gathered from the samples of trainees in the bottom-up approach must be compared with and put in the context of the information obtained from the experts and in-country counterparts to check its validity and to estimate the

extent of the trainees' impacts on middle-range development in their country.

ECONOMIC AND SOCIAL INDICATORS

The effects of training on economic and social development are multiple; some effects are more easy to observe and measure than others. This methodology will focus on some of the most important effects or impacts on development. Several economic and social indicators are proposed in this report to measure the performances of AID-assisted trainees and comparison groups of other trainees. Each indicator must be precisely defined and susceptible to replicable measurements. Measurements for the selected indicators will be obtained by interviewing the trainees that fall in the samples.

The indicators of economic impact are subdivided into two categories: individual and societal. Individual trainees' earning profiles, occupational mobility and personal wealth indices are examples of the first category. The second category consists of measurements of participation in activities such as employment creation, foreign exchange generation and investment and entrepreneurial development. Participation in activities related to the development of sectors of high economic development priority in given countries will also be included.

Social indicators of impact offer a wider range of options for different countries. Examples of these indicators are: decreases in infant mortality; higher educational enrollment, attainment and literacy rates; increases in life expectancy; improvements in the area of social justice and equity for citizens; and movements toward wider participation in political (democratic) and civic activities. Measurements of these indicators will be obtained by the degree of participation of trainees (their individual levels of responsibility and in-

fluence, duration of participation, etc.) from the different samples in the relevant activities. These indicators can best be identified as the field studies required in stage two are undertaken. Some additional examples of such indicators are described on pages 8 and 9 of this report.

Occupational mobility will be used to evaluate impact in the social and economic areas and will be developed from the job histories of the trainees. Distinctions will be made between the trainees' participation in public and private sector activities in general, and other sectors of interest in particular countries.

QUESTIONNAIRES

There will be one questionnaire to be applied to all trainees. Before the application of the questionnaires a number of informal or less structured interviews will be applied to experts, counterparts and their constituencies to gather background information necessary to design the questionnaires and carry out the analysis of the data. The questionnaires will be designed specifically for each country where the evaluation is conducted, following the generally accepted guidelines detailed in this report. They will be the main instruments to gather data from the trainees in a systematic and rigorous format, for their later computer processing and statistical analyses. Examples of the information to be gathered by these questionnaires appear on pages 67-69 of this report.

SAMPLING

At least two groups of comparable individuals must be interviewed: one group, having been AID participants; the other group not having been AID participants. This point is of paramount importance. Failure to obtain data on the social and economic

indicators of impact from comparison groups makes even the best data obtained about AID participants of little more than general interest. Any inferences about the effects of AID training on any of in-country activities are purely speculative without data from matched comparison groups of trainees.

Directories of AID-assisted trainees must be available before the application of the methodology in a given country. The directories will serve to locate and select the sample of AID-assisted trainees for the interviews. They will also serve to identify the personal profiles for the samples of the trainees in the comparison groups. The potential types of samples of trainees can be seen in the table on page 59 of this report. Several procedures might be followed for locating the members of the comparison groups. One is to carry out the selection in the same institutions where the AID-assisted trainees work or have worked. Another procedure is to sample institutions where trainees from different groups are and then select them randomly for the interviews.

QUESTIONS TO BE ADDRESSED

Examples of the questions that the methodology will address include the following:

- What have AID and non-AID trainees respectively achieved?
- How does the occupational and civic performance of AID participants compare with that of other relevant groups?
- What is the degree of participation of AID and non-AID trainees in the private and public sectors?
- In what areas of priority for AID have the separate groups worked?
- How much employment have the different groups of participants generated?

- How does the occupational mobility of the AID trainee since his/her return compare to that of other groups?
- How do female trainees perform in relation to male trainees across sectors and groups of trainees?
- How long do trainees stay in their intended field of specialization?
- Are levels of earnings associated more with the type of training or with the socioeconomic background of the participants and other individuals?
- Do participants in private sector activities use their training more effectively than in the public sector?
- Do AID participants appear more entrepreneurial than other trainees in terms of their occupational mobility?
- Is success in the private sector preceded by success in the public sector?
- How does success relate to family background?
- At what level of training do participants stay longest in the public sector, or in their intended field of specialization?
- Do AID participants proportionally appear more frequently in high level government positions than others?

LOGISTICS AND MANAGEMENT OF THE FIELD STUDIES

To ensure that the design of the methodology and its application fulfill minimum technical and scientific standards, the exercise must be undertaken with a high level of managerial efficiency. This poses a double challenge for the evaluator: on one hand he/she will have to cope with all the technical difficulties that are certain to arise; on the other, he/she will have to conduct the study with utmost care regarding organizational and logistical details. The discussion of these issues in this report elaborates the main phases of most field research studies: a) survey design, b) data collection, c) data processing, and d) analyses.

Allthough much of this discussion will be familiar to trained survey researchers, we place special emphasis on the selection and training of interviewers and the development of research instruments that are relevant and understandable to the trainees. Too often, research studies done abroad fail for lack of sensitivity to the conditions in the countries and toward the people that are being surveyed.

The quality of the field work in each case will be an important factor here since a badly performed survey reduces the amount of usable data. Social science phenomena are among the most complex in the entire realm of science. Unfortunately, too often operational pressures, negligence, or lack of understanding lead to superficial design and application of evaluation instruments. The methodology presented in this report will not be effective unless applied by persons trained and experienced in social science research, with solid backgrounds in field work. Its utility will depend on how well it is adapted to the specific conditions in each country of application.

SELECTION OF COUNTRIES FOR THE FIELD TEST

This methodology should be tested in a small number of countries, to assure that it can be adapted to a variety of circumstances. Trying to apply this approach with inadequate resources will certainly lead to failure. It is not within the scope of this paper to furnish guidelines for the level of resources necessary for a successful trial. The cost will partially depend on the countries selected and the amount of information available on participants at the AID missions.

Since the criterion for the methodology is actual change in the social indicators of general development in countries to which AID-assisted trainees have returned, there is no reason at

this time to study countries in which little or no such change has taken place. To ensure that this methodology for assessing middle-range developments and trainee impact on it has the optimum chance to work, countries should be selected for the pilot studies that show significant change in indicators of national social and economic development. This would be ascertained from data available in the U.S.

The countries that best fulfill these conditions should be the top candidates for the first field tests. A top candidate might be Brazil, where CAPES, the Brazilian government agency in charge of administering all country scholarships, national and foreign, has conducted a survey of about 12,000 trainees (including those assisted by AID) in which sponsorship is identified. Even though the data do not include the economic measures suggested for this methodology, they do provide excellent background material for a good evaluation. Other countries that seem to fulfill the necessary conditions for applying the methodology are Thailand, Peru, Indonesia, India, Nepal, and Dominican Republic.

I. BACKGROUND

The primary goal of AID programs, including its Participant Training Programs (PTP), is to promote social and economic development in a number of less developed countries (LDCs). Participant training programs are those in which the participants are brought to the United States or to other countries for training as individual trainees or on an aggregated sector or country basis. Although there is a common belief within the development community that most AID-assisted trainees have helped to promote development after returning to their home countries, there is little more than anecdotal or impressionistic evidence to support this view. The conventional theme that U.S. training is perhaps too "sophisticated" technologically for most LDC needs continues to be heard. The largely opposite view that U.S. training, particularly academic training, does not prepare LDC participants for the broad responsibilities they will have to assume in their countries as members of a "certified" educated elite is also heard, albeit less frequently. Perhaps even more fundamentally, the argument seems to be made with increasing frequency that the costs of training abroad (i.e. in the United States) for a returned trainee, in terms of psychic and social alienation, outweigh the benefits derived from that training. Given these doubts and concerns plus the lack of reliable evidence regarding the (assumed) benefits of foreign training, some effort to obtain and analyze data on impact seems warranted.

The purpose of this report is to propose a methodology for identifying and assessing some of the impacts that AID-assisted trainees have had on social and economic development in their countries, that can be accomplished within

"reasonable" time and cost constraints. It involves a comparison of the effects of individual participants from a variety of training programs in contributing to middle-range development of their societies. Therefore, this methodology is specially designed to evaluate the external efficiency of different kinds of participant training.

In pursuing this basic objective, the report responds to common concerns about assessing the impacts of participant training on economic and social development in AID recipient countries. Meetings held with key AID officials before preparing this report allowed us to focus on areas of greatest interest, ranging from the need to know where and when former participants contributed to development in their countries, to the nature and content of participants' contributions and the institutional conditions that reinforce or discourage those contributions. Despite some skepticism about the possibility of producing a reliable method to ascertain the impacts of participant training, there was general agreement on the value of and need for increasing the current level of knowledge on the in-country effects of participant training.

Better information on the impacts of PTPs may help enhance AID's internal efficiency in the planning of these programs; it could also help support AID's future training efforts. However, it should be remembered that these are side benefits. The goal of this methodology is to produce reliable and relevant information on the impacts that AID-assisted trainees have had on economic and social develop ment in their countries, as compared with the impacts that individuals with other types of training have had.

A recent review of the literature on evaluative work done by and for AID (Elmer and Moser, 1985) confirms that, with

very few exceptions, no satisfactory evaluations of participant training impact on in-country development have been carried out for AID. Most of the past evaluation/research has focused on the planning and management (internal efficiency) of the actual training programs in the U.S. The lack of developmental impact evaluations in-country is a result of the complexity of the task involved and the lack of a rigorous, cost-effective evaluation method. In the late 1950's and early 1960's studies of the utilization of U.S. training by foreign nationals upon returning home were conducted in some 30 countries for the International Cooperation Agency (BSSR, 1960, 1961, 1962). A more recent study in five countries touched on in-country activities of AID-assisted trainees (Schubert, 1976). These pioneering studies were limited by a lack of comparison groups and by a narrow focus on specific job-related behaviors (Elim, 1977), but they provide guidance for future field work.

A general review of the academic literature also turned up very few research studies on the developmental impact of foreign trained individuals in their home countries. Most of the research done on foreign students focuses on foreign students profiles, institutional (higher education) policies, legal issues (immigration), recruitment and admission policies and procedures, adaptation problems, academic performance, and cross-cultural issues and attitudes. Again, for reasons of cost, convenience and complexity, the emphasis has been on students and their activities during training, not after returning home. None of the studies we could find (including a bibliography prepared by Lulat and Cordaro (1984) on research done in several countries), has the focus on social and economic development or the comparison of training programs with different sponsorship and in different locations that we propose in this report.

This document presents the initial formulation of the study; a second stage will be necessary to test and refine the methodology. That second stage would involve the application of the methodology in one to four countries. A third stage would incorporate this methodology as part of a regular program to evaluate the developmental impact of partipant training periodically according to the needs and opportunities perceived by different AID missions and their host governments.

II. OBJECTIVES

The general objective of the methodology is to identify some of the contributions that AID-assisted trainees have made to the development of their countries. More concretely, the objective is to examine a broad set of economic and social indicators of development and provide a scheme for assessing ways in which trainees are associated with some of them. Of course, one cannot measure every impact that each trainee has had, nor can one, except in rare instances, ascribe particular impacts to particular individuals. Therefore, this methodology will focus on economic and social development in the middle-range, not global or revolutionary development (such as splitting the atom, establishing a representative government or increasing the gross national product by a given percentage), nor just changes in the trainees themselves or in their immediate job performance. Such changes are important and necessary to produce broader social and economic changes, but they do not represent those changes. They are not the total end-product that AID hopes to promote. The proposed methodology suggests ways to identify significant middle-range developments in a country and their connections with AID-assisted trainees. These connections will be specific enough to be observed and associated with the efforts of the trainees, but general enough to produce social and economic changes that affect a wider circle of people than the trainee and his or her immediate contacts.

This kind of impact is more likely to be produced by AID-assisted trainees who have studied at least one year

in the U.S. and successfully completed their programs of study than by trainees in more specialized, short-term technical programs. The world-wide study conducted by the Bureau of Social Science Research (BSSR) in the early 1960s found that trainees in programs of longer duration at U.S. universities were more likely to say they utilized their training after returning home. Earning an academic degree in the U.S. had tangible consequences for development work. Trainees who had completed a degree program were more likely than short-term trainees to have a conceptual approach that was critical, analytic and imaginative. Therefore, this methodology will follow up only academic trainees who successfully completed at least one year of study.

Other cross-cultural studies, outside the area of participant training, have found that middle-range development and the organizations and individuals associated with it vary significantly in form and content from country to country. Thus, to ensure accurate and valid results it is vital that any study in this area be undertaken with the collaboration of knowledgeable people in the country being studied (identified throughout this paper as counterparts or members of field test study teams.) Only with the collaboration and participation of governmental and private host nationals and institutions in the applications of this methodology can important middle-range development and the events, institutions and persons associated with them be identified accurately and confidently. Knowledgeable host nationals will know the types of development that have occurred, whom they affect, and when and where they originated.

III. BASIC CONCEPTS

A. Developmental Goals

There are many different arenas in which social and economic development occur in any country. For the field work proposed in this report, prior identification of some general development goals in a given country is needed to suggest indicators of developmental change and to give initial discussions with knowledgeable host nationals and others focus and coherence. Some potential goals and conditions associated with their accomplishment are outlined below as examples of the ideas that will be used to suggest specific indicators of developmental change in a country.

Within an LDC context, a development goal may be to provide for the basic physical and economic needs of the country's citizens. Closely associated with the attainment of this goal is the necessity of maintaining and increasing the productive capacity of the country. Also related are the maintenance and development of services in health, sanitation, transportation and communication.

Another development goal may be the provision of equity and social justice. While this goal is more indefinite than the physical and economic one, it is not less important. Associated with the attainment of this goal are, among other things, fair (i.e. predictable and generally applicable) rules and regulations and humane systems of governance. These rules can be administered at any social level from the community to the entire society. They characterize institutions and processes that help citizens articulate and

pursue their positions and preferences effectively and improve the society's capabilities for promoting economic and social welfare.

A third developmental goal may be providing opportunities and incentives for citizens to participate in economic, political, educational and civic organizations. Closely associated with the attainment of this goal are the variety of jobs, schools, political offices, and local organizations that are open to and understood by all citizens. Also related is the need for a sense of individual benefit that can come from taking part in these organizations.

B. Indicators of General Development

An indicator of development is a variable that reflects one or more development goals. Each indicator must be valid and reliable. Validity will be checked by relating the indicators to specific development goals. Reliability can be reached through technical approaches in gathering and analyzing the information on the indicator. Each indicator must be precisely defined and susceptible of replicable measurement. For illustrative purposes, we will suggest a few of the social and economic indicators of development that might be used in some LDCs to assess movement toward the three hypothetical and very broad goals listed above. Indicators showing progress in meeting the physical and economic needs of citizens might be decreases in infant mortality, epidemiological rates, birth rates, bankruptcies and soil erosion. Other indicators might be increases in life expectancy, per capita income, reforestation, and agricultural production.

In the area of social justice and equity for citizens, indicators of development might be more similarity in wage

rates, literacy rates, draft rates and punishment for all citizens in the same jobs, age groups and criminal categories. Other indicators might be decreases in the number of segregated facilities and organizations.

Movement toward the development goal of providing opportunities and incentives for participation might be increases in the number and variety of candidates for public office; in voting percentages and educational enrollment in low income groups; in the variety of ethnic, religious and gender groups holding public offices; in the number of private sector jobs and variety of paid workers in civic and religious organizations. Other indicators might be decreases in unemployment, homelessness, and sanctions for participating in political, educational or religious activities.

C. Middle-Range Development

Middle-range development requires specific changes in the structure and functioning of social and economic organizations and programs. These changes account for the increases and decreases we will be looking for in the indicators of general development. They will vary from country to country. To identify them in a given country, it will be necessary to interview national and international experts who are or were in the country at the time the indicators suggest the changes took place.

To provide a sense of what we mean by middle-range development, we will list examples of such development that could be associated with the social and economic indicators we have mentioned. The following middle-range developments might be associated with the indicators of progress in meeting physical and economic needs: more health care

facilities; more and better trained health care practitioners, family planning clinics and counselors; improved transportation, communication and production facilities; more housing; and more and better trained agronomists and foresters.

Middle-range developments associated with more social justice and equity might include: legislation ensuring equal voting and educational opportunities; a private and a public press and broadcast system; an open judicial system with provision for appeals; popular control of the military and/or police forces with legal remedy for abuses; provision for minority viewpoints to be heard and acted upon; government checks and balances to control gross corruption; and stronger labor unions and other "special interest" organizations.

In the area of creating more participation in economic, political, educational and civic activities, middle-range developments that come to mind are: vocational education, employment counseling, more schools and teachers at the high school level and beyond, a variety of viewpoints in the media and publications, civic and religious organizations with fewer membership requirements, more political offices and candidates, effective legal means for citizens to influence government decisions, better business opportunities, and a wider variety of careers.

D. Change Agents and Impact

Change agents are individuals, groups and organizations that exert an influence on middle-range development. They can use their skills and knowledge to change their societies within the appropriate institutional environment. It is important to realize that the change agents are not only individuals working in government institutions, despite the power that these institutions may hold in certain countries. Individuals and groups in the private sector must be included as actual or potential change agents contributing to their societies' middle-range development.

There are many different ways in which an individual can impact on the development of his or her country. These have been limited in this paper by focusing on the middle-range, i.e. impacts on development specific enough to be observed and associated with the trainees and general enough to produce changes that affect many people. Some development goals toward which these impacts might be directed have been suggested. To further illustrate the types of impact individuals, groups and organizations may have on middle-range development, we will speculate on ways that foreign or domestically trained persons trainees might influence development in their countries.

In the area of providing for citizens' physical and economic needs, trainees might develop, promote or administer technical advances in products, procedures or services related to nutrition or health. They might work directly with these products and services, they might train others in these matters, or both. They might also develop, promote or supervise similar advances in the support systems

necessary to meet physical and economic needs such as transportation, communication, and power.

In addition to the technical advances needed to meet citizens' needs, there are also institutional and individual changes that may be necessary. Enterprises and governments must be willing and able to provide the new products and services, and citizens must be willing and able to use them. Trainees can impact on middle-range development in this area by introducing or modifying procedures for the distribution of products and services so that they reach more individuals. They can also help by training others to do these things. In addition, they can teach the recipients of the products and services how best to use them (including changing old habits and attitudes in some cases) and/or train others to do this.

In the area of providing equity and social justice for citizens, trainees might work on legislation or regulations that promote economic, political and social, (e.g. educational) opportunities and try to modify or eliminate rules that produce exaggeratedly inequitable distributions of income, power, knowledge, participation, and other social benefits and responsibilities. As noted earlier, impartial rules and regulations are necessary, but not sufficient to provide equity and social justice. There must also be humane governance. Trainees can impact on middle-range development here by serving in governance positions and behaving humanely or by influencing those in such positions (or those to be in them later.) As in providing for physical and economic needs, trainees can also promote equity by training others in how to influence legislation and governance or how to legislate and govern.

Having an impact on the promotion of equity and social justice should also influence the third general development goal mentioned above: providing opportunities and incentives for all citizens to participate in the organizations and programs which can produce social and economic development. In some countries it may be feasible for trainees to assist other citizens in petitioning for a greater degree of equity and social justice as well as working on legislation and government. To reach more than a few citizens, trainees might work in or with the schools and/or the mass media, especially radio and television.

In addition to opening developmental institutions to wider participation (e.g., schooling, voting, jobs, self-governance) and educating citizens, trainees might promote participation by motivating citizens to take part in new activities. Desired social and economical changes can begin outside estabished institutions through the efforts of voluntary groups at local levels. However, many countries do not have the traditions of community volunteerism that are prevalent in the U.S. and other Western countries. Trainees might impact on development in such cases by persuading citizens that they can influence change by working with others in their community (outside their families) on common concerns.

IV. METHODOLOGICAL ISSUES

A. Introduction

The long range effects of training are not easily observable. In fact, each degree of observability of different events or effects, has a cost attached to it; conceptually, every effect could be observed and measured if sufficient time, manpower and other resources were made available. Our objective in this methodological design is to suggest procedures that can produce practical evaluations of the aggregate impacts of training programs at a "reasonable" level of cost. The challenge is to locate those effects that, besides being observable, are also interesting, relevant and perhaps significant from a policy standpoint. A common mistake of many evaluation methods has been to cover too much ground in complex areas. The result is usually an unmanageable study that produces vague results. Given the scope of most AID-assisted country PTPs over time, it is necessary to design a methodology with well-defined, but limited objectives; to achieve this, some issues and information must be sacrificed.

B. The Research Approaches.

The information in each country will be obtained from counterparts, local and foreign experts, trainees and their constituencies. There are two general research approaches that will be used to obtain this information. The top-down (deductive) approach will proceed from the general development goals to the indicators to the middle-range development as identified by the experts. When the experts have

specified the most important developments, the study team will ascertain the contributions made by different groups of trainees to each development. The bottom-up approach (inductive) will simultaneously be used to identify and locate samples of different groups of trainees and examine the impacts they have had on middle-range development as identified by them, other in-country persons, or by a central entity (e.g., AID or an AID contractor). To the extent that the trainees can provide valid information that can be demonstrably related to middle-range development, the bottom-up approach is sufficient. However, the experts and counterparts might usually provide a more impartial point of view regarding trainee-impact matters. Equally important, they can address questions about development in the middle-range while trainees might reasonably be expected to focus more on their own experiences. Moreover, the experts and counterparts should be knowledgeable about and able to suggest change agents. How many individual trainees would be able to say what impact they or others have had on aspects of middle-range development of their country? Even if they were to hazard a guess, one would want to check with clients and authorities on the validity of their opinions. It is easier conceptually and perhaps logistically to begin with experts in gathering information about middle-range development in a country.

Both approaches are necessary in this methodology, and will be used when appropriate. Most of the hypothetical examples given in the previous section (III) illustrate the top-down approach. (Other examples will be given in Section V.) An example of the bottom-up approach might occur in a country where the development goal of employment generation depends on the contributions of many varied change agents and, consequently, cannot be attributed to any one group or organization. The bottom-up approach is warranted in this

case since it would be more suitable to compare a sample of AID participants with samples of other trainees to determine their relation to employment generation in their work places.

C. Comparison Groups

Regardless of which research approach or combination is used, it is vital that similar information be obtained from relevant groups of trainees who did not receive AID-assisted training. Evaluations of impact or change are frequently weakened by the fallacy post hoc, ergo propter hoc. If we find that AID-assisted trainees are associated with middle-range development in their countries, we cannot automatically assume that their training is responsible. It may be that any kind of training or any U.S. training is associated with having an impact on middle-range development. If only AID-assisted trainees were interviewed and observed, one might tend to give more credit to AID training in the U.S. than was due. Even if a purely top-down approach were used, it would be necessary to compare the AID-assisted and other types of trainees in the organizations associated with developmental changes. It would be important to learn about their work activities and personal characteristics. At least two groups of comparable individuals must be questioned: one group, having been AID participants; the other group, not having been AID participants. This point is of paramount importance. Failure to obtain data from comparison groups makes even the best data obtained from or about AID-assisted trainees of little more than general interest. Any inferences about the effects of AID training on any in-country activities are purely speculative without data from matched comparison groups of trainees.

The application of this research principle in the social sciences is clearly more difficult than in the physical sciences. A major complication arises when a comparison group cannot easily be identified, as would be the case when participants were trained with AID support in the U.S. in a given field with no similar non-AID or in-country training programs. Though many speculative attributions might be made, it would not be possible to determine whether any impacts achieved by the AID-assisted U.S. trained participants are related to their training in this case.

D. Locating and Matching Trainees

For the most part, the participants' contributions to middle-range development will depend on whether they returned to their countries upon finishing their training, and on how long they stayed. Participants may, of course, contribute to their countries' development without working in their home countries. For instance, they can work in international organizations, regional development banks, or other countries, remitting a significant proportion of their earnings to their home countries. Nevertheless, the difficulties in contacting and matching these types of participants force us to leave them out of this design.

The countries to be selected for the evaluation have to have a high probability of having locateable AID-assisted and other trainees in sufficient numbers. A representative sample of AID-assisted trainees from the U.S. is the crucial "treatment" group for assessing the impact of AID-sponsored training programs on development. If these trainees cannot be located and contacted, or if those evaluated are too few in number and/or not representative of all the AID-assisted trainees from the U.S. in the country, the study's results will be incomplete and perhaps biased.

When a satisfactory sample of AID-assisted trainees has been located, they would be matched with other samples of trainees on selected characteristics such as: length and field of training, degrees earned, field of employment, residence (urban-rural), social and economic status of parents, age, sex, ethnicity and marital status. Locating and gathering this information from trainees in the comparison samples is crucial to assessing the impacts on social and economic development that are associated with different training experiences. Assuming some differences are found among the groups in promoting middle-range development, one must determine whether such differences are associated with the background characteristics listed above before it can be inferred that those changes may be associated with training. If the groups are comparable on all of the characteristics likely to be associated with promoting social and economic development except their training experiences (sponsorship and location), then it is reasonable to suggest that any differences in developmental impact among them could be related to these training experiences.

E. Locating Experts

As important as getting good samples of trainees is finding the right experts to interview about middle-range development in a country. If the development in question is rather recent and the country is small or homogeneous, locating in-country experts in the country should not be too difficult. However, if the development began some time ago and/or if the country is large and complex, experts may be harder to locate. If they are still alive, they may be in other sectors or even in other countries. It would obviously take longer to carry out the detective work to locate and interview the relevant experts under these conditions.

In any case, it may be most efficient to begin discussions of middle-range development with representatives of regional, Western and international development organizations located in the study country (plus host country government and private sector experts). Examples of foreign organizations include AID field missions; the World Bank; various United Nations specialized agencies such as the Food and Agricultural Organization, the World Health Organization, and the International Labor Organization; the Peace Corps; the Rotary; the Red Cross; the Sister Cities Program; Planned Parenthood; some private firms; and religious and philanthropic organizations. These groups would identify middle-range development in the areas in which they are well informed and might also be able to lead the study team to other experts. For example, the U.N. World Health Organization representative might provide information about immunization achievements in the country. The U.N. Food and Agriculture Organization representative might offer information about successful food distribution. A Peace Corps volunteer might be able to discuss education changes that have raised literacy rates among the rural poor, while a Rotary Club member might have information on private sector initiatives that created more jobs for unskilled workers. Host country experts could be identified by AID mission staff, counterparts, and foreign experts. The insights of these experts are critical to obtaining a reliable and valid understanding of middle-range development in their country. Obviously, more experts would need to be contacted in larger, more heterogeneous countries than in smaller or more homogeneous ones.

F. Retrospective Approach

Since our interest is in development in countries over the time periods AID-assisted trainees have been returning, it will be necessary to know about events that have occurred in the past. This means that the study team will have to rely on retrospective information from both experts and trainees. As researchers, we are well aware of the difficulties that go with retrospective accounts of anything. The study team will have to take account of these difficulties by getting as much information as possible from records and documents and, wherever possible, getting more than one expert to comment on a given area of development. When interviewing trainees, the study team will concentrate on information such as their occupational histories since returning to their countries. If there is too much difficulty with long-term memory, the time period studied may be limited to 15 years (say, 1971-1986).

The time covered must not be too limited, however, since it is likely that the longer a trainee has been back, the more opportunities he or she would have to impact on middle-range development and the better the potential for observing such impact. Careful steps will have to be taken when analyzing data from samples of trainees that returned at different times. Ideally, the comparison groups selected would have comparable "time back" in country to establish a comparative data base, but this requires a relatively large number of available trainees. If the sample pool is not large enough, a more involved analysis will have to be applied. It is important to notice that the methodology is based, in part, on getting performance records of the trainees. Although this is not a longitudinal methodology, it should produce similar results to that type of study.

G. Constraints on the Study

The main constraint in the implementation of this methodology in a given country is cost. The proposed methodology is prepared in a modular format so that any field study can be adjusted according tto he availability of funds. The basic modules consist of economic indicators on the one hand and social ones on the other. Regardless of which modules are selected (and we recommend all of them for the pilot application), there are some minimum requirements that must be fulfilled for the evaluation results to be reliable. Obviously, it is not possible to attach a price tag to each component of the methodology, since the costs depend on too many country-specific variables. One variable is the labor costs in each country, as interviewers must be hired and trained in-country. Another is the degree of geographical dispersion of trainees to be interviewed, which can add significantly to the cost of the field work.

Although there is some flexibility to adapt the methodology to a given amount of resources, minimum requirements for a reliable evaluation cannot be neglected due to cost (or any other) considerations. If the resources necessary for a minimal evaluation are not available, it is preferable not to carry out the evaluation, since the results could be misleading and counter-productive. The minimum requirements will become apparent as the discussion of the different components of the methodology proceeds.

The lack of a competent local organization could be another important constraint. As the evaluation effort requires a significant amount of survey work and personal interviewing, the availability of experienced local personnel would help reduce the cost and improve the quality of the evaluation in

a given country. Another potential constraint is the degree of the host government's interest and commitment to the evaluation, especially regarding access to trainees and experts. It is obvious that without strong host government support, no evaluation is possible.

H. Interdependence of Economic and Social Measurement

In several places in the remainder of this report, we have separated the economic and social measures of impact. This separation has been done primarily for ease of reading. As we indicated in the summary, the two main research approaches (top-down, deductive, to measure social impact and bottom-up, inductive, to measure economic impact) are interdependent. Similarly, the economic and social measures cannot be separated in practice. This can be seen most clearly in the gathering and analysis of information on the trainees' work histories. While this appears as an economic measure, its translation into social mobility scales is a social measure. Although this information will be primarily gathered early through the inductive research approach, it is also vital as the last piece of information in the deductive (top-down) approach. It will be gathered separately from trainees in selected organizations identified by the experts, if these trainees do not fall into the bottom-up samples.

V. MEASURES OF IMPACT

A. Introduction

As the evaluation will focus on concrete forms of middle-range development, a group of selected measures of impact must be defined. Our measures will be divided into two major categories: economic and social. The reasons to separate them into two groups are several. First, to provide possible options or modules for the evaluations in different countries. Second, to emphasize the differences in research approaches needed to obtain the measures in each category, since those approaches have important implications for the field work. For instance, as economic measures of development tend to have a more universal applicability across countries, they can more readily be obtained by following a bottom-up approach. Social measures, on the other hand, tend to be more country-specific and, therefore, will need to be obtained beginning with a top-down approach. Finally, there is a much wider variety of social than economic measures. Therefore, more time will be required to determine which measures are most important in a given country to obtain reliable and valid information about them.

Our model of development holds that when the physical and economic needs of citizens are met, they believe that their societies are becoming more equitable and just, and they think that they can better their lives and improve their society, they will make efforts necessary to produce and maintain major social and economic development. Our

hypothesis is that participation in AID-assisted training programs fosters such beliefs in trainees, provides them with skills, incentives and opportunities to act on those beliefs, and thus results in their having an impact on social and economic development in their countries after their return. The methodology proposed in this report is designed to identify specific middle-range accomplishments related to these goals and to determine the extent to which AID-assisted and other trainees are involved in promoting them.

Of course, middle-range development can occur without or in spite of the activities of AID-assisted trainees. If information had been gathered on these trainees and their activities from the time they returned to their countries, it would be possible to ascertain their impact on a range of developmental changes. Since this kind of information is not available, the field study must gather retrospective information on specific changes that have occurred since these trainees returned to their countries. The field study would then locate the organizations, groups and individuals that have been involved in these changes. Finally, it would ascertain the training backgrounds of these individuals to see if proportionately more of them received AID-assisted training as our hypothesis suggests. In research terms, the field study will have a retrospective cross-sectional design using comparison groups.

B. Social Indicators

1. Hypothetical Study

To illustrate how such a field study might be done, let us consider how this research design would be implemented in

the U.S. Taking the development goal of participation in political organizations as a starting point one might find that reliable data show the percentage of U.S. voters participating in local, state and national elections has been steadily increasing over the last twenty years. This would be a social indicator showing that more citizens are participating in one of the U.S. institutions (the political) that can promote social and economic development. In discussing the social indicator data (through semi-structured interviews) with knowledgeable survey researchers, political scientists and campaign managers, one might learn that the major factors infuencing this change are increased high school education in civics, publicity by the mass media, and get-out-the-vote campaigns at the local levels.1 These would represent the middle-range developments that are producing the change in voting.

The research question now becomes who are the change agents? Who is doing the teaching, publicizing, and citizen contact that is getting out the vote? If the experts do not have data on this, one would contact organizations and individuals that could answer this question; organizations such as the National Council for Social Studies, the National Association of Broadcasters, the Newspaper Guild, and the League of Women Voters. Knowledgeable people (the experts) from such organizations would know which institutions (schools, newspapers, radio and TV stations, community groups) are most active in promoting voter registration and voting. One could also check with samples of new voters to ask who or what most influenced them to vote. This would

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1 If these experts were not available, one could sample the new voters to ascertain through semi-structured interviews why they voted. In other words, do the research the experts have already done.

be done by mailed questionnaires and follow-up telephone interviews where necessary.

If one still could not pinpoint the individuals involved in producing the increased voting (the change agents), the institutions indicated by the experts and the clients would be contacted to gather information from selected officials and others. In the schools one would get ratings of civics teachers from their superintendents and principals. Similar ratings would be obtained from students who would be tested on their propensity to vote. These ratings and tests should lead to the change agent teachers. At the newspapers and broadcast studios one would get editors and program managers to make ratings of their political writers and broadcasters and look at marketing records on newspaper sales and radio and TV listenership among the new voters. These ratings and records should lead to the change agent writers and broadcasters. In the community groups one would contact elected officers and ask them to discuss their organization's activities in influencing the local schools, papers, broadcasters, and citizens to encourage voting. These semi-structured interviews should lead to the change agent community activists.

If one wanted to know more about these change agents, such as where they went to school and other personal and social characteristics, one would develop a structured questionnaire or interview to obtain this information from them. In the analysis of these data one would look for things they have in common (analogous to AID-assisted training) that comparable samples of non-change agents do not have.

As one can see from this hypothetical example, the choice of the people to be contacted and the precise methods to be

used in determining what middle-range developments have occurred and who has impacted on them is dependent on a thorough knowledge of the country being studied. This knowledge will be easier to gain in countries that have many formal organizations with systematic records and which employ social scientists to gather data. The field studies could follow procedures similar to those described above for the U.S. if reliable data on developmental change, expert knowledge on its causes, and cooperative organizatitons with information on and access to change agents were available. More often in LDCs, however, the field work with counterparts and experts might deal with new or ambiguous developmental changes and conjectures about possible correlates and impacts. To the extent that these conjectures point in the same direction and cooperative organizations exist in that area, the pilot study could employ a modified top-down approach for locating and interviewing possible change agents. Otherwise, it will be necessary to use a bottom-up approach that goes to the change agents (or potential change agents, the trainees) earlier in the field work. The optimal approach in the field testing will probably be a combination of the top-down and bottom-up strategies.

2. Field Work

When a country's middle-range developments and the change agents which produced them are agreed upon, the study team would work on the instruments and procedures for assessing the extent to which any of the different groups of trainees have contributed to those impacts. This work (as well as the selection, matching and contacting of trainees which would occur concurrently) would be done jointly with the counterparts in country. If data are available that strongly suggest the locations of specific developmental changes, and co-operative organizations can provide relevant

information on and access to change agents, one would locate the organizations and groups that appear to be responsible for the changes that have occurred and apply the necessary instruments and procedures to find and evaluate the individual change agents in them. Of special interest, of course, would be the number of AID-assisted trainees designated as change agents in these locales as compared to other types of trainees and the total number of AID-assisted trainees in the country. Although, as we indicated, the study team will not know the nature of the middle-range developments and the organizations and groups associated with them until they talk to the counterparts and experts in-country, we will provide a hypothetical example of a partial field study to give a clearer picture of the information to be obtained on social indicators.

The study team in a host country might find that an important middle-range developmental change had occurred in the nutrition of new mothers in a certain area of the country. Data might be available to show that the mortality rates among these mothers and their infants had decreased over the last three years and were significantly lower than those in the rest of the country. Other information might indicate that these mothers had been receiving advice on diet from nurse mid-wives in their communities during this time period. Using the top-down approach, the study team would send interviewers to these communities to find and talk with these nurse mid-wives. They would ask them about the information they had learned on diets: where they got this information, who convinced them to use it, who trained them in giving it to the new mothers, etc.

Assuming that these practitioners were willing and able to answer these questions, the interviewers would then go to

the local individuals or organizations responsible for training the nurse mid-wives. (It is unlikely that they went abroad for such training.) After locating these teachers, the interviewers would question them about the training they provided: where did they get the information, who taught them how to reach and convince the nurse mid-wife to use the information, who showed them how to help these practitioners persuade mothers to change their diets, etc. Since these teachers are likely to be the original change agents (the nurse mid-wives are their clients in this example), the interviewers would get information on their personal and social characteristics. Of greatest importance would be where they were educated, especially about the nutritional information in question. The study would want to know how many teachers had had AID-sponsored training in the U.S. (If the developmental change had occurred more than three years before, one might also be interested in the education of their teachers who could have been the original change agents.)

In this hypothetical example, a purely top-down approach is illustrated. If all of the teachers were working in one organization and that organization had a good (and available) set of records on their backgrounds, it would not even be necessary to intervew the teachers. The records would provide the crucial information with supervisors in the organization perhaps filling in the details. Such a top-down approach to assessing trainees' impacts on middle-range developmental changes are desirable for two reasons. They provide independent validation of the trainees' impact (through the data and evaluation of the host country counterparts and experts), and they are quicker and less costly to carry out than bottom-up approaches.

Given the slow and tortuous process of developmental change in any country, however, one would expect to find many setbacks even in those areas of middle-range development specified by the host country counterparts and experts. The likelihood of finding reliable data to support their insights and pin down the specific change agents and organizations, especially for developmental changes several years in the past, is small. To verify expert information and to begin the process of locating change agents, the studies will also have to contact some trainees early in the field work; in other words, complement the top-down with the bottom-up approach. The trainees to be contacted should be those mentioned by some of the counterparts and experts as change agents. In the early stages of the field work, it would be most economical to interview the more accessible trainees. The purpose of the study would be explained to them and their assistance in identifying middle-range developmental changes they have been associated with would be requested. They would also be asked about other developmental changes and trainees they know who have contributed to these changes. The information provided by these trainees would be used to verify that of the experts and to begin the sampling process. Their interviews would be useful in developing more structured interviews for use with the other trainees in the sample later in the study.

The study team would keep careful notes on the specific developmental changes and the change agents associated with them that are mentioned by the counterparts, experts and trainees. When a relatively comprehensive list had emerged, the team members would compare notes and concentrate on those changes that have the most solid verifications. These would be ranked by the study team, in terms of their importance to the country. If there were too many middle-

range developmental changes and change agents to be followed up in the time available, the study team would begin at the top of the list and go as far as possible.

C. Economic Indicators

The economic measures of impact on middle-range development will come primarily from information provided by the trainees in the samples. This bottom-up research approach assumes that the impact of training on the activities of the participant him/herself can be used as a proxy for impact on middle-range development. It can be safely assumed that if there are no significant benefits to the participant derived from the training programs, his/her impact at any broader level (institution, community, society) will be low. On the other hand, the individual participant will not be the only source of information on the developmental impact of training, since our major interest is to evaluate the effects of training on middle-range development.

It is essential to emphasize the distinction between societal (as distinct from social or sociological) and private benefits of training, an issue generally neglected in the research program known as human capital theory. That line of thinking approaches educational processes as an investment activity in which the benefits are measured by the earning profile of the individual, and the rate of return on the costs of education. The AID participant training programs have as their main objective benefits accrued to the society, consequently the human capital approach is too narrow. However, that does not mean that it is useless; in fact, in certain circumstances discussed below it can be a powerful analytical instrument for evaluation purposes at the societal level.

The economic indicators will be presented in two groups, individual and societal. All of the indicators will be applied in a comparative perspective, for the reasons discussed previously. Moreover, different observers, besides the individual participants, will be "tested" or interviewed to generate "readings" on the set of indicators from their own standpoint. Not all of the indicators will be relevant to all countries. The economic measures should be seen as a catalog of items to be appropriately applied according to the circumstances.

In more concrete terms, examples of the questions that the methodology will address, regarding economic effects in a given country, are the following:

- How are AID and non-AID participants respectively associated with the implementation of specific development goals?
- What have AID and non-AID trainees respectively achieved?
- How does the AID participants performance compare with that of other relevant groups?
- How do females compare with males?
- How do AID participants' earning profiles compare with that of other groups?
- What is the degree of participation of AID and non-AID trainees in the private sector?
- In what areas of priority for AID have the separate groups worked?
- How much employment have the trainees from different groups generated?
- How does the occupational mobility of the AID participants, since their return, compare to that of other groups'?

- What has been the partipants role in foreign exchange generation?
- How do female participants perform in relation to male participants on sector comparisons?
- How long have AID participants stayed in developmental activities after return?

1. Individual Indicators of Economic Impact

This group of indicators refers to some of the effects that training has had for the trainees. These indicators of impact will be better proxies for societal impact, the more competitive or free-market oriented the economy is.2 When economic activity takes place in relatively free and efficient markets (encompassing product markets as well as labor and capital markets), the compensation that the individual worker or entrepreneur receives tends to be a measurement of the social valuation of his/her services. Training is expected to enhance the power of individuals to contribute to the economic activity, generally in terms of productivity. Two important qualifications deserve attention. One is that many less developed countries (LDCs) do not operate under economic systems that can be considered competitive or free market oriented, especially the ones with a large government sector, in which compensations to workers tend to be defined in terms of arbitrary scales instead of demand-supply considerations. The second is that even when individual compensations do reflect part of the societal valuation of the individual's

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2 This is a result of standard economic analysis. The higher the degree of freedom of choice, the more accurately private transactions between buyers and sellers reflect the preferences of the former and the productive efficiency of the latter.

contributions, he/she may produce other benefits (externalities or public goods) for which no compensation is paid.

To illustrate both qualifications with one instance, think of the professor of agriculture (trained abroad or not) who is being paid according to a wage scale in the university, and whose contributions may be invaluable to the society through the training of several generations of students and through his/her own research in the long run. The totality of the professor's impact is obviously observable only in part, while its measurability is close to impossible. This does not imply however, that observing his/her level of earnings and comparing it with the earnings of other individuals cannot yield important information for evaluation purposes. Yet it implies that indicators must be applied and interpreted in the institutional context in which the evaluation of developmental impact is carried out. An additional consideration is that there is no single indicator of impact that can capture by itself all the information necessary for a good evaluation. Thus, the indicators discussed below must be interpreted as parts of a whole, given the multidimensionality of the effects of training. Though the details of the comparison groups will be discussed in a separate chapter, it is helpful to anticipate that the indicators will be applied to groups of AID participants and to at least three other groups:
a) non-AID, U.S.-trained individuals, b) non-AID, non-U.S.-trained individuals, and c) in-country trained individuals. If there are enough individuals to be included in the sample, these groups can be further divided as will be discussed in a subsequent chapter. With these points in mind, we can proceed to examine the individual indicators in more concrete terms. The societal indicators will be examined in part 2 of this section.

a. Earning Profiles

Individual earning profiles will be defined here as the series of annual earnings from the return of the trainee, or the completion of training for the in-country trained, until the year previous to the evaluation. Its measurement is not straightforward and the concrete techniques will vary from country to country for several reasons. First, the earnings must include fringe benefits, payments in kind and other forms of compensation, such as housing or transportation allowances and tax exemptions. Second, inflationary processes take place with significant variations on a year-to-year basis. To put the profiles of participants that returned at different times on a comparable basis, the data must be adjusted by applying the corresponding implicit deflators.

It is essential not to exaggerate the importance of earning profiles as an indicator of developmental impact. It is equally essential not to underestimate its analytical value. We all know how narrow income data can be as a measure of achievement, even at the individual level. Individuals are known for their propensity to sacrifice income to other goals such as prestige, power and vocation. The richness of human activity adopts many forms, but only some of them can be observed systematically. The importance of earning profiles as an individual indicator of economic impact and a proxy for impact on the society cannot be established outside the framework of the specific country in which the evaluation will be conducted; importance (or valuation) will depend on the general characteristics of that society. Hence, there is a need for expert, in-country information about this area.

Before proceeding with the various forms by which earnings profiles can be handled, let us stop for a brief consideration of its meaning and potential value for our purposes. Do AID participants earn more, equal or less money than other comparable groups? Can the difference be attributed to, or at least associated with, the training, the socioeconomic background or other characteristics of the participant? The relevance of these questions and their corresponding answers will depend on the societal context in which the participant operates, but also on the type of activity that he/she pursues. For instance, for groups of trainees that have worked most of their time in private sector activities, especially as independent professionals or entrepreneurs, differences in earning profiles are analytically important. They can signal how AID's contribution compares with training in other countries or in-country, and could perhaps have significant policy and managerial implications.

Differences in earnings across groups of trainees working predominantly in public sector activities will not necessarily have the same level of significance because earning profiles do not result directly from the societal valuation of the participants' contribution.3 Nevertheless, differ-

3 The difference between the societal valuation of the participant's impact, as measured by earnings, and the impact per se must be underlined. In certain circumstances, earnings measure the value the society places on an individual's contribution. In this sense, earning profiles represent a proxy. If, on the other hand, the level of earnings that an individual receives does not correspond directly to the societal valuation, as could be the case with some public sector activities or policies, earning profiles can still represent a proxy for individuals' impact on the society if it can be assumed that the profiles are correlated with impact.

ences in earnings may be, in this situation, a good representation of the level of influence of the individual in policy- or decision-making process. Again, this interpretation depends on analyzing the data in the context of the country under evaluation. In this regard it is essential to examine the wage policies and administrative procedures of each country whose training is being evaluated.

It should also be borne in mind that each profile constitutes a series of numbers. The profile in itself does not constitute an indicator, but the raw data to produce one or more indicators. The most important one for our purposes is the present value of the entire earnings trajectory, computed at a certain discount rate to be determined on a country-specific basis.[4] Another indicator of potential value is the starting level of earnings upon returning from the training program. How do AID participants compare in this regard with other groups? Can the differences be construed as a general perception of what the society expects? If there are no differences in starting levels of compensation, do differences appear in other segments of the earning profiles? What is the rate of growth in earnings for different groups of trainees? The last question introduces a third indicator of earning performance and it is an important one in comparing individuals whose earning profiles cover different numbers of years.

As is implicit in the previous paragraphs, the production of this indicator must be carried out in two stages. The first stage consist of obtaining the raw information from the trainees. Even though gathering personal income data and similar types of information always presents some

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[4] A meticulous treatment of earning profiles is inescapable to avoid serious distortions. The techniques involved can be easily applied by expert personnel.

difficulties, the questionnaire will be designed to provide anonymity and non-specificity for the respondents. Obviously, the application of the questionnaire is, as always, strictly confidential, and gaining the confidence of the respondent at the outset is critical. The second stage consists of the computation of the indicators as they will be used in the analytical phase. This computational stage must take into account the different components of earnings according to the place of work of the participant, but also the inflationary process to produce "clean" data.

In spite of its limitations, this indicator represents a solid device to evaluate AID participants on a comparative basis. There is no information available regarding the questions posited above in previous AID evaluations.

b. Occupational Mobility

The occupational mobility of trainees will be studied by gathering information on each trainees' job history from their return to country after training to the time of the interview. What is of interest is to analyze changes in occupational status, according to a scale such as the one defined below. This approach will serve to complement the information derived from the earning profiles of the trainees, especially in those circumstances in which differences in earnings cannot be interpreted in a meaningful way, because of the country context. It will also serve to partially replace the analysis of earning differences in those cases in which this information cannot be gathered.

An example of a scale to observe occupational mobility was the one originally designed by Bertrand Hutchinson in 1961

and modified later by Aparecida Joly Gouveia in 1969.[5] This scale consists of seven levels reflecting decreasing degrees of occupational status. The levels of status can be seen as levels of responsibility or influence and, consequently they also represent proxies for potential developmental impact. The levels of the scale are the following:

(1) Top political and management positions. Owners of large enterprises.

(2) Professions and equivalent. Top management positions in medium size enterprises. Below top management positions in large enterprises. Second level type of political positions.

(3) Intermediate or middle management positions. Supervision of white collar workers. Owners of small enterprises in the "formal" sector.

(4) Low white collar positions with little or no supervisory responsibilities.

(5) Supervision of blue collar workers.

(6) Skilled workers with no supervisory responsibilities.

(7) Semi-skilled and unskilled workers.

Each of these levels can be subclassified into finer categories.[6] For the purposes of this methodology, not many subdivisions are needed. At the same time, it is crucial to apply the scale with a certain degree of flexibility to adapt to the specific conditions of each country.

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5 Aparecida Joly Gouveia and R. J. Havigurst, Ensino Medio e Desenvolvimento (Sao Paulo: Melhoramentos, 1969), p. 50. Bertrand Hutchinson, Mobilidade e Trabalho, (Rio de Janeiro: Centro Brasileiro de Pesquisas Educacionais, 1961.)

6 This is an adaptation to the Hutchinson-Gouveia scale to fit the objectives of this design.

The scale (or any other that could be considered appropriate) will be applied to job history data to study the occupational mobility of participants, and also to the socioeconomic background of the participant's family for control and analytical purposes. With the former purpose in mind, it is unlikely that the two lower levels of the scale will ever be used. For the latter purpose, the entire scale will be necessary but not in its finer detail, only in its seven levels.

Scales of occupational mobility are, in general, highly correlated with levels of earnings in individuals as income usually varies with level of occupation. Nevertheless, the degree of positive correlation tends to decrease when wage policies and administration are rigid, as is often the case in the public sector of LDCs. This is why the scale may prove to be a better instrument to approximate potential forms of impact than earning profiles. The characteristics of each individual country at the time of the evaluation will determine which path to follow, or whether it is suitable to rely on earning profiles for certain groups of participants (and their corresponding comparison groups), or on occupational mobility. For instance, in a given country there may exist two major groups of participants, one in the public sector and the other in private sector activities. If there is no significant variation in earnings, among the trainees employed in the public sector, differences in occupational levels can be used.[7] The contrary may happen for the private sector trainees, who may not show significant differences in occupational status but may in terms of earnings.

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7 As observed in their occupational histories.

Though changes in occupational status may reflect the impact of training on the individual's well being, it can be construed as an important proxy of the individuals performance in gaining increasing degrees of influence in his/her society. It will be important to find out how the occupational mobility of AID participants compares with the mobility of other groups. Let us imagine in a given country where the return rate of participants (or their propensity to stay in the country) is very low due to insufficient monetary incentives (which will be reflected in the earning profiles). If the AID participants are better trained than others, the best qualified among them would be more reluctant to return or to stay long after return; therefore, the remaining ones would constitute a less representative sample. This phenomenon of preselection, so frequently neglected in social science research, carries sampling properties that will invite erroneous conclusions on a superficial analysis of the data.[8] This is why the bottom-up approach is likely to work best in countries in which some follow up of the participants has been regularly conducted.

Utmost caution must be applied when evaluating trainees in countries where not enough participants can be traced due to attrition or to simple lack of information of their whereabouts.

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8 Preselection is a term used to describe a property of samples involving individuals, in which their behavior may distort their degree of representation in the sample. Frequently, individuals "preselect" the sample in which they are "supposed" to fall by moving away from the universe where they belong. Instances of preselection are non-returning or migrant participants and other members of the comparison groups.

c. Changes in Wealth

This indicator would provide a good complement to the information on earnings and occupational mobility, though it is usually difficult (sometimes impossible) to obtain. Two strategies will be proposed in this design, to be used whenever feasible. The first is to ask the trainee to classify his personal wealth in one of seven categories to be pre-specified for each country, with the highest one open-ended. The second strategy (not necessarily excluding the use of the first one) would be to obtain information about certain components of the participant's wealth. The data can provide the basis to produce an index of wealth that can yield important results in the comparative analysis. The objective here is to determine what changes the index shows over the period after training. Generally, variations in this index will be correlated with variations in earnings (or in the level of earnings) and also with variations in occupational mobility (or in its level.) These three variables will jointly produce an accurate picture of the private benefits accrued to the participant.9 Discrepancies or apparent inconsistencies among the three indicators will have to be examined in each particular study.

The components of the wealth index must be asked about for at least two points in time, upon return and at evaluation. These components refer to individual possessions generally

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9 Let us bear in mind that, although we are not primarily interested in the private benefits accrued to the participants via training, we are using these as proxies for their impact on development. The distinction between private and societal forms of impact is based more on the vehicles through which we can observe impact than on the type of impact in itself.

associated with the level of individual wealth. It is important to distinguish between the participant's possesions and those of his family, to avoid distorting the indicator and, inevitably, invalidating it. The list of components that may reflect variations in wealth may vary from country to country. The components presented below represent an illustrative list; specific items will have to be defined according to each particular country. At the same time, the list is limited to personal or household wealth, not including capital ownership. The components of the index are the following:

- Number of housing units the participant owns.
- Total number of rooms of the units.
- Area of land where the units are located.
- Area of other land owned.
- Number of vehicles (cars or trucks) owned.
- Specific household items such as appliances.[10]

2. Societal Indicators of Economic Impact

Whatever the impact a trainee has on the society, he/she generally achieves it through an institution that he/she joins or creates. The institution provides the trainee with the instruments and connections through which impact can be made effective. It follows that the

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10 It is always tempting to add to the list. A very comprehensive list, however, will produce innumerable analytical problems. A fundamental criterion in the final design of the list is to keep it simple and manageable. Another important consideration is that the list must only include "stock" variables, and not "flow" variables. The former are a result of accumulation processes while the latter have a more instantaneous and volatile nature. Variability in expenditures is already captured by the indicator on earning profiles.

intensity of the trainee's impact depends on the institutional arrangements that surrounds him/her.[11] Inefficient institutions can neutralize the trainee's potential contributions regardless of how well trained the he/she is. Efficient institutions, on the other hand, not only can take better advantage of the trainee's training, but also provide new opportunities and challenges for his/her development and growth.

The two major groups of institutional arrangements are represented by the private and the public sector. They differ from each other in terms of who owns the corresponding institutions, individuals or the society at large as represented by the government. Nevertheless, a different and crucial distinction between private and public activities must be made here, regarding the production of private and public goods. Private goods are those consumed by individuals alone, examples being food and clothing. Public goods cannot be produced for individual consumption without other individuals benefiting, such as clean streets, public security, and sound economic policies. The production and consumption of private goods are more easily measurable, whether in physical or monetary terms, than the production and consumption of public goods. It follows that an individual's contribution or impact on the society is more easily observable and measurable when it is carried out in the form of producing private goods than otherwise.[12] In many LDCs, the distribution of institutions between private

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11 Notice that this line of reasoning is equally valid for the private benefits that the participant can receive from being trained.

12 There are many activities that cannot be clearly classified as either private or public, while others have both aspects. For the sake of simplification they will be considered not important at this point.

and public sector according to ownership does not correspond to the distribution of activities in terms of private and public goods. The public sector in many of these countries incorporates the production of private goods. Consequently, we will have to distinguish between those public sector activities dedicated to the production of public goods, and those that are dedicated to the production of private goods. We will call the former central government activities (including the activities of local administrations), and the latter public enterprise activities.

A complication arises if trainees have not stayed all the time in one of the two major sectors, but have made their contributions in both at different stages. Unfortunately, this possibility cannot be swept under the rug. The longer the period since the participant's return, the more likely that this will occur. There are many ways in which this situation may appear in different countries, each of them warranting specific analytical approaches that must be defined in situ.

a. Societal Indicators for Private Sector Activities

Within this group of activities, the trainee may appear as an entrepreneur or as an employee. As an entrepreneur, the trainee's impact is easier to evaluate since his/her activities can be more clearly attributed to him/her. As an employee to a private concern, the trainee's contributions are not clearly separable from the contributions of other members of the firm. In this case, the trainee's economic impact on the society might be better observed and measured by his/her earning profile, following the assumption that in market economies the worker's compensation tends to accompany the society's valuation of

his/her services. Even in cases in which a market economy is not very competitive, in the sense of having a strong presence of monopolistic activities, the workers' compensation may reflect social valuation, because wages depend on the social demand for the monopolies' output.

Nonetheless, in case of monopolistic activities that could not survive a free market system, as would be the case of monopolies that result from government favoritism, this analysis breaks down. It is not practical to include this consideration in the methodological design since it would require a more involved analysis. In a critical case, the evaluation of participants working under these extreme circumstances (in case they are so flagrant that no special study is necessary) must be dropped.[13]

Besides the possible use of earning profiles in this case, a few additional measures can be applied. The additional set of indicators, subdivided into the ones applicable to entrepreneurs only and the ones applicable to employees, are listed below. Keep in mind that the indicators are not only to be recorded for one point in time, but over each trainee's time in country after training.

(1) Indicators for Private Entrepreneurs

(a) Profile of employment generation. Ideally these data must be collected for full-time equivalencies. If not possible, it should be defined for full-time workers only. Whichever criterion is adopted, it must be uniformly applied within the same country and for each single year of the profile.

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[13] It is obvious that the evaluating team must be on the alert to identify this type of situation when present.

(b) Profile of total annual payroll. This should include all kinds of employees, permanent and temporaries, full-time and part-time. The data will require adjustment for inflation.

(c) Profile of total volume of sales, including domestic and foreign markets. This series must be adjusted for inflation.[14]

(d) Profile of total sales in foreign markets. The data may need adjustment according to the foreign exchange regime in the country. These data may be underreported in countries with severe restrictions of foreign currency transactions, or with intense capital flight.

(e) Profile of labor productivity. The ideal measurement would require additional data on the value added attributable to the entrepreneur through his/her firm. Nevertheless, as these data are costly to obtain, a rough approximation of a productivity index can be estimated from the indicators included above.

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[14] It can be argued that not all products sold are contributions to social and economic development. But who is to judge? Sales are equivalent to purchases, and the latter are made by individual members of the society presumably exercising their free choice. If we are going to evaluate developmental impact in terms of the values of each particular society, we have no option but to accept sales as an expression of those values. However, if individual choice in a given society is constrained due to price controls and subsidies, and to rationing, the evaluation of developmental impact must take these factors into consideration.

The indicators corresponding to points (a) and (b) can be obtained for each sex, to isolate the effects on the employment generation of women. All these indicators offer a solid basis, perhaps the best, among the different types of trainees, given the visibility and, most importantly, the separability of the impact of trainees whose activities affect the society in a more direct way. The different indexes that can be developed from this data base will permit comparisons of the contributions to the middle-range economic development of the societies that AID participants achieve in relation to other groups of individuals. The movement of sales and in employment generation offer a good measurement of the growth process in a micro-economic, and therefore, concrete perspective.[15] Positive contributions to balance of payments, via volume of sales in foreign markets, represent an essential dimension of developmental processes. The evolution and absolute levels of payroll expenditures measure the income generating impact, while the indexes of productivity will provide a reasonable idea of technological and managerial progress.

(2) Indicators for the Private Sector Employees.

(a) The most important indicator in this group is the earning profile of the trainee, explained

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15 The reference to growth is not meant to imply that all growth is development. Yet, given the current circumstances in LDCs, we can safely assume that growth is a necessary condition for development, though it is widely accepted that it is not a sufficient one. Distributional considerations are essential but they cannot be applied, for impact evaluation purposes at the level of private activities, without running into insurmountable methodological complications. This is another example of the sacrifices that must be made to formulate a workable evaluation method.

previously. Even though it was defined whithin the group of indicators of impact on the individual, private sector activities make this indicator valid for societal impact as well. These considerations also apply to the indicators of occupational history and of changes in wealth.

(b) Indicator of managerial responsibility. This will be measured by the number of subordinates under the direct and indirect supervision of the trainee, as a proportion of the total number of employees of the firm. To avoid extreme complications, this index will be calculated on the basis of total full-time permanent workers at the end of each year. This index will be multiplied by each of the indicators corresponding to the entrepreneur, as a proxy for the trainee's share of the firm's performance. This procedure will produce additional indicators of trainees' contributions (proxies) to the firm's performance.

b. Societal Indicators Public Sector Activities

The trainee's contribution to the society's development through the public sector is diluted through innumerable activities and channels. The indicators to observe and measure the trainee's contribution in this case are more difficult to define and handle than the indicators for private types of activities. This results from several factors. The most important one is that whatever the activity of the public sector is, it does not receive any tangible return from the society, as is the case of sales for a private firm.16 An important qualification applies to

16 There are certain exceptions worth considering. The "impact" of a tax assesor, for instance, could be measured by the amount of revenues he/she is responsible for. In our methodological design, measuring impact at this level of detail, implies examining

the case of public enterprises that produce goods and services directly sold to the public, functioning in a fashion similar to private enterprises. In the case of public enterprises with a certain degree of autonomy and not receiving subsidies from the central government, it is possible to evaluate the impact of trainees working in them in the same way as in the private sector.17

In view of these points, our approach towards the evaluation of economic impact for public sector trainees will mainly focus on typical or central government institutions or agencies. Between this group and the public enterprises there is an area of penumbra formed by organizations that must be dealt with as belonging to one or the other group, according to the circumstances of each case.18

The impact indicators for trainees working in the government sector, with the exceptions made already, are the following:

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different groups of tax assesors to compare the AID participant with others. Though in theory, this cannot be excluded, the likelihood of the right sample being available is so low that this type of case can be omitted. It will depend on the judgement of the evaluator, to apply a particular approach in exceptional circunstances, only if such approach could yield relevant and significant results.

17 A participant that is the top executive of such enterprise, and who had a strong participation in the foundation and development of the enterprise, could be given the same treatment as the private sector entrepreneur. Other cases will require special treatment.

18 The simplest criterion to delineate both groups of public enterprises is to consider the financially solvent ones as if they were private firms. An additional set of qualifications could be raised in terms of the monopolistic position of those enterprises, but they will be disregarded here.

(1) Occupational mobility. This will be measured by applying the Hutchinson-Gouveia scale described previously, or a similar one, to the information gathered from trainees on their occupational histories, with some adaptations according to each country's public sector classification of jobs. As the trainees considered in this methodology tend to belong to the upper levels of the scale, the effort to create finer categories within each level will be limited to those upper categories. Even though this sounds involved, it is not, since public sector classifications can be easily adapted to the scale. Possibly only two or three, perhaps four new levels will have to be created within each of the top four categories of the scale. It is not expected that additional subclassification will be required at the level five of the Hutchinson-Gouveia scale, or below.19 The treatment of this information for evaluation purposes resembles the one applied to the earning profiles, in the sense that some points of the mobility profile (from return to evaluation time) are interesting by themselves; for example, the comparison of trainees' first occupational level (immediately upon return.) Another case for relevant comparisons would be the rate of mobility during the entire occupational history. The set of indicators that can be derived from this group of data will constitute, in most cases, the most important proxy for economic impact, or potential impact, given the decision-making power that the different hierarchic levels carry. Though it does not carry specific forms

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19 This implies that a new, expanded scale may count with a total of approximately twelve entries not counting the three bottom levels of the H-G scale, which obviously will not be utilized.

of impact, it has the advantage of aggregating influence regardless of the nature of the position of the trainee.[20]

(2) Proportion of subordinates, direct and indirect, within the total level of employment in the agency or institution where the trainee works. Ideally, this indicator should be obtained as a profile since the trainee's return, but it would be unrealistic to expect accurate reporting for each of the positions occupied. This indicator will be reported at the time of the evaluation survey. This variable will tend to be positively correlated with the previous one. However, it will provide additional information in the case of trainees that, in spite of having high (or low) positions in the occupational scale may have few (or many) subordinates through which influence can be exercised.

(3) Total number of subordinates, direct and indirect, under trainee's supervision. This indicator will serve to qualify the importance in the society of the information provided by indicators (1) and (2). As any proxy, this one has some imperfections in the sense that a very influential government agency may not need a large number of employees to project its power. Nonetheless, given two trainees at the same level on the occupational scale and working in agencies of similar influence, the one

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20 For instance, a given participant may have been appointed to different positions in the government during his/her career, say as minister or vice-minister in charge of different portfolios.

that commands more subordinates may be considered to be in a position to have more impact.[21,22]

Many other indicators of trainee's societal impact can be offered, but that would imply a significant increase in the survey costs. The indicators presented above offer several advantages. One is their relatively simple applicability in a comparative analysis; another is the possibility of pooling information on many individuals, without having to make distinctions among their different forms of work. At the same time, it is essential to understand that a great deal of effort must be dedicated to the sampling design of the evaluation survey and the careful selection of the sample subjects. A relatively short and manageable list of indicators that are of high replicability if applied by different evaluators, will help avoid the double danger of producing ambiguous variables, observed and analyzed improperly.

c. Other Variables of Societal Impact

In order to establish the areas of development priorities where the trainee has worked, and presumably exercised his/her impact, information will be gathered in terms of

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21 There is the option of discarding this indicator in cases in which those assumptions are contradicted.

22 The indicators dealing with subordinates may not be used as measurements of public sector employment generation on two grounds. First, employment generation in the public sector is too frequently artificial and politically motivated, without a real justification in economic terms. Second, the growth of employment in this sector may even constitute a negative contribution to the country's development. However, even in the cases in which these two points are not valid, the supervisor is not the only one that creates the positions for his /her subordinates.

time spent in those areas since return. An indicative list of areas is offered below. The final list for a given country must be designed specifically. The possible areas are the following:

- Agricultural Production
- Agricultural Research
- Rural Development
- Urban Development
- Water Supply
- Public Health
- Education
- Opportunities for Women
- Export Promotion
- Housing
- Small Business Development
- Macroeconomic Planning
- Development Financing

D. Background Information

Besides the indicators of impact on the participants and on the comparable individuals in the sample, some additional information will be obtained regarding socioeconomic background. As AID participants' performance will be compared with individuals of similar levels of training, variations in socioeconomic background, an important predictor of achievement in many instances, must be explicitly recognized. If there were no socioeconomic background differences among the different groups, inferences attributing impact to the forms of training would be more reliable. For example, individuals that study in foreign countries may appear as performing better that their peers that study in-country. Are the differences due to the fact that training abroad was superior? Or is it that the ones

that had the opportunity to study in a foreign country are the ones with the "right" background, who therefore would have performed better in any case?

These variables are presented in a more formal way in the questionnaire outlines to be discussed later. We will proceed now to the next section to examine sampling issues.

VI. THE SAMPLING DESIGN

The evaluation of impact of participant training relies on data that must be gathered by interviewing individuals, AID-assisted trainees as well as the members of the comparison groups. The selection of these interviewees must be carried out by a careful sampling design, since the evaluation itself represents an exercise in statistical inference.

A. The Identification of AID Participants

The pivotal element of the sampling procedure is the identification of the AID participants who represent the main subjects in the evaluation sample. It is necessary to identify as many AID participants as possible. By identifying enough AID participants for interviews another essential objective may be achieved: to determine the type of institution where participants are working, in order to identify some members of the comparison groups.

The sampling design must be specific to each country, since the evaluation depends on the institutional structures through which the participants operate. One of the first steps in the evaluation is to collect as much information as possible about the history of the PTP in the country. Since our interest is only in participants that were trained at the university level in the U.S. for degree programs, the most important data are:

1. Number of participants sent to the United States each year since the start of the PTP in the country.

2. Number of participants that returned each year, cross-referenced with the year they were sent.
3. Classification of participants by field of study and type of degree.
4. Any follow-up information on the performance of the participants.

It is highly desirable to know the universe of participants in a country to ascertain the size of the sample that will be obtained. The longer the time since the participant's return, the more interesting he/she is for the evaluation; by the same token, the more difficult it may be to find him/her. Even though participants that have just arrived from completion of their programs are the least interesting, they are to be included in the sample six months after the completion of their training.

The strategies to locate AID participants will vary from country to country depending on the information available in each host country and AID mission. A directory of as many participants as possible must be prepared previous to the start of the evaluation survey. This directory should include personal addresses of the participants, places of work and/or affiliations to professional societies or any other types of institution. This directory must be up to date when the field study begins.

Mail interviews will probably be avoided unless there are no better alternatives. There are several reasons for this. First, mail interviews generally suffer from a high proportion of no responses, an outcome that could weaken an evaluation project (once the funds and personnel are committed in one particular country) if the numbers of identifiable participants and comparison trainees are not sufficiently high. Second, mail interviews require a

lengthy preparation of questionnaires to be answered accurately. Finally, long delays can be expected especially in countries with unreliable mail systems where many interviewees may be scattered in wide geographical areas. Telephone interviews are preferred to mail interviews, but they, too, are cumbersome, and should be avoided. If there are countries in which different interview approaches are applied, careful records must be kept of each case in the questionnaire and in the analysis, because they carry different degrees of statistical reliability.

If the first attempt to prepare the directory fails to locate a significant number of the AID participants in the country, additional strategies must be pursued to increase the sample size. There are no absolute numbers in terms of sample size that can be offered as guidelines. In general, the greater the number of participants in the sample the better. Many factors will reduce the number of available participants: simple lack of information, migration, retirement, death and, possibly, marriage in the case of female participants. A reasonable amount of effort should be invested to get the highest possible representation of AID participants in the survey.23

B. The Identification of Comparison Groups

As explained before, this methodology is based on a comparative approach, contrasting the performance of AID participants with that of other trainees. The group of AID participants is well defined and its composition and size

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23 In countries in which the number of AID participants goes well into the thousands this would not be necessary, provided that there is an approximately proportional representation according to cohorts, i.e., in terms of the numbers of participants per year of existence of PTP in the country, and fields of training.

depend only on the availability of the participants themselves. We proceed now to identify other potential sampling groups, i.e. the comparison groups, and then focus on procedures for selecting the individuals who should be included in the comparison group samples for the field studies. The different potential samples of trainees are shown below:

SAMPLES OF ACADEMIC TRAINEES

	Sponsorship				
	AID	OTHER DONOR ORGS.	HOST GOVT.	SELF	NONE (no training)
Countries					
U.S.	A	B	C	D	-
Third	E	F	G	H	-
Home	I	J	K	L	M

Comparisons of the study results among the samples will suggest the extent to which training (versus no training), sponsorship (AID, other donor organizations, host government, and self), and country in which the training takes place are associated with observed differences in the trainees and their impact on middle-range social and economic development in home country.24

Since in most countries the universe of non-AID assisted individuals can be expected to be much larger than the one for AID participants, the next issue is how to select which

24 In research jargon, samples A-L are treatment groups and sample M is the control group.

groups to sample and which trainees in those groups to contact. The ideal procedure is to select individuals randomly from each group that has comparable fields of specialization to the AID sample. This is not practical because there is no directory of non-AID traineess from which to make the random selection. A careless or arbitrary selection would lead to biased or distorted comparisons from which no valid inferences could be extracted. A viable procedure, representing a compromise between what is technically ideal and practically feasible, is to carry out a random selection of individuals for each comparison group within the institutions where AID participants work. This course of action has the advantage of controlling for the work environment in the comparisons of the different impact indicators.[25] It also has the advantage, from the point of view of the administration of the field work, of reducing the number of institutions whose collaboration is essential to the expeditious and effective implementation of the survey. A possible disadvantage is that by using the AID participant as the pivotal element of the sample selection, the procedure may introduce a bias against the individuals in the comparison groups. This could happen in those institutions where PTPs were only a component of other forms of AID financial support, offering the AID participant more incentives to perform.

The method of clustering the sampling subjects by institution, may be limited if not enough comparison groups individuals appear in the same institutions as the AID participants, as could be the case for small institutions, public or private. In this situation, similar institutions

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25 This control is increasingly less than ideal as the lengths of and points in time spent in the same institution vary for individuals belonging to different groups.

must be surveyed, but the selection must be made very meticulously to avoid distorting the comparisons.[26] Another source of potential trouble resides in the possibility that certain positions occupied by an individual, participant or not, are unique or of low frequency in a given institution. This would be the case of, say, an AID participant that is the founder or top manager of an organization. The individuals belonging to the comparison groups within the same organization may show a comparative disadvantage. Nevertheless, it can be argued that this type of situation will be balanced out by institutions in which a comparison group individual and not the AID participant is in the top position. No a priori rules can be formulated to deal with this type of situation; each case will have to be examined individually to avoid sampling problems.[27]

As a general rule, there should be as many individuals in each comparison group as there are AID participants in the sample. This has important implications regarding the cost of the evaluation. The cost will also be affected by the conditions in each country, mainly, the degree of accessibility of the interviewees and the level of collaboration of the authorities and others involved in providing access. However, cost considerations must not be allowed to reduce the size or number of samples to such level as to render the survey useless.

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26 This is another instance where the evaluation survey needs the participation of personnel with experience in sampling methods.

27 Frequently, not enough emphasis is given to the dangers of neglecting the sampling properties of surveys in statistical analysis. The only safegard is the expert eye trained in probability theory, as these properties are invisible to the layperson. Even though these considerations may sound like academic technicalities of irrelevant consequences, they are not.

VII. DATA COLLECTION TECHNIQUES

Several different types of data collection procedures are well developed and standardized in the social sciences. Some of them will be used in the field studies. All of them will be discussed here. Basic descriptions and evaluations of economic and social experiences could be obtained from the trainees via questionnaires. Such questionnaires are useful for gathering the same information from a variety of individuals on a number of topics. They require a great deal of time to construct and standardize, but are quite efficient when developed.

An orally administered questionnaire, i.e. a structured or semi-structured interview, when given to individuals, can get the same information as written questionnaires while providing the opportunity for better understanding of the details of the respondents' experiences and the reasons for their responses. Interviews are usually less cost-effective than questionnaires in terms of time and effort to administer and score, although with sufficient attention to the development of the interview schedule and the training of interviewers, the data gathered can be as standardized and easily coded as written questionnaire responses. Often semi-structured interviews are used in a pre-test to develop questionnaires. When the information to be gathered is not well understood, a study will frequently ask a number of trainees to discuss their experiences with an interviewer to provide the topics and reactions that will later be covered in a more structured interview or a questionnaire.

Unstructured interviews can also be used to gather information and to make ratings of interviewees. The interviewer

in an unstructured interview is much more a good listener and summarizer of information than a questioner and recorder of specifics (as the interviewer using a structured interview is). Unstructured interviews are useful for getting information in areas where the evaluated individuals' experience and reactions are likely to vary a great deal. They will be necessary when the study deals with unfamiliar experiences and/or when it wants to assess the pervasiveness of the individuals' experiences and the intensity of their feelings. This kind of interview requires highly skilled interviewers, especially if systematic ratings (important for comparison purposes) of the interviewees and their comments are to be made. In this case, interviewers must be thoroughly trained in conducting the interviews and in the gathering and preliminary processing of the information used to make ratings.

There is a long history on the development, use and analysis of rating techniques in psychology (see Kidder and Judd, 1985). Ratings are used to compare individuals, experiences, or qualities with each other, or against some standard. In using ratings to gather information, one must be sure that the concept being rated exists, that it is commonly understood by the raters (has clear attributes), and that the scaling technique or standard of measurement is appropiate.[28] Ratings will be used in the field studies to rank order the importance of middle-range developments to the growth of each country.

There are three other widely recognized and used methods for collecting information about people and their behavior:

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28 DETRI, for example, used "self-anchoring" 7-point rating scales that let the trainees use their own definitions of "could not be better" and "could not be worse".

records and documents, observations, and tests. There are some records and documents on AID-assisted trainees such as the files at the missions and AID/Washington and their academic records at training institutions, but these are not always available or kept systematically enough to be of use for assessment purposes by themselves.

The actual observation of individuals is another data collection technique. Best results are usually obtained from observations made by trained observers when the individuals know they are being observed (and agree to it), but do not know exactly what is being recorded or rated, and the observations are either unobtrusive or go on long enough to become unnoticed to them. If outside (trained) observers are not used, there may be problems in the "objectivity" of individual observers who are in some way related to the observed. Even if these observers are willing to record observations systematically, they may be reluctant or unable to give impartial reports. There is also the problem of the observer's behavior when using this technique affecting the observed behavior, as in the case of a supervisor observing and rating a subordinate's work, (or an interviewer observing and rating an interviewee's conversation).

Standardized tests are used to measure individuals' skills, knowledge, values, beliefs, attitudes, motivations, and capacities. Like good ratings, good tests are developed to measure distinct attributes of concepts. They are tested for their reliability and validity in measuring these attributes and, when they meet the appropiate technical standards, they are given to representative samples to establish normative scores for future use. Unfortunately, even the most reliable and valid tests are quite "culture specific." That is, they tend to be reliable and valid only for the populations they were developed on and standardized

with. There have been some attempts to develop "culture general" tests (Breslin, Lonner and Thondike, 1973), but these have not been very successful. Test development is a long and difficult process. As a result, there are few widely accepted tests in the behavioral sciences, (especially as compared to the physical sciences). One would almost certainly have to "start from scratch" if tests were used as a data-gathering technique in the pilot studies.

The more certain one is about the information needed and the more previous work that has been done in obtaining such information, the more standardized instruments like tests and structured interviews and questionnaires can be used. In this evaluation methodology, especially in the social development area (vis-a-vis the economic development area) when using a bottom-up approach, one will not have such certainty or clarity and experience to rely on with respect to specific middle-range changes or accomplishments. Thus, there will be more need for less-structured information gathering techniques such as unstructured interviews, general observations, and preliminary ratings to obtain data on the impacts that the AID-assisted academic trainees have had on the specified developmental changes. Trained interviewers would talk with and/or observe the trainees, their constituencies, and experts who know about them and their activities. Much of this information will be retrospective. As the work progresses, one should be able to move to more structured interviews, and standardized questionnaires and ratings.[29]

The early field test study experiences in locating and interviewing the AID-assisted, and other trainees and their

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[29] The use of records and the development of tests would probably be limited in the bottom-up approach.

their supervisors and clients, should be extremely useful in facilitating the sampling and interviewing processes in later (post field test) evaluations. Also helpful in conducing the field work and later evaluations will be the in-country experiences of the Bureau of Social Science Research which carried out AID's only effort to date to evaluate the results of PTPs in host countries. From 1959 to 1964, the BSSR conducted evaluations of trainees living in 30 countries. Their notes on visits to AID missions (1960,1962) and report on the pretest survey of returned participants (1961) contain many suggestions for locating and contacting AID-assisted trainees.

VIII. INTERVIEW SCHEDULES

There will be one questionnaire to be applied to all the trainees. This chapter presents examples of the items that should be included in the questionnaire.[30] The examples are not to be taken as final versions of the instruments since they must capture the idiosyncrasies of each country in which they are used. In other words, the questionnaire must be country specific. This does not apply only to some basic elements such as language, but also to a number of country characteristics, from institutional structure and priorities in development policies, to more detailed factors such as range of earning scales and types of PTPs.

The general components of the questionnaire for the trainee are described below. The statements between brackets are explanatory notes.

QUESTIONNAIRE FOR THE TRAINEE

Name of Interviewer
Name of Interviewee [To be kept anonymous]
Country of Origin
Sampling group [AID participant or comparison group]
Field of Study
Degree
Year Started

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30 For the reasons explained in previous chapters, the interview instruments for the evaluation of impact in social development cannot be defined as universally as for the economic area.

Year of Completion of Studies
Year of Return to Home Country
Age
Sex
Status
Mother's Education [educational scale]
Father's Education [idem]
Mother's Occupation [H-G scale]
Father's Occupation [idem]
Number of Siblings

Profile of Gross Earnings, since Return
[Approximately seven income categories]

YEAR	0	1	2	3	4	5	etc.
INCOME							
1							
2							
3							
4							
5							
6							
7							

Occupational History, since Return
Index of Wealth [Upon return and at the time of the survey]
Number of Housing Units Owned
Total Number of Rooms of the Units
Area of Land where Units are Located
Area of other Land Owned
Number of Vehicles Owned (Cars or Trucks)
Specific Household Items [Country specific]

(For Private Entrepreneurs Only)
Profile of Domestic Sales [by sale categories, and years]
Profile of Foreign Sales [idem]

Profile of Imports [idem]

Profile of Employment Generation, by Sex
[Only three points in time: beginning, highest and current]

Profile of Total Annual Payroll [by payroll categories]

Profile of Labor Productivity [To be calculated from indicators above]

(For the Private Sector Employee Only)

Managerial Responsibility [Defined in pg. 49]

(For Government Sector Employees)

Profile of Occupational History [it could be the same defined above, but in finer detail as explained in pg. 51]

Proportion of Subordinates [Defined in pg. 52]

Total Number of Subordinates [Idem]

IX. THE LOGISTICS AND MANAGEMENT OF THE FIELD STUDIES

A. General Considerations

A survey requires a great deal of technical effort in its design and implementation as well as the analysis of the generated data; it represents a challenge from a managerial point of view. It is important to realize that a field study like the one proposed in this document is conducted with limited time and resources. To ensure that the design of the methodology and its application must fulfill minimum technical and scientific standards, the exercise must be undertaken with a high level of managerial efficiency. This poses a double challenge for the evaluator: on one hand he/she will have to cope with all the technical difficulties that are certain to arise; on the other, he/she will have to conduct the study with the mentality of a client-oriented manager. Unfortunately, the latter point is frequently overlooked. For this reason, it is imperative to try to anticipate the most important facets of the planning, organization and administration of the field work.

Once a country is selected for an evaluation(which assumes strong host country support), one of the first steps in implementing the methodology is to establish working relationships with a host country counterpart (such as a university or private research organizations) and estimate the feasibility of locating representative, matchable and accessible samples of trainees (AID and non-AID.) It is vital to discuss the purpose, nature and mechanics of the

field study with these counterparts very early on. In addition to providing information on samples of trainees, the counterpart will be invaluable in helping to detail the middle-range developmental changes about which the U.S. team members would have only general information, and providing access to experts who have other information or perspectives on these changes.

The purposes of the field test study or studies are: a) to gather and analyze data on the impact of participant training on middle-range development under actual field conditions; and b) to validate or invalidate, in terms of AID's perception of its usefulness, this report's approach to collecting and analyzing data on middle-range developmental change and trainee impact. Field study activities will include establishing, locating and contacting rosters of different types of trainees; developing instruments and procedures to gather and code relevant data from these trainees; and identifying and relating to host country counterparts and other organizations and individuals who can effectively participate in these tasks. The field-testing of this model is expected to generate a great deal of information to analyze and summarize. Analysis of these data and recommendations and suggestions based on them, as well as the details of each field study concerning the sampling, training and data collection procedures and instruments will be included in the study's final report.

The objective of this section is to provide an overview of the management of these field studies. It is not intended to be exhaustive, but rather to provide a general idea of the most critical components of the survey and the interrelations among them.

This discussion will be divided, for each of the two sections that follow, into four phases: a) design, b) data collection, c) data processing, and d) analysis.

B. The Questionnaire on Economic Indicators

The design stage for this area consists of two activities, the design of the questionnaire and the design of the sample. Before starting on the design of the questionnaire, some preliminary investigations are warranted. At the macro level, one needs to look at the general characteristics of the PTPs in the country, such as the number of trainees and their fields of study, the development priorities and policies of the government, and the forms of AID assistance. At the micro level, it is necessary to determine the range of historical variation of salary and earning scales, the availability of data on public sector employment and classification of positions, and the characteristics of belongings in households, among other factors.

Once this information is known, the design of the questionnaire can be started, taking into consideration elements such as language (not all the members of the samples are expected to speak English, nor all the interviewers), formulation of a codification system for eventual data processing, and the drafting, typing and reproduction of the questionnaires. Pretesting of the questionnaire is indispensable before training the interviewers. It might be necessary to administer some questionnaires by mail or telephone; in these cases special instruction packages must be prepared. The final part of the questionnaire design stage may coincide with the start of the training of the interviewers, discussed below.

The other activity in the design stage, the definition of the sample, will require knowledge of how many AID participants the country has had, how many comparison groups trained in comparable fields can be found, and the potential for contacting individuals from all major groups, AID-assisted and others. A possible difficulty in some countries may be the structure of the training programs by field of specialization. Wide diversity and variance of the training programs in a country may require enlargement of the sample sizes.

Before the field work starts careful selection and training of interviewers will be necessary. This aspect of the survey is absolutely essential and must be done by personnel with extensive experience in all the aspects of survey research.[31] The basic goal is to help the interviewers understand the questionnaire and interviewing techniques thouroughly. In the training stage, some of the interviewers may be appointed supervisors of the field work if no professional supervisors are available, though this is less than ideal.

After a complete discussion of the questionnaire is finished, the training will turn to the interviewing techniques, covering such topics as introduction and explanation of the survey to obtain the interviewee's collaboration, specific approaches to be followed with the most difficult questions or items, etc. Each interview should be scheduled

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31 It is not always possible to find experienced interviewers who will be available according to the needs of a survey, in certain LDCs. In many cases it is possible to hire experienced interviewers, but even so they must be trained in the specific characteristics of this survey. This training stage should not take more than a few days, depending on the field work experience of the interviewers.

to efficiently organize the itineraries of the interviewers and their transportation. The objective is to start the data collection as soon as the training is finished.

The second major phase, data collection, requires continuous monitoring of the interviewers to ensure that every individual in the sample is reached. Many unpredictables arise during this stage, from individuals that refuse to collaborate, or do not have enough time available to finish the interview, to questions about situations that were not anticipated during the design and training phases. The team leader must be available at all times to make decisions on these situations.

Each questionnaire must be thoroughly reviewed after each interview. In some cases it may be necessary to pay a second visit to the respondent, if erroneous answers are detected. This usually results from misinterpretations by the interviewer. In other cases, the interviewee might have refused to give information about certain items. This does not necessarily invalidate the interview; however, blank spaces in each questionnaire must be explicitly identified for the analytical phase.

The data processing phase begins with the coding of the answers.[32] This stage consists of transforming the information given by the respondents into a computer-compatible format. The coding (not the design of the codes) may be performed by some of the interviewers under strict instruc-

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[32] Coding means the attachment of numerical values to the answers in the questionnaire for data processing. The values must be defined according to certain technical criteria. One example is the assigment of the value 1 for males, and the value 0 for females.

tions and supervision. Open question interview items need more involved coding since they require the classification of the answers into analytically distinct categories. This coding must be done under the direct supervision of the team leader. The entry of the data into a computer system and the data analyses are expected to be done in both the U.S. and the host country.

C. Interviewing Experts, Trainees, Constituents and Counterparts on Social Indicators

Since it is anticipated that the part of the field study that deals with social development will use both a bottom-up (inductive) and a top-down (deductive) research approach, it is important that trainees in the countries studied be separated into two groups. The first group would participate in the study by discussing with interviewers specific middle-range developments in their country and their association with them. In the initial phase of the study, in-country changes and policy priorities in social and economic development will be discussed with them and their supervisors and clients (constituencies). These discussions will help verify the views of the counterparts and experts. The number of initial trainee contacts would be limited in ways that would maintain the integrity of the later sampling. None of the trainees talked with at this time would be in the pilot study sample groups.

Since much of the initial data gathering will be done through unstructured interviews and general observations and ratings, it is vital to have highly skilled interviewers who know how to stimulate the trainees', constituents' and experts' thinking, to focus and maintain the interviews without "putting words" in the respondents' mouths, and to gather and summarize the information given without

infringing on the spontaneity or privacy of the conversations. Careful selection and training are the keys to producing such interviewers. We are anticipating that trained interviewers will be available in the pilot study countries through the counterpart organization with whom the evaluation will be jointly conducted.[33] This would cut down the training time needed, but would not eliminate training entirely, as specific instructions are always necessary in a new study. The procedures developed for DETRI's "off-the-record" interviews (1971, 1972) will be invaluable for training interviewers for the pilot studies. This training is an on-going process which begins during the screening and selection of the interviewer candidates and continues until the interviews are completed or become structured as questionnaires.

Good interviewers are essential to the desired development of more structured interviews, observations, or ratings. It will be important to get from the interviewers information they have about the trainees that is not available in their written (or perhaps recorded) protocols; that is, characteristics and behaviors of the interviewees that they observed or can infer that were not part of the conversation. Most important would be information relating to trainees' impact on middle-range development. There are many clues to such impact outside the conversation itself that a skillful interviewer can pick up in talking with trainees, their supervisors and clients, especially if the conversations are held in places where the impacts have occurred. The categorization of this information into codes

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[33] Again, we expect this organization will be a university or private research/marketing firm, and that such an organization with adequate capability will be available in most countries, at least in which the field tests are to be conducted. In some other countries, other arrangements might be needed.

and then into more specific instruments and procedures would be done in periodic discussion and training sessions with the interviewers.

The focus of these interviews, observations, and ratings would be on the trainees' impacts on the developmental changes identified and listed through discussions with in-country counterparts and experts. Of course, the interviewers would have to be able to recognize these changes and the types of middle-range developmental impacts agreed upon by the study team before they begin the data collection. These capabilities are particularly important for the bottom-up interviews, if the interviewers are to focus the conversation with the trainees on the areas of interest. They would also be trained to be alert for additional developmental changes or impacts that come up in the interviewer conversations. These would be discussed in meetings with the interviewers and added to the lists of middle-range development if appropriate. This way of gathering and systematizing information on a topic is the essence of the unstructured to structured approach.

In addition to the information on developmental impact, the interviewers must get data on personal characteristics of the trainees needed to match the other samples of trainees. Some of these characteristics are suggested by previous research and can probably be obtained via standardized questionnaires (Social Science Research Council, 1975). Other characteristics unique to the country or region, as ascertained through discussions with counterparts and experts and initial trainee contacts, would be added to these questionnaires. These would be personal factors (other than training) that could account for reported or observed impacts on developmental change.

One set of information that has long been of interest to AID is the extent to which trainees are using their U.S. training in home country (see American Institute of Research, 1976). Although some studies have tried to assess this, none have made the appropriate before-after measurements to document learning and used the necessary control and comparison groups to link learning and utilization specifically to AID-sponsored training (see Elim, 1977). Since the methodological model outlined in this paper uses comparison groups, it is tempting to gather some utilization data; however, this would be a mistake unless such utilization can be shown to impact directly on middle-range social and economic development. Most of the research on utilization of AID-sponsored training of necessity focuses directly on immediate job performance. This focus falls short of the middle-range developmental changes in which this study is interested. Using a top-down research approach in the field study, it might be possible to make judgements about the impact of specific job performances. With an exclusively bottom-up approach however, there is no independent way to determine the impact of such utilization on middlerange development, especially in the social areas. One is at the mercy of the judgements of the trainees and their constituencies. Therefore, no special effort will be made in the pilot studies using a bottom-up approach to assess specific utilization of training on the job.

The pilot study could gather some tangential information on other trainee activities with which the AID missions are concerned such as participation in alumni associations, conferences, workshops and seminars; American contacts such as memberships, journal subscriptions, and English refresher and correspondence courses; and training programs assistance such as recommending and orienting new participants, or

advising returned trainees. Gathering such information might help the AID mission in assessing the on-going participation of AID-assisted trainees and appropriate follow-up procedures.

A major task in the field work in the second stage will be to move from the relatively unstructured information gathered by and from the interviewers and study team members to the semi-structured or standardized interviews, questionnaires and ratings to be used later in the study. This task is quite familiar to survey researchers who frequently build codes, items and response categories from exactly such "open-ended" information. It would be ideal if some of the counterparts on the study team had these skills. These individuals would meet with the interviewers to discuss the information gathered and build more structured instruments. It is also possible to select and train the interviewers themselves, to code their own information.[34] There are two difficulties with using interviewers as coders. First, the training as coders and the coding itself are time-consuming and would reduce interviewing time. And second, it may lead some of the interviewers to structure future interviews prematurely in an effort to make the coding easier.

PILOT STUDY TIME SCHEDULE

To summarize the steps recommended for a "typical" pilot study, we will present an illustrative time schedule for the major activities of such study. It includes two data gathering phases, one with non-sample trainees to develop and pre-test the questionnaires, and another to collect quantitative data for analyses.

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[34] This was done with the individual interviewers at DETRI.

	ACTIVITY	WEEKS
A.	Study of Country Situation	3
	1. Review statistical and other data on indices of social and economic development	
	2. Contact in-country counterpart organizations.	
	3. Ascertain the number of AID-assisted academic trainees in country.	
	4. Ascertain the types and approximate numbers of other trainees in country.	
	5. Screen host country organizations and interviewers who will conduct unstructured interviews.	
B.	Formulation of Middle-range Development	2
	1. Locate and contact experts on development in country.	
	2. Locate and contact non-sample trainees in country.	
	3. Discuss developmental changes over last 15-20 years.	
	4. Discuss impacts individuals, groups and organizations have had on these changes.	
	5. List and rank order developments and associated impacts mutually agreed upon.	
C.	Samples of Respondents	3
	1. Develop rosters of AID-assisted trainees in country.	

2. Work out approaches to and mechanics of contacting respondents, conducting conversations, and coding results.
3. Contact AID-assisted academic trainees to access supervisors, clients, experts and other trainees in their networks.
4. Contact other trainees from adequate samples. Access their networks as above.

D. Initial Data Collection 6

1. Discuss information obtained from non-sample trainees with interviewers. Move to more structured conversations and observations.
2. Conduct semi-structure interviews with trainees in a few organizations linked to developmental changes.
3. Discuss information and coding of this information with interviewers. Develop more structured interviews, ratings, and observations.

E. Coding of Data 4

1. Train coders from host country in interview information.
2. Develop codes from initial data collection.
3. Code data on personal characteristics for matching AID-assisted and non-AID trainees.

4. Construct structured codes (ratings) for trainee interviews.

F. Quantitative Data Gathering 12

1. Sample organizations and/or groups of trainees involved in middle-range developmental change.
2. Contact these organizations and groups to gather information on the work histories of selected AID-assisted trainees.
3. Match these organizations and/or trainees with other trainees that have had different training experiences.
4. Contact these organizations and groups to gather information on the work histories of non-AID-assisted trainees.
5. Code and tabulate the results of the data gathering.

G. Analysis, Report Preparation and Review 6

1. Describe and analyze pilot study experiences.
2. List middle-range developments and associated impacts.
3. Prepare and explain conclusions and recommendations.
4. Detail sampling, training and data collection processes.
5. Include final versions of all instruments and results of quantitative data analyses.

6. Review report with host country and AID officials.

Although the total time is very roughly estimated at 9 months, to the extent that some of the activities can be done concurrently this time might be reduced. A good integrated (economic and social indicators) pilot study might be done in 6 months. If only economic indicators were used, a study might be done in 4 months. There are many common tasks to both areas, such as the identification of trainees, sampling design (parts of it) and the study of general country background.

X. THE ANALYSIS OF THE DATA FROM THE EVALUATION

A primary source of data in this evaluation is the survey of the AID participants and the matched trainees in the comparison groups. Another source of data is the interviews with the local and foreign experts and counterparts. Information from these two sources lends itself to a number of analyses involving statistical inference. Such analyses are expected to produce insights on the impact of AID participants on middle-range development and the differences between this impact and that achieved by other groups of trainees.

To interpret these insights properly it will be necessary to conduct analyses of the data in light of the general economic and social conditions in each country in which an evaluation is carried out. To illustrate this point, let us examine a possible scenario. Country X may have experienced a political period in which individuals trained in the United States were not held in high regard, especially the ones assisted by AID. In this situation, the participants' level of performance may appear less than that of other trainees, particularly in terms of access to high government positions. Those political circumstances might not be operative at the moment of the evaluation, however, and it might be possible to overlook their consequences in the analysis. Obviously, this would produce distortions in the interpretation of the survey results. Many other plausible, but less apparent, scenarios may have the same type of distorting effects.

No single methodological approach can assess the general context in which trainees operate. It is therefore essential to the effective evaluation of the impact of trainees to complement the surveys with a study of the background of the countries selected for an evaluation. This would involve reviewing the economic, social and political development of the country over the period relevant to the evaluation. It would also require conducting informal interviews with country experts, knowledgeable about how the in-country institutions of higher education relate and contribute to the labor markets, employment needs and the economic and social develpment of the country. Much of this review should be completed at the start of the field study as part of the top-down research approach outlined in steps B.3 and 4 on page 80.

Throughout this paper, a number of hypothetical illustrations have been offered to explain the components of the methodology. In this section we will review some of the most important questions that might be answered in the analysis of the data. The emphasis will be placed on questions comparing results from AID-assisted trainees with other groups of similarly trained individuals. One general question to be answered is: what are the most important middle-range social and economic developments which have taken place in the country since AID-assisted trainees have been returning? As we noted, it is impossible to ask more specific questions in the area of social impacts until information is obtained from experts and others in-country. We will concentrate on some examples of analyses on economic impact in the remainder of this section.

A. Differences in Earnings

Significant differences in earnings between individuals working in the public and private sector in favor of the latter group, should take account of the trainees' length of stay and occupational mobility in the public sector. If the length of stay is short, it might be an indication that salary incentives in the private sector attract participants that may have been trained for specific projects. If this trend is found frequently, it might have important implications for policy action regarding participants. For example, and depending on many other factors, if a significant shift to private sector activities takes place while some public sector activities are a high priority, it might be advisable to create incentives to help achieve a longer stay in government service. On the other hand, the shift of participants may indicate a higher relative efficiency of private sector activities to take advantage of the participants' training.

Differences in earnings offer many opportunities for analyses. Important questions are: How effective have AID PTPs been in improving earning profiles of women, as reflected in comparisons of AID and non-AID female participants? Do AID female participants earn more than other women of similar training? How do earning profiles compare across fields of study in different sectors?

In combination with other indicators, such as occupational mobility or participants' ability to stay in the same field of training, earning profiles offer additional possibilities. Do earning profiles improve when the participants change occupation, abandoning the intended field of specialization? Is there any relationship between earnings and

level of influence? Are levels of earnings associated more with the type of training or with the socioeconomic background of the participants and other individuals?

B. Performance in the Private Sector

As discussed earlier, the private sector offers excellent opportunities to observe and measure some forms of the trainees' impact on the economy. Those opportunities, of course, will depend on how mobile and free the private sector has been in a given country, a consideration that must be discussed with the experts in the field studies. The participant found in private sector activities may have trained for other purposes. Does the participant in the private sector use his/her training more effectively than it would have been in his/her original field of training? What is his/her record in terms of creation of new jobs? Do AID participants appear more entrepreneurial than other trainees, in terms of their occupational level? What are the fields of study in a given country that appear to facilitate the participant's performance in the private sector? Is success in the private sector preceeded by success in the public sector? How does success relate to family background?

The impact of AID PTPs in closing the gaps of access to economic opportunities in different countries may be examined, by comparing AID participants with other U.S.-trained individuals of higher family socioeconomic background, and with other individuals of the same background as the AID participant. This, of course will depend on how many individuals fall in the sample from each of these groups. It will be of particular interest to examine the individuals that have been trained in-country to test how much AID contributes to the improvement of opportunities for

upward mobility. In a sample that is large enough, it is possible to compare in-country trained individuals from different institutions among themselves and against the AID participants and others. This type of test could provide some indications of whether in-country programs are as effective, at least in terms of enhancing the individuals' opportunities, as AID PTPs.

C. Performance in the Public Sector

The evaluation of the performance of participants, in terms of the levels of influence they reach in the public sector, can also answer important questions. What are the performance differences between participants with different levels of training, undergraduate, masters or Ph.Ds.?[35] At what level of training do participants stay longest in the public sector? Is this equally valid for other groups of trainees? Do AID participants proportionally appear more frequently in high level government positions than others? Is this preconditioned by the participant's ability to depart from his/her field of training? What role does family background play? Are there differences in family background between individuals who stay in the public sector and those who go to the private sector?

The preceeding considerations constitute a small sample of the type of questions which can be formulated and "answered" with some certainty. Yet, a word of caution must be stated at this point. It is obvious that the number of questions that can be addressed will be limited by the amount of information that can be extracted from the survey. The quality of the field work in each case will be an important factor here since a badly performed survey

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35 This questions is important for the private sector as well.

reduces the amount of usable data. Social science phenomena are among the most complex in the entire realm of science. Unfortunately, too often operational pressures, negligence, or lack of understanding lead to superficial design and application of evaluation instruments. The methodology presented in this report will not be effective unless applied by persons trained and experienced in social science research, with solid backgrounds in field work. Its utility will depend on how well it is adapted to the specific conditions in each country of application.

Put differently, this methodology is not a universal and rigid procedure that can be mechanically applied in any environment. It is a flexible, scientific approach to be adapted and used by professionals in each particular country. It would be better not to apply it at all than to apply it under the wrong set of circumstances.

XI. THE SELECTION OF THE PILOT COUNTRIES

This methodology should be tested in a small number of countries, to assure that it can be adapted to a variety of circumstances. Trying to apply this approach with inadequate resources will certainly lead to failure. It is not within the scope of this paper to furnish guidelines for the level of resources necessary for a successful trial. The cost will partially depend on the countries selected and the amount of information available on participants at the AID missions.

Assuming that funds do not constitute a seriously limiting problem, the application of this methodology should not be attempted in countries that do not have certain prerequisites, the more important of which are:

1. Available information on participants.
2. Full commitment of the host government and the AID mission to the study.
3. Collaboration of an appropiate survey research or similar type of institution in the country.
4. A long history of PTPs in the country.
5. A large number of trainees.
6. A social and political climate conducive to the collaboration of experts and trainees for interview purposes.

Since the criterion for the methodology is actual change in the social indicators of general development in countries to which AID-assisted trainees have returned, there is no reason at this time to study countries in which little or no

such change has taken place. To ensure that this methodology for assessing middle-range developments and trainee impact on it has the optimum chance to work, countries should be selected for the pilot studies that show significant change in indicators of national social and economic development. This would be ascertained from data available in the U.S.

The countries that best fulfill these conditions should be the top candidates for the first field tests. A top candidate might be Brazil, where CAPES, the Brazilian government agency in charge of administering all country scholarships, national and foreign, has conducted a survey of about 12,000 trainees (including those assisted by AID) in which sponsorship is identified. Our information is that influential members of the Brazilian government would be highly interested in the use of this immense unanalyzed data base. Even though the data do not include the economic measures suggested for this methodology, they do provide excellent background material for a good evaluation. Other countries that seem to fulfill the conditions described previously are Thailand, Peru, Indonesia, India, Nepal, and Dominican Republic.

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