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# STRATEGIES FOR TECHNICAL ASSISTANCE

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# PREFACE

The business of building institutions through technical assistance is indeed a complex matter. Though many of us on the CIC-AID Project had previously been involved in institution building efforts, this experience plus the opinions of our contemporaries and the legacies of our predecessors blinded us to many of the fundamental issues. It was, perhaps, not until midway through the research that many of us recognized we were studying symptoms rather than causes and basic issues.

One of these basic issues concerns the question of what forms of technical assistance best build indigenous agricultural institutions. It is this question which is the focus of this paper. And as it now stands, it can be considered little more than a first-round look at some of the important aspects. In fact, to the experienced technical assistance practitioner, more questions may appear to have been raised than answered. If this is the result, then I will have considered the effort worthwhile.

Perhaps few, if any, of the ideas presented here are original, for at last count, I find I interviewed over 400 different people in my two and one-half year association with the project. Each person contributed substantially to the content of this paper and to my many thoughts on the subject which remain unwritten. I cannot single out specific people for specific thanks. The insights of each person proved invaluable. Neither, of course can I single out specific people to account for any noted blunders of inconsistency or insensible logic. These errors are my own.

Since a major criticism leveled at past research concerning technical assistance is that it has often been little more than a gathering of informed opinion, I consciously attempted to avoid this methodological trap. The study is thus perhaps best characterized as being a synthesis and analytical extension of such opinion, plus on-the-spot observation and feet-on-the-desk cogitation.

If in the gathering of informed opinion, past research on technical assistance can be said to have taken the first step, the CIC-AID Project has taken the second step. Guided capably by Ira L. Baldwin and R. Wade Jones, respectively Director and Associate Director of the project, rigorous analysis and open questioning were the key-stones in the effort. Consequently, some of the project's

research undoubtedly began an advance into the third step. But our research findings clearly indicate that the third step is not the ultimate end. After nearly three years of research effort, we now know that there is light to be found at the tunnel's end, even though we presently may be unable to see it clearly.

Columbia, Missouri, June, 1968 Philip F. Warnken

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# STRATEGIES FOR TECHNICAL ASSISTANCE

## INTRODUCTION

The processes by which a country moves from a less developed to a more developed state are not yet well understood. This statement applies equally well to individual sectors such as agriculture within an economy. While existing development theories cannot adequately explain the sectoral or aggregate growth process, nearly all such theories contend that development can be accelerated through external assistance. External assistance may take many forms. Historically, however, the two major types of government to government developmental aid can be classified as: 1) capital assistance and 2) technical assistance. Considerable experience has been gained in both forms of developmental aid. Capital assistance has been fairly broadly distributed throughout the various economic sectors of developing countries. But, experience in technical assistance has been rather heavily concentrated in the agricultural sectors of these economies. Further, the bulk of agricultural technical assistance programs have had the objective of stimulating the development of indigenous agricultural institutions. How existing and future technical assistance programs can be made more effective in helping to build indigenous agricultural institutions of less developed countries will be examined in this paper.

### Scope of the Study

Historically, agricultural technical assistance programs have taken various forms using diverse means for varied purposes and objectives. While the majority of programs have been oriented toward institutional development there are numerous and frequent exceptions. Not all agriculture technical assistance activities have had the intention of yielding a developed or even partially developed institution upon termination. Technical assistance agreements between two governments nearly always involve implicit political overtones, and in some cases these political objectives have far overshadowed developmental considerations. Some programs have involved dozens of technical people for time periods of more than a decade. And others have consisted of one-man projects for periods of only a few months. In total, diversity has tended to be the rule rather than the exception.

Given the marked heterogeneity of programs involving technical agriculture personnel, it is necessary to define the scope and limits of this paper rather precisely. At minimum, any activity termed technical assistance must encompass the characteristics noted by Duncan.[1] These are:

> Technical assistance is first of all purposive; it can be easily separated from classic diffusion and acculturation which has been occurring among cultures for thousands of years.
>
> Technical assistance is cooperative; it can be clearly distinguished from economic imperialism or colonialism. With rare exception either party participating in technical assistance is free to either withdraw or allow activities to languish until they are withdrawn.
>
> Technical assistance involves an international transfer of knowledge and skill through individuals or agencies of a donor, and with a defined relationship to individuals, groups or organizations of a recipient in the accomplishment of mutually agreed objectives.

For purposes of this paper, the donor will be explicitly identified as the Agency for International Development (AID) and its country missions. The agents of the donor are American Universities operating under contract with AID, supplying technical personnel and other inputs. And the recipients are defined as new or existing indigenous agricultural institutions of less developed countries.

Such a setting thus describes the more or less standardized AID-U.S. University technical assistance contract project. The one limitation is that discussion will be restricted to those projects which have institutional development as their primary objective. Projects initiated primarily for political purposes (often known as political "presence" projects) are considered to be outside the scope of this paper.

The paper therefore specifically focuses on agricultural institution-building projects undertaken through the AID-U.S. University technical assistance contract mechanism. The orientation is directed toward both AID and U.S. University decision makers who play significant roles in the management of such projects. This specific orientation does not, however, invalidate the paper's central principles and concepts for other project types. In practice, there are seldom significant structural differences between

institution-building projects carried on by international agencies, foundations and other entities. Likewise, the issues encountered in agriculturally oriented projects are not unique. Institution-building efforts in other fields--public health, business administration, education and similar areas--encounter concerns not at all unlike those found in agricultural projects. Thus, while the specific focus is on AID-U.S. University technical assistance efforts in agricultural institution building, the findings are applicable to other project types with related objectives.

## Background of Study

Like the means utilized in assisting them, the nature, characteristics and purposes of indigenous agricultural institutions of less developed countries are highly varied. Those institutions most frequently aided through technical assistance have been agricultural universities and ministries of agriculture. But other types of institutions have also been technical assistance recipients. Secondary agricultural schools, planning and research agencies and semi-autonomous extension and production promotion entities are all examples of institutions hosting AID-U.S. University technical personnel.

But what role do agricultural institutions play in the development process? How can institutional development projects be integrated into country development programs? And what is implied in the term "institution building?" These and other issues must necessarily be considered if effective technical assistance programs are to be undertaken.

The role agricultural institutions play in the development process is not entirely obvious. Seldom is it spectacular. Nor is there strong theoretical or empirical evidence that such institutions are a necessary condition to economic development. Clearly, the precise role of agricultural institutions is difficult to isolate. This is because numerous and diverse cause-effect relationships abound in the development process. But in spite of this measurement difficulty, few students of development dismiss the importance of agricultural institutions in the growth process. This is due to at least three principal factors. First, the experience of developed countries seems to bear out the contention that agricultural institutions play a critical role in discovering and then disseminating useful and relevant technology. Such technology is the very foundation of modern agriculture. Second, these institutions serve as moderating influences in the politics of agriculture.

Agricultural policy, when premised on scientific fact and logic is recognized as being superior to purely politically based policy. And third, the direct outputs of agricultural institutions--trained graduates, research and extension programs--are all input capital in the growth process. It thus seems apparent that even though the developmental contribution of such institutions cannot be precisely quantified, experience and logic would sufficiently justify efforts to build agricultural institutions in less developed countries.

Contrary to the experience in developed countries, the value of agricultural institutions is often heavily discounted by policy makers of less developed areas. In part, this may be due to the seemingly greater discount given to time in these regions. Political expediency may also be an important factor. But the fact cannot be overlooked that in many, if not most instances, these institutions are often socially and economically unproductive.

Quite obviously agricultural institutions cannot be justified if they exist and operate within a vacuum. These institutions must compete for scarce resources of developing countries. Unless their activities are intimately linked with development needs, their presence may well be a net liability to a society. Because existing agricultural institutions of less developed countries are too often parasitic rather than productive entities, AID-U.S. University technical assistance institution-building efforts have come into being.

The magnitude of this task cannot be overestimated. Institutional development is concerned with the very nature and the entire raison d'etre of an institution. In some cases it may be necessary to establish an institution where previously one has not existed. Hence, not only must the resource needs be fulfilled, but host country attitudinal factors and philosophical concepts also must be dealt with. For existing institutions, it may be necessary to modify the institution's resources, internal structure and program. Leadership may need to be upgraded. Further, such specific tasks as improving accounting procedures, janitorial services or secondary staff employment practices may be necessary. And above all, institution building must focus on linking productively the assisted institution to its environment. Institution building is all this and much more.

Because institution development is so highly complex, the task itself is not easily defined or specified.

At minimum, however, three dimensions must be involved in the process. First, institution building is a subjective modernization of the resources and character of an institution. Second, it is the creation of a capacity for internal self-generating change. And third, it is the instillation of a propensity to interact with its environment in a productive manner. These dimensions not only define institution building but are the end objectives and functions of any institutional development effort.

Truly effective institutional development has not taken place until these three conditions are realized. However, as generalizations, they are far too broad to be directly utilized in implementing an AID-U.S. University technical assistance effort. They must be translated into operational guidelines. And to be universally applicable, these guidelines must be stated in terms of relevant principles. Both steps involve an analysis of the many and varied aspects of institution building--from a productivity measurement of technical assistance inputs to the environmental setting of the host institution. It is to this specific purpose that the remainder of this paper is devoted.

## THE ROLE OF STRATEGY IN INSTITUTION BUILDING

The complex nature of institution building requires that the process be viewed as a rather vast system to be modified. As a system, it has many facets, few of which can be disregarded if effective institutional development is to take place. Technical assistance practitioners face numerous and diverse obstacles to progress from societal apathy to technical incompetence. The task requires that short-run, intermediate and long-run objectives be achieved. And the array of available means and techniques are highly varied.

For practitioners to take account of all the significant parameters influencing institution building and then to select the optimal developmental approach is indeed a most difficult and demanding task. AID programming procedures--Project Implementation Plans (PIP's) and the like--are helpful. But under present usage, they often become ends in themselves. Moreover, such documents subsume a particular approach to the institution-building effort. Work plans frequently called for in AID-University contracts are also of some help in previewing anticipated project milestones. But with few exceptions, they are rather static conceptualizations. Not infrequently, they report project history rather than aspirations or projections for

the future. At the present time, therefore, AID-University contracts are not using any definitive format which serves as a guide in recognizing, selecting and implementing an optimal approach to long-term institutional development.

## Strategy Defined

For the effective use and maximum impact of technical assistance resources, something more than gross guesswork is needed in institution-building efforts. Borrowing from military terminology, perhaps what is really required is a strategy--a technical assistance institution-building strategy. As commonly used, a strategy is a planned dynamic sequence of actions directed toward the achievement of determinate objectives. Or, as Jones notes, a plan which "represents an a priori choice among future alternatives."[2] He further adds that strategy is "future-oriented, sequential, goal directed, time bound, and reflects the full sweep of cognitive and valuational considerations." For technical assistance projects, strategy thus denotes a plan for sequencing technical assistance activities to achieve specific institution-building objectives.

The concept of a technical assistance strategy is applicable at several different levels within any given institution-building project. One type of strategy might govern the day-to-day actions of technical personnel. Such a strategy would serve as a "cookbook" for individual technicians. It would consider aspects such as personal adjustment to foreign cultures, establishing social and technical rapport with host institution personnel, developing effective counterpart relationships, guidelines for effective advisory techniques and the like.

Another type of strategy might serve as a guide to administrative personnel in institution-building projects. Its concern would be optimal institutional organization, personnel administration program structure and similar issues. H. W. Hannah's recent work provides a rather excellent example of strategy guidelines for host institution administrators.[3] Additionally, research being undertaken by Rigney and others will provide insights for technical assistance personnel.[4]

These and related concepts are entirely legitimate concepts of technical assistance strategy in that they deal with goals and a sequenced plan of action to achieve them. Yet, they are limited concepts. None focus on decision making pertaining to the weighing of varied costs and returns

of alternative institution-building approaches They are thus micro strategies. A macro strategy refers to the fundamental approach that AID and contracting universities utilize in assisting a host institution. And as opposed to the cookbook or administrative guideline strategy concept, macro strategy deals with fundamental resource issues: those of the level, composition and time phasing of major types of technical assistance inputs. It is this concept of strategy which will serve as the focal point for the remainder of this paper.

The fundamental rationale for a purposive macro strategy in institution-building projects is that technical assistance resources are limited and time itself has positive opportunity costs. For both the project donor (AID) and the host, these factors weigh all-important. But in less abstract terms, the merits of a technical assistance strategy become more evident at the operational level.

## The Need for Strategy

The nature of institution-building efforts and the characteristics of technical assistance inputs necessitate rather long-range planning for any project. Most major decisions affecting a project are, in the short run, virtually irreversible. They tend to become fixed commitments. Purely mechanical considerations are often the basis for this inflexibility. Technical personnel, for example, cannot conveniently be relieved of their duties until their tours expire. Nor can competent people be obtained at a moment's notice. It is inconvenient to return participant trainees home at short notice and difficult to arrange new participant programs unless several months' lead time is available. Equipment once installed on location is essentially a fixed asset. Likewise, inflexibilities in budget processes often preclude immediate follow-up on many decisions affecting the use of resources. Neither can commitments of cash disbursements to host institutions be easily discontinued. In addition to these purely mechanical inflexibilities, political-diplomatic considerations all but rule out the reversal of many decisions affecting a host institution. In sum, the short-term irreversibility of technical assistance decisions essentially demands long-term planning.

Project continuity and consistency are enhanced by a definitive strategy. It contributes to a common understanding of means and objectives among all those associated

with an institution-building effort. And certainly collective agreement and action is preferable to a proliferation of disjointed, uncoordinated individual actions. Further, the dynamic nature of technical assistance projects invariably involves numerous people over time. This in turn may result in marked discontinuities which can be significantly reduced by a long-term strategy.

Individually and together, all of these factors provide sufficient justification for a technical assistance institution-building strategy. But none weigh as heavy as the overriding principle and purpose of strategy: to maximize the institution-building impact of the committed technical assistance resources. Constancy and attachment to this principle are required, for this principle governs the choice of the detail--the micro strategies--and the varied minutiae of strategy implementation.

## The Functions of Strategy

Considered only as an abstract concept, technical assistance institution-building strategy has little value for decision makers. It is thus necessary to translate the above noted merits to terms which have direct application in project implementation. In this regard, strategy is seen as having several key functions in institution-building efforts. While all of these functions are highly interrelated, they can be singly identified as follows: 1) identifying potentially high pay-off opportunities, 2) identifying bottlenecks to institutional development, 3) planning long-term institutional development, 4) programming efficient resource use, and 5) maximizing technical assistance impact.

At any point in time an AID mission will normally have several available alternative outlets for their financial resources. This also applies to the resources specifically allocated for technical assistance in agricultural programs. Requests for technical assistance may come from varied sources. Even requests for institution-building assistance may reflect a great deal of diversity: While no single AID mission can be considered typical, one Director was recently faced with these alternative outlets for his limited agricultural technical assistance resources: 1) A request from the director of a vocational agricultural school for an agricultural engineer to teach farm mechanics. The school, located in the interior of the country, had an enrollment of 31, 11- to 14-year old students. 2) A request from the Federal Minister of Agriculture for up to 15 experienced agricultural economists to develop a new Ministry-based agricultural economics research and extension program.

3) A request from the country's leading agricultural university for about 12 American professors to assist in developing a new graduate-level program capable of granting M.S. and Ph.D. degrees. 4) A request from the director of the National Planning Agency for three agricultural planning experts to assist in developing the country's 10-year agricultural plan. 5) A request from a farmer-producer group for technical assistance in organizing a new marketing cooperative. 6) A request from the Ministry of Education for technical assistance in establishing a new college-level agricultural school in the country's interior. 7) A request from the Ministry of Agriculture's Department of Research for five plant breeders to assist in developing new plant varieties. 8) Requests from two different agricultural universities for technical teams to help develop land-grant type institutions. And, 9) a request from the newly-formed land colonization agency for a team of technicians to help develop credit and extension programs for the new colonists.

A technical assistance strategy cannot pin-point for AID administrators which of these outlets might offer the best development return for AID resources. This is yet an unconquered aspect of development theory. However, for any one of these potential technical assistance hosts, strategy (as will be shown later) can play a useful role in assessing opportunities for an effective institution-building program. The weighing of these opportunities will in turn provide insights for project selection decisions.

## Illustrations of the Role of Strategy

Once a decision has been made to assist a specific institution, the question then becomes one of applying technical assistance resources so that: 1) these resources are efficiently utilized, and 2) their impact on the host institution is maximized. Strategy thus comes into play in long-term institution-building planning. And subsumed in this planning process is the identification of project objectives and the barriers to their achievement.

Aside from the general institution-building objective, each project will have unique goals. Likewise, each project will tend to have unique barriers which stand in the way of effective institutional development. While the end objective must always direct project activity, numerous intermediate objectives must be accomplished by overcoming numerous intermediate barriers. This is only to say that large trees in dense forests can best be felled

by first trimming some of the branches. The science of the woodsman is in determining which branches to trim, in what order and whether to use an ax or a saw. And each tree, like each institution-building project, requires an individually unique strategy. Two brief hypothetical examples may help clarify the role of strategy in this respect.

Example A

Assume that an AID mission has made a decision to assist a newly organized agricultural college, with the general objective of developing a "land grant" type institution. Trained host faculty are few in number and physical facilities--classrooms, laboratories and the like--are not adequate to support the anticipated student enrollment. The apparent first-order barriers are thus inadequate staff quality and numbers as well as poor physical facilities.

If the objective is to initiate a teaching program immediately, a substantial number of American professors will need to be brought in, not to act as advisors, but as operating staff. Additionally, the construction of classrooms, laboratories and offices will be required to support the program. Because the use of Americans as operating staff can be considered only a temporary measure, a major effort to replace them with indigenous personnel must be made. This can be accomplished through numerous participant training grants for study in the United States. In the first few years, therefore, large inputs of all technical assistance inputs will be required to overcome the first order resource barriers if the objective is to initiate a teaching program immediately.

If the objective is somewhat less ambitious, a different approach may be dictated. Rather than bringing in a large group of U.S. professors, attention could be focused on participant training for host institution personnel. This has certain drawbacks, however, since many teaching posts will be vacated during this period. An alternative thus might be to recruit some of the institution's better students for U.S. training so that they could later substitute for the faculty when they rotated to the U.S. for training.

A less ambitious approach might also involve a smaller initial input of equipment and cash. Few of the present faculty would have sufficient training to effectively

utilize modern teaching laboratories and other equipment. And when equipment inputs were eventually required, a more rational allocation might be made, for rather than equipping for the needs of American professors, classrooms and laboratories could be equipped for the needs of host institution professors.

Such an approach would also reduce the need for resident U.S. technical personnel. Perhaps one man, working at the top administrative level would be sufficient. He might assist in the selection of participant trainees, aid in organizational matters of the institution and help in planning the long-run program content and objectives.

Regardless of the approach taken in overcoming the initial resource barriers of the host institution, once the magnitude of these barriers is reduced, a whole new set of problems may become evident. Inadequate institutional leadership, lack of effective research programs and organizational problems will likely replace the former barriers. Because such bottlenecks arise not from a dearth of resources but from a perceived misallocation of resources, a different application of technical assistance inputs is dictated. A large flow of funds for physical facilities may no longer be needed. Participant training programs may require a shift in emphasis. And since former participants are now teaching and doing research, there may be little need for resident American teachers and researchers. Technical assistance efforts must now focus on organizational and program barriers.

To approach this new task may require a small number of American personnel with rather specialized knowledge and experience. And rather than working directly with students and faculty as their predecessors may have done, these individuals may effect maximum impact by working with top institutional leaders. Participant training programs might logically shift emphasis from degree to nondegree grants and from long-term to short-term periods. Instead of subject matter specialization, participants might study administrative procedures of U.S. universities. The need for technical subject matter specialists could perhaps be satisfied by using: 1) several U.S. technical personnel for short-term tours rather than residence tours, or 2) a small number of broadly experienced U.S. technical personnel on normal residence tours.

As organizational and program barriers replaced resource bottlenecks, so new and different problems in turn replace the organizational bottlenecks. The difficulty of

building effective relationships with its environment may be the next set of barriers the host institution faces. Again, several alternative means are available for conquering this hurdle. In all likelihood, the most effective technique in overcoming this problem will differ from that used in earlier periods. Perhaps one individual with substantial experience in administering integrated teaching, research and extension programs would best fit the host institution's assistance needs. By working with the institution's administration as well as leaders of other agricultural agencies new cooperative relationships could be established and old ones more fully exploited. Another alternative might be to utilize a highly specialized participant training program to effect the same purpose. Beyond this step, consideration might be given to alternative means for phasing out American assistance.

Example B

Assume that an AID mission has decided to assist an established agricultural college in developing a new graduate program. An explicit aspect of the proposal is the establishment of more effective links with the host institution's environment. It is believed that a graduate research program will aid in accomplishing this objective. Further, assume that a bulk of the institution's faculty have advanced degrees from universities of developed nations. And while some research is being carried on, most of it is the result of faculty individually exploring areas of personal interest. Few faculty members have experience in supervising research activities. Both faculty and administration share a lack of knowledge of the resource and organizational requirements for a graduate degree granting program. Thus, there is a definite paucity of knowledge of how to initiate and sustain an effective graduate program.

Given this brief background, it would appear that the primary task of the technical assistance effort would be to first attack the host institution "knowledge" barriers. If an effective graduate program is to be initiated, it is necessary that all potentially involved faculty be aware of resource and organizational requirements. A number of alternative means are available to accomplish this objective.

One person or a team of short-term U.S. experts could be brought in to first study the situation and then explain how to implement a graduate program. Or one or more such experts could be brought in for residence tours for the

same purpose. Another alternative is that the host institution administrative head could be sent to the U.S. to observe American university graduate programs. Or several influential faculty members might be selected for a similar observation tour. Other means or combination of the above means might be productively used to overcome the initial "knowledge" barriers.

Once this initial hurdle is conquered, the new issue is how to implement the ideas obtained during the first phase. The question is thus one of whether or not the institution's present resources--faculty, administrative base and physical plant--are capable of supporting the proposed program. In all probability, some subject matter areas will be stronger than others--with several well-trained faculty, excellent laboratories and perhaps contacts with other professionals. In contrast, other subject matter areas may be rather underdeveloped, having few, if any, well-trained people, poor physical resources and virtually no contacts with outside professionals. Hence some subject matter areas might be fully capable of immediately initiating a graduate program while others could well be some time away from such a program.

In cases such as this, the technical assistance decision maker faces a set of interrelated questions. Should assistance be concentrated on the areas which have the highest immediate potential--the strongest areas? Or should the effort be focused on those areas which are the weakest? Or perhaps efforts should be made to assist all areas more or less uniformly.

Regardless of the decision made, as to which areas and how many are to be aided, the technical assistance decision maker must face a new set of questions: what types of assistance are best suited to institutional development needs and how much and when is such assistance most effectively applied? Again, several alternatives are available to achieve the desired objectives. A large group of U.S. professors working on a man-to-man counterpart basis is an alternative. Or perhaps one or two men working at the head administrative level might accomplish much the same task. Can participant training, coupled with short-term U.S. personnel, be used as an effective technique?

Once the desired resources have been established and the program implemented, new questions begin to emerge. How can the institution best be assisted in disseminating the research results obtained from the graduate program? What type of technical assistance can overcome the research funding problem? Is there some way the host institution can

be aided in obtaining higher faculty salaries from the Government so that the attrition of trained personnel can be reduced? And finally, as in all projects, a decision must be made on how and when to phase out all external technical assistance. Is a gradual phase-out best? Or is it more desirable to terminate all activities simultaneously? The answer is seldom obvious.

### Strategy Concept Summarized

While these two examples are highly oversimplified and somewhat unrealistic, some of the more important functions and needs for a technical assistance institution-building strategy are illustrated. The essence of strategy is to apply technical assistance inputs--personnel, participant trainees, equipment and cash--in such a manner that they are used efficiently so as to achieve maximum positive impact. This requires that such inputs be viewed largely in terms of their functional role in institution building. For some purposes, one type of input may be more effective than another or others in combination. In other cases, the product obtained from using combinations of inputs may be greater than one type used individually. Further, properly timing the use of inputs may significantly affect their functional value in institution building.

Strategy invariably distills down to questions of input level, composition and timing, given project objectives and project environment. But in order to map an optimal strategy for any project, insights into the strategy implications of both the objectives and environment are a necessity; for these insights, together with knowledge of the functional roles technical inputs can play, are the key elements in developing optimal strategies. It is to these questions that the following sections are addressed.

## KEY ELEMENTS IN DEVELOPING INSTITUTION BUILDING STRATEGIES

The history and experience of technical assistance indicate that practitioners have for too long enthusiastically tried and often later discarded many approaches which have important although specialized merit. This appears to have resulted in a marked tendency to standardize technical assistance approaches around the world. One illustration of this is the remarkable sameness found in both the size and

subject matter composition of technical assistance teams often within quite different project settings. Moreover, the mix and time phasing of other technical assistance inputs tends to be relatively similar from project to project. This has occurred even when the project objectives and environments have been notably dissimilar.

A priori it would seem intuitively evident that dissimilar objectives in project settings would necessarily dictate varying allocations of technical assistance inputs. In addition, the time phasing of these inputs would seemingly need to be varied from project to project. Yet, even casual observation indicates that projects tend to follow similar approaches under quite dissimilar settings.

Even though the approach to institution building has tended to become somewhat standardized over time, the longer run view reflects considerable diversity in such efforts. A rather wide variety of different approaches have, in fact, been represented among both past and present technical assistance activities. There are numerous examples where quite dissimilar techniques have been used in accomplishing the same general objectives. Not only have the objectives been similar but the project settings have often varied only slightly. More frequent are the cases where nearly identical approaches have been utilized under quite differing objectives and project settings. And even more frequent are the projects which, for all practical purposes, have been alike in nearly all respects--the objectives, the environment and the use of resources.

Both the total number and diversity of institution building activities carried on under AID-U.S. technical assistance programs provide an ideal opportunity for examining the effectiveness of different approaches under varied conditions. Ex post it is not, of course, possible to isolate precisely the role and impact of individual factors in any specific case. Yet because this research was able to analyze a large number of projects, the emergence of rather distinct and repetitive patterns became evident. It is thus possible to isolate many of the principal factors which determine what general type of strategy will be most appropriate for any particular case.

It must be emphasized that there is no one ideal strategy for any given project. Each approach has its own peculiar pitfalls and advantages. The practitioner's objective is to select a strategy which is the "best" for a particular project. In all likelihood, the one selected will represent a compromise. One type of strategy may

accomplish far more than another over a given time period. But such accomplishments may come at an economic cost several times the "next best" approach. One strategy may be ideal in meeting one group of objectives but completely unsuited in accomplishing another set of objectives. Yet certain types of situations tend to dictate certain types of strategies. And though it may not be possible to achieve perfection or even near perfection, one particular strategy will usually fulfill the desired requirements better than any other.

Selection of the most appropriate strategy is no simple task. Conflicting objectives, unknown environmental factors and the unavailability of certain types of inputs all confound the practitioner's decision making efforts. The perfect approach to institution building via technical assistance is not, as frequently believed, only a manner of "getting the right person in the right place at the right time." Such a view is naively utopian: the "right person" does not exist nor is there a "right place" or a "right time." A well-conceived strategy is necessary only because under optimal conditions we would hope to put the best resources in the best place at the best time. And under most real situations it is possible to achieve but one of these conditions.

## Some Restrictive Elements

There are some rather fundamental aspects which must be kept in mind when developing institution building strategies. First, technical assistance institution building activities are usually only a part--often a small part--of the total outside influence on a country's development. In turn, all outside assistance is often only a minute part of a country's total development program. Because of this, practitioners should not attempt to develop institution building strategies as though such projects were the controlling factors in the development process. Caution is particularly required by those most intimately associated with these activities.

Second, few, if any, institution building efforts can bring about marked transformations in a short period of time. Not only is there strong empirical evidence to substantiate this, but good sense dictates that such is the case. This fact must therefore weigh heavily in strategy formulation.

The third aspect of importance is that there is no simple, precise method for either: 1) selecting individual

projects or activities or 2) determining the optimal strategy for the selected project. Rather, it is a matter of weighing alternatives, estimating potential pay-offs versus anticipated costs, and then arriving at conclusions based on compromise.

These three rather restrictive elements need not, however, be sufficient cause to abandon the search for greater rationality in strategy development. For the underlying assumption of this research is that additional logical insights into institution building via technical assistance can provide the basis for more accuracy in developing future activities or modifying present projects.

## The First Steps in Strategy Development

The development of appropriate institution building strategies must first begin with the careful analysis of three key elements: 1) AID policy and project objectives, 2) the project environment, and 3) the nature and function of technical assistance inputs. The need for such an analysis is obvious, yet this first step is often rather haphazard and incomplete.

There is strong evidence that many, if not most, of the least effective projects result because of poor initial conception rather than ineffective implementation or administration. As Duncan noted: "You can, afterall, administer the wrong thing efficiently."[5] Indeed, the cost of careful initial analysis is low. But the price paid for careless initial study can at times be extraordinarily great.

Ideally, such studies should draw upon the competencies of diverse disciplines. Economists capable of incorporating the findings of development theory can contribute as much as experienced public administrators. Anthropologists, sociologists and biological scientists all have useful contributions to make in such studies. There can be little doubt that systematic and careful analysis prior to project initiation provides a better basis for decision making. And equally important, a comprehensive view of host country development problems aids in considering alternative actions and their respective contributions to development.

While there is almost universal agreement that systematic initial analysis is highly desirable, it is often difficult to incorporate all of the relevant considerations into such study. It is therefore necessary to determine what constitutes minimal information for developing appropriate

institution building strategies. The following sections discuss what can be considered necessary but not necessarily sufficient information for this purpose.

## AID POLICY AND PROJECT OBJECTIVES

Much can be said and indeed has been said regarding the processes of analyzing AID policy and project objectives. It is not, by any means, a concern which has been overlooked by AID. Manual orders require the development of realistic and well-defined targets for any proposed projects. This examination which includes the economic, social and political aspects is then incorporated into an activity description or similar framework which details the logistical requirements of the activity. Such an analysis is then detailed in the Country-Goal Plan which is in turn incorporated into a CAP (Country Assistance Program) The CAP is then forwarded to Washington for additional intensive review.

Nominally, AID project development studies are a highly formalized process. They are intended as a response to country requests for assistance which formally are considered if such requests square with both the country programming goals and the broader foreign policy objectives of the U.S. Government.

In practice there is, and necessarily must be, considerable deviation from the concisely systematized processes outlined in the AID Manual Orders. New projects are initiated and old projects are continued for numerous and varied reasons. Not infrequently, the above noted measures serve largely as a means of rationalizing the initiation or continuation of projects.

By definition, essentially all projects fit within the broad policy objectives of both the country missions and the U.S. Government. This, however, does not imply that all such projects conform to the highest priority developmental needs of host countries. Measured in these terms, probably a minority of institution building projects fulfill this requirement. But this is not to say that such activities are poorly thought out or are a waste of valuable resources. Rather it means that factors other than neatly ordered priority objectives often become more crucial in the practical realities of foreign assistance.

If this contention is correct, it would seemingly lead to the conclusion that an analysis of objectives for the

purpose of discerning appropriate strategies is little more than an academic exercise. This is not true. Such an analysis can be useful in two respects. First, it can rather clearly point out what price will be paid for relegating basic developmental objectives of projects to something other than first order priorities. Second, it can provide a basis for more accurate analysis regardless of the relative ordering of the factors influencing project initiation or continuation. Thus, initial analysis of policy and project objectives need not be merely a matter of restating known truisms or worn platitudes. Rather it can serve as a crucial input into the development of institution building strategies.

## Factors Influencing Policy and Project Objectives[6]

The factors which must be assessed within the context of AID policy and project objectives are numerous. Yet, generally speaking, they can be classified into five broad categories. These are: 1) dependency, 2) acceptability, 3) feasibility, 4) urgency, and 5) economy. The order of listing is entirely arbitrary, and the relative weighting may vary from case to case. In some situations one or two factors may weigh all important, while other factors may have little significance. In other cases all five factors may have nearly equal importance. Although the classification scheme implies separate and distinct factor categories, this is not necessarily the case. In actual practice, the interdependencies may be great. The following discussion, therefore, does not and cannot concisely differentiate between factors.

### Dependency

With relatively few exceptions, one of the principal objectives of AID technical assistance efforts has been to minimize a host institution's dependency on continued and constant foreign assistance. This, as Jones notes, is what is implied when technical personnel contend that their goal is to "work themselves out of a job." He further notes that "Such concepts as 'advisors' and 'counterparts' have their origins in the dependency effects of technical assistance inputs."

In spite of the marked tendency for AID to minimize host institution dependency, there continues to be considerable support for activities which, in practice, maximize dependency effects. Much of this thought seems to be rooted in the old adage that says "If you want a job done right, do it yourself." Further, it is frequently argued that the "do it yourself" approach has great merit from the standpoint of economy, urgency and certainty in such efforts.

What is implied in these arguments is that by relying largely, perhaps exclusively, on operating U.S. inputs, foreign institutions can be developed better, more quickly and at less cost than where a joint host-U.S. effort is applied. There is considerable evidence to support such contentions. The Rockefeller plant-breeding projects in Mexico, Colombia and elsewhere initially relied heavily on this approach. Certainly the Latin American Servicio program conformed in general terms to this type of approach. Further, examples of this institution building technique can presently be found in several AID-U.S. University projects. In all cases, these projects are regarded as being rather successful by a wide cross section of technical assistance practitioners. And perhaps paradoxically, the majority of these activities have had the strong support of many host nationals.

## The Case for Maximizing Host Institution Dependency

The list of cited advantages of the "do it yourself" approach is long. From the technician's point of view, this approach is highly desirable. He knows rather precisely what his job entails. Usually, it is very similar to what he had been doing in his home institution. Problems of professional adjustment are thus reduced since research and writing can often continue with few changes. The only significant change may be the location where such work is done. And because many professionals have greater loyalty to their profession than to their locational employer, a move abroad may be regarded in much the same manner as a move from one employer to another within the U.S.

For many professionals, the opportunity to serve as an "advisor" in an institution project offers no great appeal. This may not be due so much to the reluctance to work abroad as it is to the professional sacrifices which often must be made. If the values underlying professional

academicians are fully comprehended it is not difficult to see why this is the case. With few exceptions, the professional's salary depends rather directly on his research output. Further, personal status and prestige hinge largely on his ability to impress his colleagues with published work. If an overseas tour interrupts ongoing research and thus publishing, it will seldom be highly attractive to the ambitious professional.

There is another important aspect of this question. Few professionals have any clear concept of what is involved in the process of developing an institution. There is little reason why they should. Most university professionals have undergone all their training and then later worked within long established and highly developed institutions. They have had little or no need to be concerned with building an institution. And because Department Chairmen as well as Deans often come from the most respected ranks of the professional staff, they may not necessarily have superior insights into institution building processes.

All this implies that an institution building effort which relies on a "do it yourself" approach, i.e. one that in practice maximizes host institution dependency, may be most compatible with the availability of technical personnel resources. This is to say that such an approach can more directly utilize the special talents and skills of University professionals. Professionals recruited as professionals know rather clearly what their positions involve. If they are successful at home, there is little reason why they cannot be equally successful abroad. Professionals recruited as advisors to an institution building effort often have only a foggy concept of what such a position involves. And there may be little relationship between their professional success at home and their potential as advisors abroad.

This fact is verified in the past experience of both AID and the Rockefeller Foundation. Personnel recruited as plant breeders by Rockefeller have been high caliber, professionally respected professionals. As professionals they have been quite successful in breeding new plant varieties adapted to local conditions. In turn, their individual achievement has contributed to the total effort which is generally recognized as being a marked success in foreign assistance programs.

Many of the professional personnel recruited by Universities for AID institution building projects have had as much experience and professional respect as those employed by Rockefeller. Yet, their individual success has

not always been noteworthy, and past AID technical assistance activities have generally been considered less effective than Rockefeller Foundation programs.

Numerous reasons can be and certainly have been cited for variations in the effectiveness of AID and Rockefeller Foundation technical assistance activities. But generally speaking, the most significant differences in the two types of programs lie in the role of the technical personnel. Rockefeller Foundation personnel function as professionals. They directly utilize their specialized training and capabilities in their work abroad. U.S. University personnel working on AID technical assistance projects function, not as professionals, but largely as advisors to host institution counterparts. In other words, Rockefeller Foundation personnel do what they know best how to do. AID-University contract personnel, on the other hand, often have little opportunity to utilize their professional capabilities. This alone has probably accounted for a rather considerable part of the Rockefeller Foundation's success and AID's somewhat lesser achievement.

From the standpoint of AID and the contracting university, an institution building effort which relies on the "do it yourself" approach offers several advantages. One advantage is closely related to the above discussion. Recruitment of personnel is far less difficult if such personnel can continue to work at a similar level and in a similar discipline. Quantitative data bears this out. Of the projects which have relied on the "do it yourself" technique, the percentage of filled positions compared to the total number of available positions averages 85 percent or higher.[8] Those projects which have used the "advisor" approach show percentages averaging around 65 to 70 percent.[9] The former approach is thus likely to bring about more fully staffed projects.

By definition, an approach which minimizes host institution dependency on continued outside assistance relinquishes most external control over the institution's destiny. This is not the case where such dependency is maximized. In fact, it is possible to nearly totally control an institution's destiny if it is staffed almost exclusively with operating U.S. personnel. While this violates the very nature of institution building precepts, it is often defended on the basis of economy, urgency and other less definitive considerations. Not infrequently, host nationals will defend this approach on similar grounds. Further, local professionals often find this technical assistance technique desirable because it may effectively isolate them from the

vagarities of local or national politics. Local institutions largely controlled by foreign inputs may thus be welcomed as protected enclaves by local professionals.

## The Case for Minimizing Host Institution Dependency

Given the above listing of several of the frequently cited advantages of the "do it yourself" approach to institution building, it would appear that it might have considerable merit. But it if does, one must ask why AID has so heavily based its programs on minimizing rather than maximizing host institution dependency on continued external inputs. Is this reasonable when such an approach derives support from a wide variety of concerned and knowledgeable people? If it has worked effectively in the past--for AID, for the Rockefeller Foundation--why can it not be equally effective in present or future institution building programs?

In general terms, two solid arguments can be offered in defense of institution building approaches which minimize the host institution's dependency on outside assistance. The first is somewhat philosophically based. The second is founded on practical realism.

In a sense, technical assistance in any form is a kind of voluntary imperialism. While it is a somewhat disguised imperialistic form, it might well be termed "psychic imperialism." It must be considered as such because technical assistance institution building efforts have the fundamental charge of bringing about deliberate change within the hosting entity. Much of this change must necessarily be oriented to altering and/or modifying the value systems of host nationals. Technical assistance is thus premised on the implicit belief that we feel our values and institutional forms are: 1) superior to those of the host country and/or 2) more compatible with modern economic and social development.

Superficially, it would seem that such a premise is contradictory to our national philosophic and moralistic value system. But this is not necessarily the case. The pragmatist contends that technical assistance as an imperialistic concept can be justified on broad, general political considerations. But the more commonly acceptable, perhaps more idealistic view is that technical assistance is justifiable on sincere humanitarian grounds. Foreign assistance is one means of actively expressing concern for human welfare around the world. This view thus rationalizes technical assistance on the premise that it can serve to improve general levels of human welfare.

In spite of the definition of technical assistance noted on page 2, all forms of such assistance must necessarily involve some measure of psychic imperialism. But it can be applied in quite different degrees. Institution building approaches which rely exclusively on operating foreign inputs may be considered highly distasteful while approaches relying largely on advisory personnel may be entirely acceptable and compatible with our national values. It is not at all clear, however, at what point the acceptability threshold limits are reached.

The second argument in defense of institution building approaches which minimize host institution dependency on external assistance is coldly pragmatic. It is premised on the concept that the entire raison d'être of institution building via technical assistance is to develop the host institution's capacity for autocatalytic growth. So long as foreign personnel play any significant role in an institution, self-generating change will not and cannot occur. If an institution continues to require outside inputs, over time, serious questions should be raised as to whether institution development is, in fact, taking place.

The implication of this argument is that any technical assistance effort should attempt to terminate its functional role within the hosting institution as rapidly as possible. This must be the fundamental objective of technical assistance and as noted earlier, this could be termed the "work yourself out of a job" concept of technical assistance. Unless this very basic objective is adhered to, technical assistance is self-defeating and a serious disservice to the host institution and host country.

## Resolving the Dilemma

The two oppositely distinct views on whether to minimize or maximize host institution dependency on foreign inputs often present a dilemma for the technical assistance practitioner. On the one hand, maximizing host institution dependency appears to present a means of getting a job done rather quickly and perhaps at a reduced cost. But on the other hand, one is faced with the realization that if external inputs are withdrawn, the institution may collapse. While a compromise embodies the merits of both techniques, at the same time it also incorporates the disadvantages of both approaches.

In practice, there should be no serious dilemma. Both approaches have specialized merit. Both can be used

effectively. In fact it may often be advantageous to combine the two without serious concern of compromise. Yet each approach has distinct limits to which it can be effectively utilized.

There is little question that the long term goal of any institution building effort should be to minimize the host institution's dependency on external inputs. As a means of accomplishing this, however, it may be necessary under some conditions to rely heavily for a period on operating foreign inputs. One such condition is the case where it has been deemed desirable to establish an institution where, for all practical purposes, one did not previously exist. While such cases are typically encountered in newly independent Africa, similar situations can be found in other areas as well.

Starting an institution from scratch involves special problems. The hosting entity may have virtually no physical facilities or professional personnel. If there is some urgency in establishing the institution, it may be necessary to rely almost exclusively on outside inputs. Thus, U.S. University personnel can be utilized to fill professional as well as administrative positions. It may also be necessary to call on other specialists for designing physical facilities, supervising construction and developing new programs. Further, heavy reliance on U.S. financial and equipment inputs may be required in establishing a totally new institution.

It is possible to accomplish a great deal in a short time if the initial approach to developing a new institution is one of relying heavily on operating U.S. inputs. But such an approach must be considered only temporary. Unless host nationals are quickly immersed in both professional and administrative activities, possibilities for the institution to become self sufficient are indeed dim. The stimulus for change must develop internally and as rapidly as possible. In fact, it is unwise for the host institution to depend on outside resources beyond the point where even minimal local resources are available to carry on the intended activities. The difficulty is, of course, one of determining when this point is reached. However, there is rather impressive evidence that the most common error is in injecting external operating inputs far longer than they are really needed.

The withdrawal of U.S. operating inputs must obviously be carefully planned from the start of any institution building project. In fact, well defined "pull out" points need to be established before any aid is

committed. This conveys the ideal to all concerned parties that U.S. inputs are only acting resources, substituting temporarily for local inputs. Unless such pull out points are defined, U.S. personnel will tend to delay transfer of responsibility on the basis that host personnel are not completely prepared to assume their positions. And likewise, host professionals and administrators tend to become increasingly dependent on U.S. inputs if the transfer is not made early.

The greatest objections to early withdrawal of outside inputs frequently come from the operating U.S. personnel themselves. Boiled down to basics, it appears that they are reluctant to watch their contributions take a setback when the transfer is made. But what is not always recognized is that some setback is almost inevitable regardless of when the transfer of responsibility takes place.

An approach to institution building which relies heavily on operating U.S. inputs thus has unique merits in establishing a new institution. It must, however, be considered a highly temporary measure. If it is utilized beyond the point where minimal local inputs become available to do a similar job, it becomes self-defeating.

There are other ways in which U.S. operating inputs can be used effectively in building agricultural institutions. Certainly one of the most common techniques is to utilize the short-term services of professional specialists. While there is much controversy regarding the value of short term U.S. professional personnel, there is very ample evidence that when used properly, this technique has many positive attributes.

There are a couple of keys to the successful use of short-term consultants. First, very careful advance planning is imperative: the work must be an integral part of the total institution building effort. A very effective technique is to tie together participant training programs with short-term consultant work. Consultants who have been associated with trainees in U.S. Universities can often effectively assist returned participants in initiating new programs.

Second, if short-term consultants are to deal directly with host institution personnel, they should be recruited for very specific types of operating positions. Examples of such work might include: 1) teaching a

technical short course, 2) planning and ordering equipment for a research laboratory, 3) undertaking a short-term research project, and 4) installing new physical facilities.

If consultants are recruited as advisors, their recommendations should be directed exclusively to resident U.S. personnel rather than to host institution staff. This helps to avoid the impression among host personnel that poorly informed short-term "experts" are trying to tell them how to "run the show." Further, it permits the more experienced resident U.S. personnel to apply the recommendations in ways more acceptable to host staff.

There are very distinct advantages to using short term operating personnel in institution building efforts. In the first place, host institution staff know that such people are going to be there only for a short period of time. This has the tendency to bring about fairly quick and attentive cooperation between the consultant and host personnel. Thus, it may be possible for a two-month consultant to be nearly as effective as a regular two-year advisor. Short termers do not in any way threaten the positions of local staff. But the greatest benefit comes from the fact that host institution dependency on constant and continued foreign inputs is much reduced. Host staff know that they, not outside personnel, are responsible for the institution's destiny. The highly temporary nature of short term U.S. personnel makes this exceedingly clear. And, if the institution is to develop, it is the personnel of the institution who must bear the responsibility and take the credit for any accomplishments.

Still another means of effectively using U.S. operating inputs is in situations where it is a matter of great urgency to obtain certain institutional outputs. This may become a crucially important approach given the very real possibilities of food crises in several countries of the world. This question, however, will be discussed in a later section of this paper.

In summary, the possibility of using institutional building approaches relying heavily on U.S. operating inputs should not be dismissed. Such an approach has distinct merits when used appropriately. Yet, it is not a question of whether host institutions' dependency on external resources should be maximized. This concept has no place in truly serious institution building efforts. Rather, it is a question of using U.S. operating resources temporarily so as to minimize the hosting entities' dependence on continued inflows of outside resources.

## Acceptability

There is considerable evidence that among the array of technical assistance resources available for institution building, certain resource types are more acceptable to hosting entities than others. The degree of acceptability of different inputs very directly influences, and may at times dictate, institutional building strategy Practitioners may thus find that what might appear to be an appropriate strategy for a given situation is quite inappropriate, simply because some types of institution building inputs are unacceptable at some given point in time

The most frequent expression of the acceptability concept is when host institutions sometimes contend that "all we really want and need is your money." It is reasoned that with U.S. money, buildings can be constructed, equipment purchased, staff sent abroad for study and, if necessary, foreign experts hired for specific tasks. All this can be had without relinquishing control over the institution's destiny.

Distilled to basics, the preference for certain types of inputs over others is often largely a question of the degree of control implied by the nature of the input. This is evident in the observed ranking of inputs on the basis of acceptability.[10] Unrestricted cash donations are more acceptable than restricted cash inputs. Restricted cash inputs are in turn generally more acceptable than commodity or equipment inputs. Commodities are more willingly accepted than rigidly planned participant training grants. And participant training grants are more acceptable than resident foreign technical personnel. This implies that there is an acceptability scale which is inversely related to the degree of control implied by the input form.

In addition to the question of control, time plays an important role in the degree of acceptability of institution building inputs. Generalizations are not reliable, but there seems to be an almost predictable relationship between the acceptability of certain inputs and the stage of an institutional building project. In fact, the willingness of host institution personnel to accept certain types of inputs over time may reflect institutional development.

As an institutional building project develops over time, the observed tendency is for host personnel to more willingly accept inputs which were less acceptable in

earlier periods.[11] Thus, the concept of input acceptability is not static: it changes with changing attitudes and values. For this reason, input acceptability may serve as a measure of internal change which, in turn, may signal progress in institutional development.

## Cash and Commodity Inputs

Primo intuiti, it would appear that based on input acceptability criterion, institution building strategy is indeed simple: make available sufficient amounts of cash so that the institution can purchase its perceived requirements. This would logically seem to follow since unrestricted cash donations are not only the most acceptable inputs but also may meet minimized control and dependency criteria. Under certain situations, supplying cash inputs may well be the most appropriate strategy to follow. But such situations appear to be rather rare.

For all practical purposes, cash is viewed by host institutions as a resource which can be readily converted to tangible goods--largely buildings and equipment. A review of the numerous requests to AID for financial assistance by such institutions points out this fact. With few exceptions, the requests are for funds to build new physical facilities or to purchase new equipment. Seldom are requests made for funds to establish research, extension or other programs. Nor is it common to find requests for funds to bring in foreign technical specialists.

Clearly, the view of institutional development commonly held by many host institutions is one of simply upgrading physical infrastructure. Such a view is, of course, entirely natural. Any explicit recognition that institutional modernization is anything more than improving physical resources implies deficiencies in an institution's human resources. And any admittance of this sort is decidedly not a common virtue of human nature.

From a review of past and present AID-U.S. university projects, there is little evidence that cash or commodity inputs alone can bring about really significant institutional development. In fact, there appears to be evidence that heavy or exclusive reliance on such inputs can have a highly detrimental effect on institutional development. This seems to result from what might be termed the "infrastructure syndrome."[12] This could be described as the obsession for a highly developed physical plant which, by its mere existence, implies institutional substance.

The infrastructure syndrome is not unique to less developed areas, but it does seem more pronounced, perhaps more noticeable in these regions. It is a most unfortunate kind of effect in any part of the world, but particularly so in less developed regions due to resource limitations. The principal problem in institution building activities is that it leads to the belief that institutional development is little more than upgrading physical facilities.

Perhaps the most unfortunate aspect is that many AID-U.S. university institutional building projects reinforce this syndrome by placing heavy emphasis on tangible inputs. University technical personnel often spend inordinate amounts of time in planning and developing new facilities. Home campus coordinators are kept busy obtaining bids, ordering and shipping various amounts and kinds of goods. Periodic reports to AID missions typically detail all new commodity purchases and how they relate to project needs. And the missions in turn tend to justify the existence of many institutional building activities by pointing to progress in purchasing and installing new physical facilities. With all of the attention that such inputs receive from U.S. personnel, it is not surprising that host institution personnel often equate institution building with an upgrading of the physical plant.

Certainly cash and commodity inputs hold great appeal for all concerned parties of an institution building project. AID can very rationally quantify its contribution attributed to such inputs. U.S. university personnel can conveniently occupy themselves in detailed planning and supervising of the construction of new buildings, laboratories and other facilities. And the host institution obtains the new goods with little real or psychic cost since it always has the option of selective use. In sum, cash and commodity inputs are the easiest of all inputs to inject into an institution. They are the most acceptable to the host institution, and they are the least complex to administer from the point of view of AID and the contracting U.S. university.

The ease of administering and the degree of acceptability are, however, rather meaningless criteria for using these inputs if there is no notable impact on the host institution. For as Jones notes, "In a situation of static equilibrium, neither commodity nor cash inputs could reasonably be expected to alter existing behavior to a substantial degree..."[13]

The key to the effective use of these inputs is thus to inject them into situations of <u>non-static</u> equilibrium.

Seldom would such situations be found during the initial stages of an institution building activity. Rather, a dynamic environment will most frequently be encountered after considerable exposure of the host institution to outside influences. In practice, these influences might occur through participant training or through contact with resident U.S. technical personnel. Applied after such exposure, cash and commodity inputs can yield a very positive and complimentary impact on institutional behavior.

While acceptability criteria should generally be disregarded when applying cash and commodity inputs, there are occasional situations where this attribute can be usefully exploited. Such a case would be one where other kinds of inputs are, for any number of reasons, totally unacceptable to an indigenous institution. Under these conditions, cash or commodities must be viewed largely as a means of gaining access to the institution--in essence opening formerly closed lines of communications. It should be recognized, however, that used in this manner cash and commodities will yield little impact unless coupled with other input forms. The short-run objective is simply one of establishing contact while the longer run goal is to eventually establish a more comprehensive institution building approach through the use of other input resources.

This "carrot on a stick" approach has proved particularly effective in breaking down internal barriers within institutions where institution building activities already exist. Institutional development efforts can seldom reach all components of institutions that are administratively segmented or departmentalized. For various reasons some parts of such institutions may have chosen not to accept assistance on the same basis as other sections. While it may not be crucial to influence these recalcitrant areas, at times one or two reluctant departments can sabotage an entire technical assistance program. Just as a glass or two of wine may break down the inhibitions of confirmed introverts, so modest inputs of cash or commodities may break down the barriers of uncooperative attitudes. Adding machines for accounting departments, microscopes for research laboratories, instant-picture cameras for extension divisions and air conditioners for administrative offices are all actual examples of commodities being used to gain entry into additional parts of cooperating host institutions. While sensitive practitioners may find this technique somewhat distasteful, it is one which has proven merit. And not infrequently encouragement for such an approach comes from host institution personnel who are themselves interested in breaking down internal barriers.

Participant Training

There is seldom significant host institution resistance to participant training programs carried on under AID-U.S. university technical assistance projects. In fact, evidence indicates that such programs rank with cash and commodities in terms of their degree of acceptability to hosting entities. Jones contends that this is due to three principal factors.[14] First, such training is distinct from the eventual function which will be performed by this type of input. Second, from the standpoint of individual host institution personnel, foreign training is often looked upon as an opportunity. And third, because such programs usually concentrate on personnel in middle or lower institutional levels, decision-making prerogatives of host institution administrators are not directly threatened.

For the most part, host institution personnel regard foreign training as a means of becoming more competent in their subject matter speciality. And while this is the common objective of such programs, not infrequently the most significant impact results from the exposure to different values and concepts. Thus, not only do participants return with enhanced technical competence, they also bring back new views on institutional orientation and organization. In this lies one of the principal advantages of participant training. Values and beliefs can be modified with little or no direct compulsion from U.S. influences. Trainees therefore have little reason to feel that their nontechnical values are being subjected to scrutiny. If during the training period their values undergo modification, they are modified voluntarily.

This is in rather marked contrast to the almost overt compulsion implied by U.S. personnel in residence at the host institution. Their very presence at the institution implies that local personnel in the institution are subject to scrutiny. Hence, there is the inherent tendency for host institution personnel to feel more direct compulsion to change their beliefs and values regarding institutional orientation. Certainly, there may be more resistance to change when compulsion is the driving force than when change results from individual voluntary action.

The voluntary nature of participant training is a marked attribute which is not inherent in other input forms. Under present practices, however, institution building approaches seldom take full advantage of this attribute. Typically, returned personnel are anxious to apply their new ideas and skills to the needs of the host institution

and society. But too often they are left to fend for themselves in the wilderness of their home institutions. Disillusionment may quickly set in and within a short period of time their spark and vitality may have died. Efforts to rekindle this immediate post-training enthusiasm have not always resulted in resounding success.

Some adjustments to his native institution will inevitably occur upon a trainee's return. The objective of outside technical assistance is to try to minimize such adjustment and provide opportunities for manifesting the trainee's new ideas and skills. In other words, the returnee should be expected to feel somewhat uncomfortable in his home institution. And technical assistance planning should make every effort to assist him in adjusting the institution to his concepts rather than adjusting the trainee's concepts to those of the institution.

There are no quick and easy means of assisting the returned participant. However, two different techniques have been used in aiding these individuals. One means is to budget sufficient funds in the participant trainee program so that technically trained returnees can establish an initial foothold in their subject matter disciplines. The researcher could thus be given a small grant to undertake a modest research project. Extension oriented personnel could establish a pilot extension program with grant money. And teaching staff might be granted funds to initiate a new laboratory for a field oriented course. The objective of this "seed capital" is simply to provide an opportunity for the returned participant to express and demonstrate his new skill and enthusiasm. Considered in this light, such grants could be planned to provide assistance for a period of about one year. This allows time for the returnee to establish himself, to prove his worthiness to host institution or host country officials and to obtain a firmer basis for seeking local funding.

A second technique is to tie together participant training programs with the use of short-term technical personnel. If an effective personal and professional relationship has been established between a participant and his stateside advisor, it is advantageous to exploit this in institution building efforts. Ideally, the stateside advisor should be intimately aware of the role his advisee will play in the host institution upon his return. Not only does this aid in guiding the advisee's training program, but also permits the advisor to continue his association with the trainee and the host institution over time. Upon

the trainee's return the stateside advisor's time can be programmed so as to spend short tours at the host institution.

The primary benefits of this approach is that the trainee is not subjected to being "overwhelmed" by a full-time resident advisor. Yet, he can call upon his stateside associate for technical or organizational backstopping assistance at times when he faces difficult problems. Such an approach thus avoids the unfavorable superior-subordinate relationship so commonly found where U.S. personnel are resident advisors to host institution staff.

These two techniques can be regarded as separate and distinct means of aiding returned participants. As individual aids, both are effective ways of enhancing the trainees' new skills and ideas. But both techniques can be coupled together for even greater advantage. While each case must be considered individually, consideration should be given to tying post-training grants to short-term tours of a trainee's advisor. If the trainee is undertaking a graduate degree program, thesis research at the host institution might provide a suitable setting for such an approach. This, of course, is not a new idea and has obtained support from numerous university professionals. While it should probably be encouraged, cognizance must be taken of the fact that possibilities of an unfavorable superior-subordinate relationship between the U.S. advisor and his advisee may be accentuated. This occurs largely because the advisor holds some degree of threat over the advisee in the form of final thesis approval.

Since it is highly desirable that any tendency toward a superior-subordinate relationship be avoided, considerable care must be used in programming trainee thesis work at the host institution. If such work is regarded as an integral part of the stateside training, it should be encouraged. But continuation of the professor-student relationship should ideally evolve toward a professional-professional relationship upon termination of the formal training period. For this reason, it may be desirable to postpone the coupling of post-training grants and short-term advisor tours until the relationship can be viewed by both parties as largely a professional one.

Briefly summarized, participant training programs score high marks from the standpoint of acceptability criteria. Further, since such training is inherently self-generating via teaching and research efforts, dependency criteria are also met. For these reasons, participant training inputs offer unique merits from the standpoint of institution building strategy formulation. Like other

inputs, training programs cannot be considered independently of the project objectives or environment. Yet, there are relatively few instances in which participant training will not play a significant role in effective institution building efforts.

## Technical Personnel

Of the four categories of institution building inputs, technical personnel are generally found to be less acceptable to hosting entities than other input forms. Numerous hypotheses could be advanced regarding technical personnel acceptability, but available evidence seems to bear out two conclusions: 1) host institutions do not always understand what role or function visiting technicians are to play and therefore rank such inputs low in importance, and 2) by their very presence, visiting personnel imply more compulsion to change, perhaps greater control over the institution's destiny and hence a more disruptive effect on traditional organizational patterns.

That hosting entities find resident technical assistance personnel the least acceptable of the various input forms should weigh heavily in institution building strategy formulation. Rigney contends that "an increase in efficiency of the advisor's role appears important...from the standpoint of acceptability by host institutions." He further notes that "this problem of acceptability of advisors increases as the host institution develops its own competence..."[15]

These observations can be interpreted in different ways. As Rigney views the situation, resident technical personnel should directly participate in some line of activity related to the host institution's program. The optimum role is thus structured along the "do it yourself" approach. As noted previously, this approach has some short-run merits for particular situations. Yet if applied universally, the question remains whether such active participation would not bring about rather unfavorable host institution dependency on the continued presence of visiting personnel. This leads to a dilemma: technical assistance personnel can be effective only if, through their participation in host institution activities, they have some implicit control over the institution's destiny; but with control comes host institution dependency. Such dependency must be avoided if truly effective self-generating institutions are to be developed. In practice, there are no feasible means of avoiding this dilemma so long as technical personnel are applied to institution building projects.

The seemingly simple, although apparently not obvious, solution to the problem of acceptability and to the above noted dilemma is to largely avoid the use of resident technical personnel in institution building efforts. Too many arguments can be made in defense of this position for it to be easily dismissed: 1) resident technical personnel are generally unacceptable to host institutions, 2) the presence of resident technicians implies compulsive rather than voluntary change, 3) the most effective technician role brings unfavorable host institution dependency on continued outside technical aid, 4) high quality U.S. personnel are not easily recruited, 5) the question of "what do I do" asked by resident technicians is eliminated as is the resulting frustration and wasted effort, 6) family adjustments to a new home environment are avoided, and 7) the cost of technical assistance is markedly reduced because support for technical personnel and their families is unnecessary. These arguments are but a few of the many which could be mentioned.

Clearly the use of resident technical personnel cannot and should not be avoided in all situations at all times. Rather what is proposed is that considerably less reliance be placed on utilizing resident technicians than has been the case in typical institution building efforts.

Unless resident technical personnel directly participate in host institution programs--teaching, research or extension--it is difficult to build a strong case for their role in institution building efforts. But with few exceptions, outside personnel should <u>not</u> engage in host institution activities unless they are acting as purely substitute resources. As noted earlier, this approach may be appropriate in situations where a new institution is being started from scratch. It may also be appropriate in cases where existing institutions have a low level of technical and organizational competence. But for institutions with a relatively high level of competence, it must be questioned whether technical personnel can play a really significant function.

To the experienced practitioner, this is heresy. An institution building program without a bevy of technical advisors is like a graduation ceremony without the traditional caps and gowns. But that is the point: the use of resident technical advisors may be more a matter of tradition than it is a fact that such inputs measurably and substantially enhance the rate of institutional development.

If there is to be less reliance on resident technical advisors in institution building projects, it would seem that some substitute inputs would necessarily be required. This is not valid reasoning if such personnel do not, in fact, measurably enhance institutional development. But it does imply that funds normally allotted to advisory services are released to be used in other ways.

Certainly one alternative use for funds is to upgrade participant training programs. This could be accomplished along the lines discussed in the preceding section. A more intimate relationship between the host institution and the assisting U.S. university would go far in upgrading the host's technical capabilities. This would call for frequent and continued short-term assignments of: 1) U.S. personnel in the host institution and 2) host personnel in the U.S. institution. To handle administrative matters and to act as institutional liaisons, one U.S. person and one host institution person could be selected to work and reside in each other's institution. The role of the resident U.S. person would be to assist host personnel in arranging stateside contacts, to guide the orientation of short-term U.S. personnel and to assist the host institution in organizational or administrative matters relating to the project. The host person's role in the U.S. institution would be the mirror image of his overseas counterpart.

This approach would not necessarily eliminate the need for resident tours of U.S. technical personnel. Nor would it reduce the need for long term, two to three year participant training programs. But resident U.S. technicians would serve only in areas of the host institution highly deficient in technical or organization competence. And they would function as operating personnel, doing work similar to what they would do in their home institution. At a time when local staff were trained to replace U.S. personnel, a continuing professional relationship based on short-term tours of both nationalities could be established.

While this approach offers no panacea to all problems of institution building, it does avoid and/or reduce many of the presently encountered difficulties. The fundamental benefit is that the effort is bilaterally based. This greatly reduces the unfavorable and often destructive superior-subordinate relationships that are implied in present unilaterally oriented projects.

## Feasibility

Like other criteria which influence institution building strategy formulation, the degree of feasibility of a technical assistance action is vital to the desired outcome. The question of feasibility must be taken into account at three levels: 1) in the initial selection of the hosting entity, 2) in the selection of the technical assistance role to be played in the institution and 3) in the choice of institution building inputs.

### Selection of the Host Institution

An underlying premise of this study assumed that any question regarding the merits of building indigenous agricultural institutions was a closed debate. It was assumed that such institutions were desirable and beneficial to the development process. Thus, the issue at point was to provide insights on how these institutions could be more effectively aided via the AID-U.S. University contract mechanism. This assumption eliminated the need for comparing the relative merits of technical assistance versus other assistance forms. But it did not eliminate the need to examine the relative desirabilities of aiding one particular institution rather than another.

Quite clearly, the question of which institution(s) to assist and which institution(s) not to assist is a complex matter. The idealist might contend that such a question is an issue to be resolved by considering the relative priorities involved. Certainly priority considerations cannot be easily dismissed, but not infrequently feasibility considerations may be the final and controlling factor in project selection.

There has, of course, been continued debate regarding the question of feasibility versus priority. To date it has not been resolved. But as Duncan noted, "The search for careful priority ranking (of projects) is another evidence of the belief in a magic solution which does not exist."[16] This view is perhaps overly pragmatic. But at the same time, it is quite appropriate given our highly imperfect knowledge of development processes. Given this, Duncan's research observations seem to relegate project selection to largely a matter of project feasibility. He notes:

> ...there are so many things that need doing that it does not matter where you start as long as you pick projects which will succeed. As long as those few

> relatively obvious or destructive kinds of things are avoided, it will be possible to concentrate energies on the question, "Will it succeed?" instead of "Is it important?"[17]

A review of present AID-U.S. University projects reveals that feasibility is, in fact, the principal and controlling factor in project selection. Although all present projects can be and are defended on the basis of their priority contributions, these priority assessments are totally subjective. This necessarily must be the case for there clearly are no "magic solutions" to the problem of priority ranking.

Though project selection may be rather largely controlled by feasibility considerations, this does not imply that the practitioner has no choice in the matter. Normally there will be several different alternatives available--all of them falling within acceptable feasibility limits. But when all available knowledge is assessed, it may be determined that some projects are simply more feasible than others. A brief discussion of some common feasibility criteria may be helpful in this regard.

## Established versus New Institutions

One of the classic issues concerning feasibility revolves around the question of whether technical assistance should be directed toward older established institutions or to newly formed and unproved entities. While there are many obvious exceptions, AID has generally chosen to work with established institutions. For all present projects in Latin America, host entities trace back their history to an average of nearly 20 years.[18] Although there is great variation in the age of these institutions, the point that AID generally prefers to aid established institutions is illustrated. In some areas of the world there is, of course, little choice as to whether an established or a new institution is to be assisted. But even in these cases, there is considerable evidence that the longer established institutions tend to get the nod more often than do entirely new institutions.

The rationale generally given for selecting established instead of new institutions revolves around questions of certainty and stability. Older institutions commonly have a fairly strong constituency, a traditionally

loyal clientele and the basically essential political contacts. These factors help in assuring continued support and hence continued existence.

New institutions are not always assured of their continued existence. Because they seldom have a constituency or an established clientele group, they are frequently subject to the vagarities of the political processes. This lack of certainty and stability has seemingly made these institutions poor choices for AID technical assistance activities.

New institutions tend to present greater risk for a technical assistance donor. Yet, a good case can be made for bearing this risk since the long run potential of infant institutions may at times be greater than for older entities. In fact, the factors which are viewed as strengths in established institutions may become constraining weaknesses when change is the technical assistance objective. Technical assistance applied to an established entity rather quickly evolves into a question of a reform of deeply embeded traditions. And reforms are not easily brought about in any social environment. Technical assistance applied to an infant institution can largely avoid reform measures because there is seldom anything to reform. Rather, it is more a matter of building the institution both in form and function.

In many respects the difference between reforming an established institution and building a new one is not unlike the difference in remodeling an old home or constructing a new one. It is a common experience that extensive remodeling is more expensive and less satisfactory than building a similar home from scratch. The dissatisfaction results because the foundation and some of the primary supporting members may have been left unchanged. The analogy is appropriate to institution building because certain traditions and/or personnel are left unaffected in institutional reforms. But by careful planning these constraining elements can often be avoided when a new institution is built.

There are no facile means of concisely determining whether new or established institutions should be assisted. Clearly there are risks and uncertainties either way. Too frequently these hazards are impossible to compare because the longer run consequences of either choice cannot be accurately predicted. A new institution may be easier and less expensive to build. But as Jones notes, the negative consequences of not reforming an established institution in the same country may be rather serious. He comments that:

> A case in point is one in which the traditional institution long had been and still is the principal supplier of new professional staff for the country's Ministry of Agriculture. The new institution is now functioning and reportedly turning out better qualified--by U.S. standards--graduates than the old. Policy making decisions at all meaningful levels in the Ministry of Agriculture and its various subordinate units, however, still are filled with graduates of the traditional college of agriculture and vacancies are filled from the same source as they arise. Assuming the purpose of creating the new institution to have been that of reshaping, over time, the goals and programs of the Ministry of Agriculture, that purpose has clearly been defeated thus far.[19]

The dangers in oversimplifying this issue are great. While older institutions like older people tend to be more ossified and less changeable than infants or infant institutions, this is quite obviously not always the case. Any institution reflects societal traditions, be it new or old. And these traditions may be equally constraining regardless of the institution's age.

There are thus no easy answers to the question of whether to aid established or infant institutions But from evidence obtained in this research, it would appear that perhaps too much emphasis has been given to working with the more established entities. Such a conclusion results due to two major factors. First, success in working with established institutions often comes not from a reform of the existing framework, but from adding-on new organizational forms. Unchangeable organizational forms and personnel must often be by-passed via the initiation of new organizational structures with new personnel. Hence it is not uncommon to find a bifurcated institution after it has been exposed to outside technical assistance. The old forms exist side-by-side with the new. This in itself is sufficient cause for destructive conflict, particularly if the old order is able to retain primary control over the resource base. So long as this continues, the prospects for significant reform are indeed dim.

The second major factor which may stack the cards against working with an established institution is society's conditioned view of the institution's traditional role and function. The fact that society may have preconceived notions of an institution's functions (based on past experience) may well eliminate significant opportunities to assume new roles. Thus, if a rural university has never engaged in research

or extension programs, society may fail to comprehend why it should begin to involve itself in such activities. A new institution may have nearly as much difficulty in assuming a non-traditional role as an established entity. But by presenting its function as a revolutionary new concept (perhaps the old under a new name) the opportunity for societal acceptance may be greater.

In sum, technical assistance applied to old established institutions can seldom effect total reform. Even if internal reforms were possible, little has been accomplished unless external reforms occur simultaneously. Opportunities for building infant institutions are generally somewhat brighter. Yet, the longer run potential may be limited if such an effort results in competition with an older institution deeply interlocked with the country's social and political power structure. Clearly, the final decision to aid any institution depends upon a group of highly interrelated factors specific only to the concerned environment.

## Other Considerations in Project Selection

In actual practice, the selection of new institution building projects has been a rather haphazard process. As Duncan notes:

> ...projects may be initiated because of the availability of funds or qualified donor or recipient personnel, the opportunity to make an immediate impact or many other reasons related to feasibility.[20] In fact, project selection is often influenced by the fact that Minister X is likely to remain in office and will favor the project, technician Y is either in the country or can be obtained, and headquarters man Z will take a particular interest in seeing that adequate backstopping is provided.[21]

What Duncan's comments imply, among other things, is that project selection is frequently based on personnel considerations. This is borne out by empirical evidence. Of a sample of 15 different projects, 12 were initiated because there was a personal friendship between a host person (or persons) and U.S. University person(s) or AID staff member(s). The initiation of nearly half (7) of these projects could be traced to the promotional efforts of U.S. University personnel.[22]

There is nothing inherently maleficent in selecting projects on the basis of personal contacts. In fact, under the cross-cultural conditions of technical assistance, personal friendships should be exploited whenever possible. But when personal considerations become the controlling factor in project selection, the longer-run potentials for project success can be rather seriously jeopardized.

Personal friendships are not necessarily permanent. Nor is a friendship which has been established in one cultural environment necessarily durable in a different cultural setting. Further, the probabilities of two or more people continuing to be employed by the same entity during the duration of a project are indeed low. Changes in power structures, changes brought about by personnel promotion and changes due to any number of other factors are too whimsical to assume that the original basis for project establishment can continue indefinitely.

Despite the fact that personal relationships can be effectively used to gain entry into an institution building project--either from host to donor agency or donor to host institution--long term project success is simply not assured. Project selection therefore must be based on more rational grounds than mere personal friendships between hosts and donors. Several alternative bases are offered in following discussions.

## Selecting the Technical Assistance Role Within a Host Institution

The alternative roles which a technical assistance effort may play within an institution are numerous. From past experience it is clear that some of the potential roles are more feasible than others. This results because the degree of feasibility is strongly dependent on environmental factors and the nature and availability of technical assistance resources. But since both of these factors will be assessed in a following section, this discussion will be limited to a few selected issues.

As noted previously, the long experience in institution building efforts appears to have resulted in an almost standardized approach. A typical technical assistance team is composed of a team leader and perhaps six to twelve subject matter specialists. The team leader traditionally assumes an administrative role and acts as liaison between the field team and the home campus. If he works with a

host counterpart, it will frequently be someone in the institution's administration. The discipline specialists typically work with local counterparts within fairly narrow subject matter areas.

Such an institution building orientation is thus commonly focused on enhancing technical competence in a few rather circumscribed disciplines. Because the dozen or less specialists work largely with their specialized counterparts, many areas of the institution are left virtually unaffected by an intensive, but narrowly oriented effort. It is therefore not uncommon to find institutions which, after several years of assistance, have a few areas of excellence side by side with areas as backward as when the project started.

This is not a favorable situation. Building competence in a few areas does not result in an effective institution. In fact, it may result in little more than wasted effort. Backward discipline areas or administrative service areas can and do drag down areas of excellence. Hence, unless all or nearly all parts of an institution develop simultaneously, there is little hope for a technical assistance effort to leave behind a thoroughly effective institution.

On this point there can be little debate. An institution, like an economy, must be viewed as a system. An economy cannot develop if one or more sectors are severely out of balance. It took many years for economists to comprehend the simple fact that there are no basic economic sectors. Nor are there basic elements in an institution. All parts must perform effectively if the whole is to perform effectively.

But is it feasible to attempt to stimulate change throughout all parts of an institution simultaneously? The stock answer is negative since the costs of blanketing an institution with technical personnel are considered prohibitive. Further, practitioners often contend that even if such an approach were economically acceptable, the U.S. "presence" would be excessive and detrimental to host institution sovereignty. Because a large number of personnel are not economically or philosophically acceptable, the argument continues, certain high priority areas within the institution must be chosen to be assisted.

While these are the two standard arguments for not extending technical assistance personnel to all sections of a host institution, neither have any real basis in fact. If technical personnel measurably contribute to institutional

development, the cost of an army of technicians would be a relatively insignificant matter. But by arguing that the price would be too high either implies a lack of sincerity in technical assistance efforts or a belief in diminishing returns from additional technicians. If the latter is the case, why should diminishing returns suddenly set in at some given number of technicians? As for the preoccupation with excessive U.S. "presence," one must ask why it too should become a concern beyond some given number. Is there some magic ratio that applies in institution building projects?

The contention that it is not feasible to blanket an institution with an army of technicians is correct, but not for the reasons generally given. In the first place, it is often impossible to gain access to all parts of an institution. Some host personnel will simply not accept the presence of outsiders in their discipline. Secondly, most U.S. universities cannot effectively field a team of over a dozen or so people. Even with heavy reliance on outside recruiting many universities have been unable to keep all positions filled at all times. And third, the multiplication of administrative problems becomes excessive with large field teams. Universities have generally been unwilling to accept the heavy responsibilities required in large efforts.

Though it is not feasible or desirable to try to stimulate change throughout all parts of an institution via technical personnel, this does not eliminate other means of accomplishing the same task. It may, in fact, be possible to reach all parts of an institution through means more effective than by using technical personnel. Several alternatives are available, two of which will be examined in the following paragraphs.

Since it usually is not possible to gain access to all portions of an institution via technical personnel, the use of cash or commodities can be an effective tool for this purpose. As noted previously, the basic objective to this approach is to open doors and little else. It is done with the hope that such inputs will break down the barriers of uncooperative attitudes so that training or personnel inputs can be applied at a later time. Cash inputs can be loosely tied to the purchase of needed equipment, the hiring of specialized local personnel or similar things. Commodity inputs might include equipment so specialized that short-term outside assistance is required to learn a new technique. While this "carrot on a stick" approach could not be expected to yield immediate results, the opening of

new vistas for host personnel would hopefully lead to more effective technical contact with the assisting entity at a later time.

A second alternative which should be examined is a broad-based participant training program. There are few reasons why training should not be made available to all subject matter disciplines as well as all administrative areas. A training program for the institution's bookkeeper or librarian may not appear as crucial as a training tour for the institution's chief agronomist. But for purposes of diplomacy as well as longer-run needs, it may prove to be an excellent investment. This does not imply that non-technical fields should be given preference over technical areas. Rather the point being made is that training should not be limited to the technical fields.

Coupling participant training with the use of short-term tours of U.S. personnel, as discussed previously, can be a very effective means of reaching all portions of an institution. The advantages of this approach as opposed to resident personnel have been noted. Certainly one aspect which cannot be overlooked is that some types of jobs can be completed in a short time, and the use of long term resident personnel can scarcely be justified.

The cost of gaining access to all divisions of an institution depends rather heavily on the approach used. Extensive reliance on U.S. resident technicians can indeed be an expensive proposition. But for every two-year term technician employed, about four participants can spend one year in U.S. training. Further, the cost of eight different three-month tours for U.S. technical personnel is less than the cost of supporting one, two-year resident technician and his family. By shortening short term tours to two months, ten different people can be utilized at less cost than one, two-year technical resident.

These comparisons are, of course, rather rough estimates. Actual cost comparisons will depend upon several factors not mentioned. But the point is illustrated: Technical assistance can be dispersed throughout an institution at the same or at less cost than it generally takes to apply similar assistance in a few limited portions of an institution. This alone offers considerable appeal.

The question of cost, however, is irrelevant if these proposed alternatives to resident technicians are not effective substitutes. In this regard, several effective

considerations have already been discussed. A more complete and comprehensive analysis will be discussed in the section on the nature and function of technical assistance inputs.

## Selection of Technical Assistance Inputs

The feasibility of utilizing different types of technical assistance inputs is largely dependent on two factors: 1) the degree of acceptability to the hosting entity and 2) the relative ease of procurement. Although both factors can be examined individually, in practice both are highly interdependent. That is to say acceptability is of little relevance unless the input can be procured. Or conversely, the ease of procuring an input is meaningless unless it can be effectively applied in an institution building effort.

As noted earlier, cash, commodities and participant training grants are all readily acceptable inputs to most host institutions. Technical personnel are generally less acceptable than the above inputs although there may be occasional exceptions. Short-term operational personnel are generally found to be highly acceptable. Further, resident U.S personnel substituting directly for local undergoing training abroad may be quite acceptable to infant institutions.

In terms of the feasibility of applying different inputs, therefore, a direct relationship can be drawn from the degree of acceptability of various inputs. Even though there appear to be some general patterns, the degree of specific input acceptability may be inconstant from institution to institution. This has little relevance. Rather what is of concern is that practitioners be aware of the fact that within an institution, the degree of acceptability may vary by type of input. This says that knowledge is required of what inputs are or are not acceptable in the assisted institution.

As to the relative ease of procuring different inputs, practitioners presently find that cash and commodity inputs are less burdensome to procure than participant training grants; participant funds easier to procure than short-term technical personnel; and short-term technicians easier to find than two-year term technicians. There may be occasional exceptions, but this order is the general rule.

Conclusions regarding the relative degree of feasibility of using different types of technical assistance

inputs are thus simple to draw. Clearly, cash and commodity inputs are the most feasible to procure and apply. Participant training programs are next and technical personnel are the least feasible because they are the least acceptable and the most difficult to procure. For technician inputs, short-term operating personnel are more feasible to use than long term advisory technicians for the same reasons.

These conclusions considered independently have little value. But taken together with the other relevant factors--dependency, acceptability, urgency and economy--they hold considerable importance in institution building strategy formation. The joint implications, some of which have been mentioned previously, will be further explored in following sections.

## Urgency

The desired result of an institution building effort is that the assisted entity produce new, or improved or different kinds of outputs sooner than it would have without technical assistance. It is generally presumed that there will be some time lag between the initial injection of technical assistance inputs and the desired results, i.e. the institution's modified output. Under certain conditions it may be deemed necessary to shorten this time lag. The basic questions to be considered are thus: 1) can this noted time lag be feasibly shortened, and 2) if it can, what are the appropriate measures to take with regard to institution building strategy.

Before discussing these two questions, it is appropriate to examine the conditions which might call for urgent outputs from an institution building project. An argument could be defended that the output from any institution building effort is a matter of urgency. In fact, it might be argued that the decision to assist an institution inherently implies a priority judgment and hence a desire for quick impact. This is generally not valid. Decisions to aid indigenous agricultural institutions should and generally do reflect concern for fairly long term social and economic improvement. And seldom can a strong case be made that the development of such institutions is so crucial that it will yield a sudden and drastic economic or social transformation. Neither social nor economic change is so easily or quickly begot. It is thus highly questionable whether urgency should be considered a relevant criteria in strategy formulation for institution building projects.

There are, however, situations where a relatively greater degree of urgency may be called for than is usually the case. The classic example is one where a local or national food shortage is anticipated. Because of its ability to produce crucial research or service outputs, the existence of an effective indigenous institution may be deemed high priority. Although political presence projects were excluded from consideration in this study, they too may be subject to considerable urgency. While the reason for urgency is of no serious importance here, it clearly is recognized that this criteria can be and often is a matter of concern for technical assistance practitioners. For this reason the following sections briefly discuss some of the relevant considerations.

## Telescoping the Time Dimension

The traditional approach taken to shorten the time for building an indigenous institution has been to inject a greater than normal quantity of resources. Hence where perhaps eight technicians might be used in developing X institution under normal time constraints, two to three times that number might be utilized under requirements of greater urgency. But a mere increase in resource use is often not the only approach modification in such cases. Typically, the role of U.S. technical personnel is oriented far more toward direct operating functions and less toward advisory functions. In addition, the relative emphasis of resource use tends to shift. Greater emphasis is often initially placed on cash and commodity inputs and the recruitment of U.S. personnel than on the development of participant training programs. The general orientation of urgent institution building projects is thus based rather heavily on U.S. inputs assuming a significant role in host institution programs.

Now there is little question that a heavy reliance on skilled and experienced U.S. operating personnel can bring about fairly rapid output of certain kinds of services. The Rockefeller experience in Mexico and other countries demonstrates this. But the mere production of output by U.S. personnel certainly does not imply that the institution from which it is forthcoming is in fact developing. It is hypothetically conceivable that an institution could be highly productive yet utilize no indigenous personnel or resources. This would be a case where if the U.S. resources were withdrawn, no remnants of the institution would exist.

This hypothetical case is perhaps absurd, but it provides a reference point from which an approach based on something less than complete reliance on U.S. inputs can be assessed. Quite clearly, an institution cannot be termed totally developed so long as any portion of its output is dependent on the use of outside (U.S.) inputs. The time required to develop an institution is thus obviously a direct function of the time required to replace outside resources with indigenous inputs. But it is difficult to buy time with technical assistance inputs.

Heavy reliance on U.S. operating personnel can only lead to a conflict with other objectives. Technicians are generally the least acceptable inputs to host institutions. And even when they are acceptable, the host institution's dependency on continued and constant U.S. personnel inputs may be difficult to avoid. A simple increase in the number of technicians is thus an unsatisfactory means of speeding the development of an institution.

Since cash or commodities used alone have little marked impact on institutional development, there are few merits in pumping in more of these inputs to speed progress. This leaves only participant training as the remaining alternative. But experience shows that the technical training required to produce the crucial kinds of developmental outputs is not an overnight process. There may, in fact, be a lag of several years between the time a man begins his training and is finally able to produce for the needs of his country.

In short, there appear to be no ready shortcuts to institution building. This is a lesson which has been difficult to learn in the United States. And it seems it is even more difficult to learn when applied to institutions abroad. That a fairly immediate output can be obtained from heavy reliance on U.S. operating inputs cannot be denied. But if immediate output is the goal, it need not be pursued in the guise of building an institution; for in practice, the two goals are contradictory.

One additional note: To the extent that U.S. technical personnel act as direct substitutes for host staff (while they are training abroad, for example) institutional output can be achieved more rapidly. So long as this output is predominantly due to U.S. resources, this approach can scarcely be termed institutional development. Rather it must be recognized as simply a stop-gap measure for the purpose of meeting host country needs.

## Economy

Of the five criteria being dealt with under A.I.D. policy and project objectives, economy considerations are perhaps the most basic to institution building strategy development. This is because the entire purpose of strategy is to maximize the institution building impact of available technical assistance resources. And maximizing this impact is consistent and synonymous with economy since the resources are limited.

Economy considerations inevitably distill down to one common denominator--money. But money decisions must be made on the basis of the comparative efficiencies of expenditures for different types of inputs. It is clearly not enough to know that three or four participants can be trained for about the same annual cost as recruiting and maintaining one resident technician. To be of any practical value, such decisions require knowledge of the comparative efficiencies and contributions of different inputs when applied to institution building efforts.

As has been pointed out in previous discussions, the concept of relative input efficiencies is not a static concept. This is only to say that the time dimension weighs all important in strategy formulation. Commodity inputs, for example, may make little contribution if host competence is not sufficient to make use of such inputs. But if the same commodities are injected at a later time when host competence has been enhanced, the impact may be significant. Likewise, technical advisory personnel can seldom make any notable contribution without reasonably competent host counterparts. Nor can returned participants utilize their new skills unless some basic institutional infrastructure exists. Quite obviously, therefore, the contribution of specific inputs or groupings of inputs is highly dependent on the institution building time dimension. And any judgment regarding economy considerations must explicitly recognize this.

Because economy considerations are basic to institution building strategy development, the entire orientation of this study could be focused on this one aspect. The focus is, however, somewhat broader. For this reason economy criteria are considered in far greater detail and in relation to other criteria in a following discussion of the nature and function of technical assistance inputs.

## THE NATURE AND FUNCTION OF TECHNICAL ASSISTANCE RESOURCES

AID-U.S. University institution building projects typically provide more than technical assistance personnel to the hosting entity. Commonly included within the contract or as a separate agreement are provisions for the U.S. University to supervise the acquisition of physical commodities. Arrangements for training host personnel in the U.S. or other countries are also fairly standard contract provisions. And in addition, AID may contribute dollars or local currency to the project via a loan or grant arrangement. Thus, the typical AID-U.S. University institution building project is a fairly broad-based effort involving at least three and perhaps four distinct categories of donor inputs.

Within each input category there are, in turn, several sub-categories. Technical personnel can be recruited for an extended resident tour, for a very short-term tour or for a period of time intermediate between these two extremes. Moreover, the role of such personnel can vary from a purely advisory function to that of taking a very active part in host institution programs. The nature of participant training programs can also vary widely. In the past they have ranged from short term, largely observational tours to full-blown graduate degree programs spanning several years' time. Commodity and cash inputs as well have considerable variation. In some cases very minimal inputs have been made--perhaps a few books or a bit of laboratory equipment--while in other cases, an institution's entire physical plant has been built with AID inputs.

The actual and potential range of different input combinations is indeed great. Not only can it vary widely at any point in time, but over the life of an institution building project, the number of possible combinations is virtually infinite. Because of this, an analysis of "optimal" combinations for all project situations is clearly precluded. Yet, the fundamental questions regarding appropriate input combinations are universal. That is only to say different kinds of projects in different areas of the world face markedly similar problems. In fact, technical assistance projects scattered throughout the world generally have far more common characteristics than they have differences. For this reason, general principles of technical assistance input strategy are applicable to essentially all institution building projects. The following discussion is, therefore oriented to some of the principal universal issues of appropriate input use rather than the more micro issues posed by special situations.

## Evaluating the Function and Use of Technical Assistance Inputs

The value of any input utilized in institution building depends directly on the actual role it plays in the development process. But few of the present technical assistance activities take this into consideration. Rather, it is generally assumed that if technicians, participants, cash and commodities are injected, an institution will somehow magically be built. In other words, there is little knowledge of what role each type of input plays in building an institution. And for this reason, past and present efforts have seemingly relied far more on faith than on fact regarding an input's contribution.

While institution building is an exceedingly complex matter, there are six primary elements which must be affected in the process. These are: 1) the leadership, 2) the organizational structure, 3) the program content, 4) the technical competence, 5) the fiscal and physical resources and 6) the institution's attitude of its larger role. Each of these elements may or may not be affected by individual inputs. The institution building role and function of the four different inputs is thus determined by how each affects one or more of these six critical elements.

Knowledge of how different institution building inputs affect one or more of the principle elements is necessary but not sufficient information to develop institution building strategies. The additional factor is knowledge of constraints to the use of specific input forms. This was the purpose of the extended discussion of five factors in a preceeding section: dependency, acceptability, feasibility, urgency and economy. All of these factors within AID policy and project objectives may serve as effective constraints to input use. Hence, even though one type of input may be exceedingly effective in affecting one or more of the six critical institution building elements, its use will generally be constrained by AID policy and project objective criteria.

## The Function and Use of Cash and Commodities

Cash and commodities are two distinctly different forms of institution building inputs. Yet both can be lumped together because their impact is focused on but one of the six critical elements--the fiscal and physical resource base. Other than affecting this single element, these inputs play no notable role in the institution building process. Viewed in this way, it is evident that there

are rather defined limits to the effective use of cash and commodities in institution building efforts: cash can be used to buy physical goods or to procure services; and commodities can add directly to the physical resource base.

Under typical project settings, inputs of cash and/or commodities are seldom absolutely crucial to institutional development. In the first place, any contribution from AID will tend to be quite marginal. Consequently, it is difficult to perceive that this marginal contribution will be just the critical amount needed to transform the host entity. Second, only infrequently will cases be encountered where fiscal or physical resources are the one limiting factor in an institution. Rather, human resources are more often the limiting element to institutional development. And third, it has generally been found that host governments are more prone to invest in physical resources than in human resources. This only says that if an institution is to be built and the host government is to contribute something, this something will typically be physical inputs rather than investments in the human resources. Thus, these inputs will tend to be relatively more available, suggesting that AID efforts might wisely concentrate on the human factors of institution building.

Although physical resources limitations are seldom the critical institutional deficiency, there are clearly situations where they may serve a very useful purpose. Certain basic physical facilities are, of course, necessary for any institution. If the host entity is lacking these, obviously AID inputs can play a highly significant role. Then too, an institution may lack some essentials for new programs even though it has the basic physical resources for existing work. Books, teaching materials and equipment tend to fall in this category, as do basic laboratory or office equipment.

In more developed institutions, the need for equipment is generally not as great as most technicians perceive it to be. Coming from the U.S. they often immediately note that certain sophisticated research items are absent. The tendency is thus to set about ordering the latest model equipment and installing it in a laboratory perhaps more modern than that to which they have access at home. Not infrequently the departure of the visiting technician means that the new equipment falls idle. And if it is utilized, its infrequent use hardly justifies the original expenditure.

This is not a new or profound observation. Similar critiques of commodity purchases have been heard for years. What is generally unrecognized is that not only are such purchases a waste of money, but they can also lead to a destructive emphasis on the purely physical aspects of institution building. The infrastructure syndrome referred to earlier is a very real phenomena. Commodity inputs which reinforce this by equating institution building with improvement in physical resources are destructive to the desired objectives.

Another commonly encountered dilemma, particularly with cash inputs, revolves about the question of dependency. While dependency considerations are marked constraints to the effective use of any input, cash contributions are especially vulnerable. Cash inputs must therefore be made only with a very clear understanding that they are temporary resources. Ideally, a definite cut-off point should be agreed upon before any funds are injected. A technique often used by the Ford Foundation seems to markedly reduce dependency problems. This involves a programmed annual reduction in Ford's financial contribution with a commensurate increase in the host institution's contribution. A given amount might thus be contributed over five years' time with the donor contribution declining from 100 per cent in year one to 20 per cent in year five, with the host institution's contribution increasing from zero to 80 per cent over the same time period. In cases where AID has utilized this technique, success seems to have been rather notable.

Commodity inputs do not tend to be as severely constrained by dependency considerations as do cash inputs. This seems to be due largely to the "once and for all" nature of most commodity assistance. But this does not imply that unfavorable dependency effects cannot result from commodity inputs. Too many projects have found themselves in difficulty because the host institution relies upon the donor for replacement of consumable goods such as laboratory chemicals, vehicle repair parts and the like. This suggests that rather great care needs to be given to the selection of commodities which: 1) have a long useful life, and/or 2) can be replaced or maintained without great difficulty on the part of local personnel. These two considerations may well rule out a wide range of commodity purchases.

Acceptability and feasibility considerations seldom are constraints to the use of cash and commodity inputs. But in this lies an inherent danger: money and equipment are so easy to apply that little serious thought

may be given to what function these resources will play in the overall institution building process. This can be a particularly critical problem if commodity purchasing decisions are largely left to individual technical specialists. People in every discipline tend to regard their area's contribution as fundamentally crucial to human welfare. And while this is entirely natural, even commendable, such thinking cannot form the basis for effective and successful institution building projects. Rather, each commodity purchase must be viewed in relation to its aggregate effect and as it relates to the effects of other inputs.

In general, so long as the basically essential physical resources are avilable, additional physical inputs are not required until technical competence is enhanced. This suggests that commodity inputs might be postponed until there is a very direct need for them, i.e. until the physical resource base becomes a limiting factor. This need will normally not arise until a core group of host staff have obtained added technical competence through participant training or association with a U.S. technician. After this initial competence threshold has been reached and rather marginal equipment inputs injected, additional resources can be added as the need arises, but not before. One exception to this might be a case when commodities or cash are utilized simply to gain access to a recalcitrant area of an institution. As noted previously, this "carrot on a stick" approach has occasional merit but must be used with great care.

In summary, it must be again emphasized that the most optimistic role of cash and commodity inputs is indeed a limited one. These resources can affect one basic element in an institution--its fiscal and physical resource base--but little else. Neither cash nor commodities perform any magic in the institution building process and may under some conditions actually be destructive to long-run objectives. Thus, like long and successful marriages, the building of institutions cannot, over time, rely solely on the physical aspects.

## The Function and Use of Participant Training Programs

Among the various technical assistance inputs, participant training is frequently referred to by experienced practitioners as the "key" to institution building efforts. What is seemingly implied by such a statement is that in addition to enhanced technical competence, participants bring back to an institution certain intangible qualities unobtainable from other input forms. Just what these particular qualities are has never been adequately described. Yet, in spite of this, there is rather strong evidence that participant training programs do, in fact, yield high returns. This section sets about to explore briefly the function of participant training in the institution building process and then to suggest ways this role can be more effectively exploited.

Participant training directly or indirectly affects all of the six critical elements which must be modified if an effective institution is to be built. In this sense, it is the only single input for which this can be said. Participant training is, therefore, essentially the only input that can be utilized independently of other inputs, yet still have a positive institution building impact. Thus, while other input forms can complement training, it is not crucial that these inputs be made in order to obtain some degree of output from the investment.

This is in very marked contrast to cash, commodity and technician inputs. All of these must be utilized in conjunction with each other or with training inputs. They cannot, in other words, stand alone as can inputs of participant training.

A further advantage of training inputs is that they are inherently self generating. The training and skills of the returnee are multiplied many fold when he comes into contact with his colleagues or students. In turn these people come into contact with others, so that new knowledge and ideas may spread quickly and widely even under the most unfavorable conditions.

Again this is in contrast to cash, commodity and technician inputs. Cash certainly has no magic self-generating properties. Nor do pieces of physical equipment reproduce themselves. Technician inputs may approach the special qualities of training inputs under optimum conditions. But such optimum conditions are very rarely encountered in typical institution building projects.

Participant training inputs thus have two unique functional qualities: 1) they can be reasonably effective without a coupling with other input forms, and 2) they are inherently self generating via the human communication process. No other single input or combinations of other inputs share these qualities.

The effect participant training has on the previously noted institution building elements depend rather directly on the type of program utilized. Generally, programs can be broken into four types: 1) short-term observational tours, 2) short-term technical training tours, 3) long-term non-degree programs and 4) long-term undergraduate or graduate degree programs. Each of these four program types has certain impacts in common, yet each tends to have its own unique impact on institution building elements.

## Short Term Observation Tours

With only a few exceptions, short term observational tours have been directed toward host institution administrative personnel. The thought behind this kind of program runs along the lines that: 1) administrative personnel have no crucial need for extended technically-oriented training, 2) their responsibilities in the host institution are often such that they cannot be absent for long periods and 3) a brief exposure to new or different organizational forms may provide insights for modifying their own institution. The objective of such programs is thus largely one of briefly exposing administrative personnel to U.S. institutional organizational forms which may have relevance in the host institution.

From evidence gathered by this project, it appears that this type of administrative participant program has been quite successful. Personnel of numerous projects attribute rather significant institutional change to these efforts. What seems to occur with some degree of frequency is a kind of awakening to new opportunities for the host institution. In many cases, participants often had fairly limited views on the potential role of their institution. A short travel-observation tour provided new ideas, many of which could be directly translated into new host institution efforts.

The function of such programs in the institution building process is thus to affect three critical elements--institutional leadership, organizational structure and

program content. In addition, of course, some impact may come about on other elements. Within some institutions, major positive modifications may result from a mere reorganization of existing resources. Consequently, this implies that where a sound resource and technical competence base exists, high priority might be placed on short-term tours for high level administrative personnel. But such programs need not be limited to well-established entities. Infant institutions often desperately need organizational direction which can, in part, be enhanced by short U.S. tours for their administrative staff. In fact, there are several cases on record where the orientation of new institutions shifted rather dramatically after influential host institution officials returned from short U.S. observation tours.

This emphasis on short U.S. tours for high level host institution personnel reflects a very definite public administration bias. In some cases this technique cannot operate effectively if the host institution has no clear chain of bureaucratic authority. But, in practice, there are few indigenous agricultural institutions structured so democratically. Rather, one finds that major policy decisions are generally made by a rather limited number of people. And it is not uncommon to find a veritable dictator administering many such institutions. Now clearly, little institutional change can be brought about unless this person or group of persons either overtly stimulates, or through inaction implicitly approves of change. It is for this reason that heavy concentration on high level personnel is so vitally important in the institution building process. Not only does the leadership, the organizational structure and program content depend on a few high level people, but all other critical elements--technical opportunity, the resource base and institutional attitude also can be affected by their actions.

The policy conclusion which must be drawn from this is that high priority should be placed on modifying the values and ideas of high level host institution personnel. It may in fact be a wise use of resources to place first priority on high level staff training. This conclusion results because resource inputs at other levels will pay poor dividends unless high level administrative constraints are broken. Short term participant tours are, of course, not the only means of affecting high level personnel, but as will be shown later, this approach may be the most effective way of accomplishing the desired objectives.

## Short Term Technical Training

The function of short-term technical training in the institution building process is primarily one of enhancing the level of institutional technical competence. Thus, of the six critical institution building elements, only one is notably affected via this type of program. There may, of course be some additional indirect by-products from such programs. Host institution program content and general attitude changes might result, but given the level at which this sort of training is normally directed, few such changes should be expected.

Because of its very nature, short-term technical training tends to be oriented toward the learning of specific techniques. Artificial insemination techniques, seed grading procedures, soil testing operations, and similar technical processes all lend themselves to short-term training programs. And since most such programs are largely technician oriented, they will generally tend to be directed to host institution research or service personnel.

With some exceptions, personnel taking advantage of short-term technical training will have generally little opportunity to influence institutional policy. There is, therefore, little need to attempt to include any more than the purely technical aspects in such programs. Not only do the participants generally have little interest in broader policy matters, but they also have little opportunity to express their concerns within their home institution. Hence, technical training on a short-term basis should be explicitly recognized for what it is and what it will accomplish. It can affect essentially one institution building component--technical competence--but little else. Consequently, such efforts should be programmed accordingly.

## Long-Term Participant Training

As a generalization, it can be said that past participant training programs have been quite successful in upgrading the technical competence level of host institution personnel. Hence, in terms of fulfilling their generally accepted objectives, these programs have been effective. Institution building is, however, more than a mere upgrading of technical competence. And, in many cases, the real pay-off from long-term training has been obtained from the trainees' impact on elements other than the technical aspects.

A participant's exposure to the U.S. ambient and to a U.S. educational institution cannot help but result in some impact on the individual. Depending on the person and the circumstances, this impact may range widely. While it is generally hoped that the overall impression of the U.S. will be favorable, what is of real concern is that the participant will have a positive long-run effect on his home institution. From evidence gathered in this and other studies, this appears to have been the case for a majority of long-term trainees.

In addition to upgrading technical competence, long-term training tends to have a rather marked and often immediate impact on the host institution's program content and attitude of the institutional role in society. Additionally, some effect on organization structure may result. Over time as returnees move into positions of leadership, there will be longer run effects on all six critical institution building elements.

It is not easy to know or describe why or how the aggregate participant training impact transcends purely technical considerations, especially when most programs are highly technically oriented. Yet, there is little question that this is exactly what takes place in many cases. Participants do return to their home institution with a renewed vitality and enthusiasm. They do often very rapidly move into positions of responsibility. And they do frequently bring about a significant redirection of their institution's role. The mere fact that this does happen suggests that perhaps these processes could be deliberately speeded.

The desirability of enhancing participants' non-technical contribution to their home institution is obvious. Several means of accomplishing this have previously been discussed. But what is called for in general is a greater degree of interrelationship between participant trainees and their U.S. advisors than has been the case in the past. And ideally this should continue over time, even after the participant has returned home. The role of the advisor should extend beyond the purely technical matters to larger issues. In other words, the trainee should be exposed to issues of institutional organization, public administration, public service questions and the like. When the advisor is not prepared to deal with such matters, other means should be found to accomplish the same purpose.

What needs to be recognized is that a majority of participants will almost inevitably find themselves in positions of rather heavy responsibility. In fact, the

chances of this occurring are probably greater for participants than for their American colleagues. Further, the odds that returnees will assume relatively responsible positions sooner than their American colleagues are considerably higher. These factors alone dictate that greater consideration be given to the non-technical aspects for participant trainees than would normally be given to U.S. students.

U.S. higher educational institutions probably do a rather poor job of preparing their students for the kinds of tasks they will actually face in their first years of employment. Many, of course, would argue that this is not the role of such institutions. Rather it is contended the real role is to produce an "educated man." This may be valid thinking for the U.S. since specific manpower needs are not so crucial that employers must have immediate production from their newly hired employees. Thus, a person is hired and is able to learn many, if not most, of the required skills from the "system" in which he finds himself. It is this system, therefore, which really provides him with the necessary productive skills. He learns these skills and moves forward and moves forward as he learns.

In the typical less developed country, this so-called "system" may be largely lacking and may, at times, not exist at all. Because specific manpower needs are so critical, the returnee must land running. He has little opportunity to serve an apprenticeship since he finds himself called upon for many diverse tasks. He may have no system or backstopping to fall back on and hence must make decisions--often crucial decisions--with knowledge that may be limited largely to technical aspects.

There can thus be little question that participants require something more than technical training. Further, since they may have little access to the backstopping resources available to their U.S. colleagues, serious efforts should be made to provide this via technical assistance. Of the alternative means for accomplishing this, the use of short-term U.S. technicians is likely to be the most judicious route to follow.

## Other Considerations

All relevant factors taken into consideration, participant training inputs are perhaps the most attractive to the institution building practitioner of all four input

types. In terms of their function in the institution building process, training has been shown to have the potential for affecting all six crucial elements. But at the same time, through deliberate program design, it is possible to affect each of the institution building elements selectively. In other words, training need not be solely oriented toward upgrading technical competence. By careful program design, the primary emphasis can be directed to the leadership function, the organizational aspects or any one or more of the important institution building elements. From this standpoint, participant training is a highly flexible and effective technical assistance tool.

There are additional merits to participant training programs. Several of these have previously been mentioned, but it is worthwhile to again call them to mind. There is the marked advantage that such programs are entirely voluntary in nature. This implies a high degree of acceptability. And acceptability is further enhanced by the fact that U.S. training is commonly viewed as a unique opportunity for the individual staff member. This is perhaps due to the reputation that the U.S. presently enjoys as being the prestige country in which to travel and study.

Given that the prime objective of any technical assistance institution building effort is to leave behind an effectively functioning organization, participant training ranks high on the basis of minimizing dependence. In no direct way does such training threaten the autonomy of an institution. While U.S. training may lead returnees to stimulate reform, such measures do not reflect direct U.S. compulsion. And neither do such programs tie institutions to the apron strings of U.S. assistance. Dependency on continued and constant U.S. inputs is minimized through the use of training programs. In fact it is reduced far more than using any other input form.

Still another important advantage of training inputs is cost considerations. On the average, expenditures run at a rate of about $6,000 per man per year. While this consideration would be meaningless if nothing significant resulted from such outlays, clearly this is not the case.

In summary, it seems exceedingly clear that participant training programs are worth very serious consideration in institution building efforts. All relevant institutional elements can be affected, from leadership qualities to attitudinal factors. And there are few

policy constraints to the use of such programs. As it will be shown in the following section, participant training inputs can, with few exceptions, accomplish the same institution building objectives as inputs of U.S. technical personnel. This is important. But even more important is the fact that these objectives can generally be achieved at a far lower cost than through the use of U.S. technicians.

## The Function and Use of Technical Personnel

Technical assistance efforts applied to indigenous agricultural institutions have one overriding objective: to build institutional capability for producing useful and relevant product for the supporting society. Yet, in practice, it is an exceedingly difficult task to accomplish this seemingly simple purpose. Institutions can be aided through the use of U.S. resources. But the propensity for these resources to contribute directly to the output is indeed strong. And so long as outside resources are in any way responsible for institutional output, serious questions must be raised as to whether institution building objectives are being achieved.

This issue is markedly crucial regarding the use of U.S. technical personnel. As noted previously one view of the role of technical personnel is that they must directly participate in host institution programs if they are to be effective inputs. The dilemma is thus clear: technical personnel can be effective only if they directly participate in host institution activities, but by doing so, the very purpose of their presence is defeated. This dilemma thus raises the basic question of how technician inputs can be used effectively without defeating fundamental institution building goals. And it can only be answered by examining some of the institution building functions played by technical personnel inputs.

## Technical Personnel in Institution Building

It was previously pointed out that six crucial elements must be affected in the institution building process; namely the leadership, the organizational structure, the program content, the technical competence, the fiscal and physical resource base and the institution's aggregate attitude. But at the same time it was also recognized that the limits to which any input can actually influence one or more of these elements depends heavily on other factors.

Among these factors are dependency, acceptability, feasibility, economy and urgency considerations. This is only to say that an input's potential functional value is meaningless unless it is largely unconstrained. Because the constraining factors are so critical in the use of technical personnel inputs, it is useful to explore their real institution building functional value in some greater detail.

## Influencing Institutional Leadership and Other Elements

The nature of the leadership dimension clearly necessitates that U.S. personnel must function almost exclusively as advisors. Situations can be conceived where U.S. personnel might serve for a period as acting administrators, but such a situation would undoubtedly be only a very temporary arrangement. Thus, the real question of concern is what functional role can be played by advisory personnel in upgrading existing leadership.

Rigney contends that the major role of advisors to institutional leadership "...is to provide an environment in which various alternatives of administrative procedure and decision can be examined in dialogue and discussion without the embarrassing exposure of administrative uncertainty."[23] He further states that "...the optimal role of the advisor in affecting the leadership of an institution must be aimed at the exposure of principles upon which policies and procedures should be based."[24] These are excellent statements of the ideal advisory role for U.S. personnel operating at the leadership level. But can the ideal be achieved in practice?

Because the nature of the leadership advisory role dictates nonparticipation in actual H.I. leadership functions, no serious difficulty arises due to dependency considerations. In other words, there are no inherent reasons why a host institution should tend to become dependent on the continued services of a leadership advisor.

The question of acceptability, however, is a different matter. One must reasonably ask why top level institutional leaders would generally desire to receive advice regarding their activities. This is a particularly relevant question if, as Rigney claims "...the top leadership in institutions in the developing nations is normally found in the hands of a mature person with considerable

administrative experience."[25] This would seemingly imply that because of their background, advisory services might not be often requested by most institutional leaders. Yet, administrators interviewed in Rigney's research showed that such people commonly had "...a high regard for individuals who could discuss the pros and cons of various approaches and who could generate a substantial amount of documentation and evidence on the several views."[25] While it is difficult to confirm Rigney's findings, there is some additional evidence that while technical personnel in general are not highly acceptable, some kinds of people--notably high level advisory personnel--tend to be somewhat more acceptable. But emphasis should be placed on <u>high level</u> as opposed to all technical personnel.

Perhaps all that is implied is that some people are acceptable and some are not acceptable to host institution administrators. This may be true. If it is the case, then acceptability is a highly personal and individualistic matter. But what seems more likely the case is that the individual personality is not nearly as important as the demonstrated capability of the individual. And for a position involving advisory services to host institution leaders, it is obvious that capability must necessarily be a crucial factor.

This brings up the question of feasibility considerations regarding advisors to host institution administrators. As noted previously, the feasibility of applying any input is a function of 1) the degree of acceptability to the host institution and 2) the relative ease of procurement. For leadership advisory personnel, these two factors may frequently be in conflict. In other words, it is seldom an easy task to procure personnel which will be acceptable to host institution leadership. And in the final analysis, acceptability can only be measured by the degree of effectiveness the advisor has in influencing host leadership.

The conclusion which must be drawn is that both acceptability and feasibility considerations may work as marked constraints to the use of leadership advisory personnel. Only highly capable advisors are acceptable and will work effectively. And these kind of people are not easily recruited.

The cost of not recruiting the most capable people for such positions may indeed be high. There can be no question that any technical assistance effort must very

significantly influence and affect top institutional leadership if any notable institution building impact is to result. There can be no satisfactory substitute for a really effective advisor at high levels within an institution. The book has yet to be written that will provide the day to day kind of assistance so frequently required by administrators within institutions undergoing change. And while participant training programs have obvious merits, even the best designed programs seldom equal the influence of top-notch advisory personnel. Hence, if an institution building effort is to employ one U.S. resident advisor, this man should be the best that can be obtained and he should work at the highest possible level within the host institution.

This may or may not be common knowledge. There are rather strong indications that it is not; for in few of today's projects is heavy emphasis being placed on concentrating capable advisory talents at high levels within host institutions. Rather one so frequently observes--as did researchers on this project--virtually no attention being given to high level advisory assistance. This crucially important institution building aspect has thus been left largely unexploited. But when projects are encountered where this aspect has been exploited, the evidence is overwhelming that it is one of the most effective, perhaps the single most effective, means of bringing about institution building progress.

## Influencing Technical Competence

The traditional and standard approach to institution building, as discussed previously, has been to employ a bevy of technicians, line them up with host counterparts and then hope that, somehow, someway, something magic will take place and an institution will be built. Viewed in perspective, one must reasonably ask what should be expected to occur under this kind of approach. Just what institution building effect should be expected to take place when Dr. X, associate professor of Y from State University Z, advises his counterpart in a technical subject matter area? What is it that is so intangibly transmitted from Dr. X to his counterpart that in turn will yield a significant institution building impact? These are all relevant questions and from evidence gathered in this research, the answers have become rather clear.

For the most part, nothing much at all happens when the hypothetical Dr. X advises his host institution

counterpart. A bit of technical knowledge may be transmitted; some effect may be had on the counterpart's attitude--but not necessarily a positive impact; program content may be modified--but not necessarily in a positive way; and organizational structure may be influenced--again not necessarily in a more productive way. The unfortunate facts are that the standard advisor-counterpart approach to institution building has not been very effective, even though it has indeed been costly.

As a means of overcoming this ineffectiveness, Rigney suggests that the traditional advisory function be modified and shifted toward a far heavier emphasis on direct participation in host institution activity. He thus clearly recognizes that the traditional advisor-counterpart approach is ineffective. But he predicates his argument on the basis that technical personnel inputs should be employed at more or less the same level as they have been in the past. Thus, the only significant difference in Rigney's recommended approach and the present approach is that the technician assumes a different role in the host institution. It would seem, therefore, that he believes the presence of technical personnel is necessary to achieve the objectives of institution building. This must be very seriously questioned. And under the conditions which Rigney suggests as being the optimal role for technicians, this belief must be particularly questioned.

It is true that using technical personnel as advisors is not an effective means of building institutions. Many of the problems associated with the advisor concept of technical assistance have been discussed previously. And Rigney very capably points out additional considerations in the following quotes selected from his paper:

> "One of the greatest difficulties encountered in the operation of technical assistance programs is recruiting competent staff. University contracts have been plagued by inability to find competent, imaginative and energetic faculty members who are interested in serving overseas."27

> "There is considerable evidence that most persons recruited for technical assistance activities overseas could not accurately visualize the type of activity in which they would be engaged and, therefore, their decision to participate in such activities was based more on a desire to travel or to "do good" than it

was on more professional grounds. The vagueness of their perception of the role to be performed was seldom improved upon arrival at the host institution."[28]

"Under these conditions of vague understanding of his role in institution building, the advisor is likely to be quite ineffective and inefficient in accomplishing his major purpose. This breeds frustration on every hand."[29]

"...many host nationals contended that U.S. advisors tend to make suggestions with little knowledge of their applicability to local conditions, that they are guilty of the same errors for which they accuse host nationals in making judgments and recommendations without sufficient first-hand experience on which to base them. Perhaps most damaging of all, they contend that U.S. advisors lack the professional energy and insights required for significant progress under the peculiar conditions of the host institution."[30]

"An advisor who has little else to do but to look over the shoulder of his host national colleagues may soon find that he can give all the advice in fifteen minutes that they care to hear in a week."[31]

"...there has been a strong temptation for U.S. advisors to urge the adoption of program elements based more on the fact that they worked well at home than upon a realistic appraisal of the host country's needs."[32]

"One of the greatest difficulties in offering advice on attitude and philosophy is that the advice which is proffered is often based on a different set of values than those held by the host nationals. To the extent that the recipients question the advisor's set of values or more particularly to the extent that they question his understanding of their own values, they are inclined to discount his advice."[33]

"When host nationals were asked to rank the importance of participant training, commodity purchases and technical advisors, they <u>always</u> gave them in this order. Many even went so far as to suggest reducing the total U.S. input by eliminating most of the advisor positions and converting the rest into participant training."[34]

"Host nationals uniformly complain that an advisor normally returns home just as he has acquired a

sufficient background and rapport to begin to be productive. This feeling is shared by many advisors and by administrators of technical assistance programs. Much of the first two years of service in technical assistance is devoted to learning the new role of institution builder."[35]

"The average cost of placing an advisor overseas is approximately $40,000 per year. This is a very expensive operation. The cost is more meaningful if compared with an alternative use of the same funds in training host nationals in this country. They cost approximately $6,000 per year per man. Thus, as an alternative to a single two-year tour of an advisor, the host institution might receive three Ph.D.'s and one M.S. degree for its own staff."[36]

It is thus exceedingly clear that the traditional advisor-counterpart approach to institution building is not effective. It is not clear, however, that institutional development can be enhanced if the same personnel employed as advisors simply shift their function to an action role within the host institution. The reasons for this uncertainty are obvious: 1) institution building is not taking place when U.S. resources contribute directly to the output of an institution and 2) many of the same basic problems will continue regardless of the role the technician plays.

There can be little question that output can be enhanced by using U.S. operating personnel within an indigenous agricultural institution. But undoubtedly even greater output could be achieved if an institution's total resource base were composed of U.S. inputs. The distinction between institution building on the one hand and output production on the other is indeed great.

Technicians serving in the traditional technical advisory capacity are not effective inputs. Technicians serving in an action-participating capacity imply a gross inconsistency with the very raison d'etre of institution building activities. It must therefore be concluded that technical personnel when used to enhance host technical competence, can play a highly limited role in any institution building effort.

Participant training should be looked to in order to achieve most of the vital institution building functions with two exceptions. The first is the leadership function

which generally has a significant impact on the nontechnical institution building elements. The second exception is the case where technical, organizational and leadership capacities are not present in any form. In such cases U.S. operating personnel can be effectively utilized as temporary resources if the objective is to achieve rather immediate institutional output. But beyond the point where even minimal competency begins to exist, the traditional technical personnel should be withdrawn from the overall effort.
be withdrawn from the overall effort.

In conclusion, the traditional institution building approach is a generally unsatisfactory means of accomplishing the perceived desired objectives. Not only is it unsatisfactory, it is also far more expensive than it need be. Cost could be considered a rather insignificant matter if there was not rather overwhelming evidence that superflous and redundant resources often tend to be destructive to the very purpose of institution building. And on this question there can now be little debate.

## SUMMARY AND CONCLUSIONS

Institution building is a subjective modernization of the resources and character of an institution; the creation of a capacity for self-generating change; an instillation of a propensity to interact with its environment in a productive manner. The development of indigenous institutions can be accelerated via the use of U.S. cash and commodities, stateside training for its personnel and the direct assistance of U.S. technical personnel. This study focused on how these inputs could best be utilized to accomplish the above noted objectives.

To effectively develop institutions requires that the task be viewed as a multi-stage, multi-phase systems process. There are certain key elements which must be affected. There are also constraints imposed on the use of inputs due to human factors, economic considerations and the relative desirabilities of attaining often conflicting objectives. The complex nature of institution building thus dictates that an over-all strategy be planned and utilized in accomplishing the desired goals.

The development of appropriate institution building strategies must take into consideration three key factors: 1) AID policy and project objectives, 2) the project environment, and 3) the nature and function of technical assistance inputs. The first and third factors were

explicitly analyzed and discussed. The second factor, while not explicitly discussed, was considered in some detail through the use of case illustrations and hypothetical examples.

Among the criteria which influence AID policy and project objectives are dependency, acceptability, feasibility, urgency and economy considerations affecting the use of different input types. These factors are, in a sense, constraints to resource use. Some types of inputs have few effective constraints and can be widely applied under highly differing conditions. Other inputs, however, have limited utility due to marked policy and/or project objective constraints.

Six different elements must be affected in the institutional building process; namely the leadership, the organizational structure, the program content, the technical competence, the fiscal and physical resource base and the institution's aggregate attitude. The ability of individual inputs to modify one or more of these elements varies considerably. The real functional role of inputs must thus be viewed in terms of the potential role as it is limited by policy and objective constraints.

The real functional role of individual technical inputs must be the focus of concern. It was determined that few constraints are imposed on cash and commodity inputs. The functional role of these inputs, however, is indeed limited: only one institution building element--the fiscal and physical resource base--is notably affected. Hence, other than affecting this one element, cash and commodity inputs have no significant role to play in institution building efforts.

Participant training programs are the most flexible of all input forms. Training can be utilized to affect each critical institution building element selectively through deliberate program design. Leadership qualities, including organizational and program content considerations can be modified effectively through the use of short-term, non-technical tours. Technical competence can be upgraded through specialized short-term training. Long-term participant training, while generally used to enhance technical competence, often has even greater long run impacts on other institution building elements. Coupling participant training with short tours for U.S. technical personnel is generally a more effective means of assisting the development of institutions than using numerous long-term resident technical personnel. Participant training

aided by an integrated relationship with the assisting U.S. university should be looked upon as a crucial institution building input.

U.S. technical personnel have been attractive inputs in technical assistance activities largely because their potential influence on various institution building elements is great. There is, however, evidence that this potential is seldom realized. Too many constraints surround their use for technical personnel inputs to be effective. And shifting the function of such personnel from an advisory role to a participating role in the host institution only exaggerates present difficulties. This implies that the use of highly specialized resident technical personnel should be avoided. Instead a very limited number of very high-level U.S. advisory personnel should be employed to assist host institution leadership in organizational and program content matters. In addition, subject matter specialists can be turned to on a short-term basis for the upgrading of specific technical areas. For maximum impact, long-term leadership advisors and short-term specialists should be intimately coupled with participant training programs.

Some project situations require immediate output from the host institution. In these cases, it may be appropriate to rely heavily on U.S. operating inputs. Such an approach must be recognized as only a stop-gap measure; for so long as U.S. inputs account for any significant part of the institution's output, it must be questioned whether institution building is taking place. In other words, obtaining certain forms of institutional output via the use of U.S. inputs should not be confused with the building of an institution. If immediate output is the goal, it need not and should not be pursued in the guise of institution building since the two goals are conflicting and contradictory.

In conclusion, a planned strategy which takes into account the key factors discussed in this paper is a requirement to the effective development of indigenous agricultural institutions. Unplanned and haphazard use of technical assistance resources is not only uneconomic, but can actually be destructive to the very purposes that are attempting to be achieved. The nature of institution building requires a long-term commitment on the part of the assisting entities. This kind of commitment, in turn, dictates a rational long-term strategy.

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3. Hannah, W. H. Resource Book for Rural Universities in the Developing Countries. University of Illinois Press, Urbana and London, 1966.

4. Rigney, J. A. and McDermott, J. K. Role of Technical Personnel in the Technical Assistance-Institution Building Process. An unpublished manuscript prepared under the CIC-AID Rural Development Research Project. Office of International Programs, North Carolina State University, Raleigh, North Carolina, 1968.

5. Duncan, p. 18.

6. These factors are five of the seven utilized by Jones (see above). The original usage can be traced to the work of Duncan and others associated with the Technical Assistance Research Project at Syracuse University.

7. Jones.

8. From the CIC-AID Project data provided by the University of Illinois.

9. From the same source at item 8.

10. The research findings of Rigney in the Near East and in Latin America differ slightly regarding the acceptability ranking of inputs. This does not, however, reflect regional differences so much as it reflects the specific approach of the researcher.

11. Rigney claims that technical personnel are generally less acceptable inputs as an institution matures. This is probably the case for certain types of

technical personnel. Latin American research indicated that leadership advisory services often became more acceptable over time if the advisor was effective in "reaching" his counterpart.

12. I am grateful to Harold Breimyer for coming to my rescue with this invented term which I could describe but could not convey in a simple phrase.

13. Jones.

14. Jones.

15. Rigney, J. A. Optimum Role of U.S. Overseas Advisors. Unpublished manuscript prepared as a portion of the CIC-AID Rural Development Research Project. North Carolina State University, Raleigh, North Carolina, 1968.

16. Duncan, p. 114.

17. Duncan, p. 114. (This quote does not necessarily reflect Duncan's position. He was only making the point that this is one argument frequently given regarding feasibility considerations.)

18. Data from material collected by the University of Missouri. Sub-contract on the CIC-AID Rural Development Research Project.

19. Jones.

20. Duncan, p. 154.

21. Duncan, p. 115.

22. Due to the possible controversial nature of these findings, the specific projects involved must remain anonymous.

23. Rigney. Optimum Role of U.S. Overseas Advisors. p. 16.

24. Rigney, p. 16.

25. Rigney, p. 16.

26. Rigney, p. 17.

27. Rigney, p. 6.

28. Rigney, p. 2.

29. Rigney, p. 2.

30. Rigney, p. 5.

31. Rigney, p. 6.

32. Rigney, p. 18.

33. Rigney, p. 20.

34. Rigney, p. 10.

35. Rigney, p. 9.

36. Rigney, p. 9.