USING INFORMATION FOR PROBLEM SOLVING
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A PROFESSIONAL DEVELOPMENT MODULE
EAST-WEST COMMUNICATION INSTITUTE
EAST-WEST CENTER
Module Text
USING INFORMATION FOR PROBLEM SOLVING

by
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Module Text

Case Study

PROFESSIONAL DEVELOPMENT MODULES

A series of learning modules for professional and administrative staff working in development communication programs.

- John Middleton, General Editor

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FOREWORD

Any discipline faces the challenge of translating what it learns from research and practice into a form usable by persons who apply knowledge to problems. This challenge is particularly demanding in the field of economic and social development, and nowhere more so than trying to inform and educate people about the problem of population.

Population problems exist, in one form or another, throughout the world. To help solve these sensitive and difficult problems, a large number of countries depend upon a group of professionals working in what has come to be called Population IEC (information, education, and communication). These professionals, working under great difficulties, often isolated from the sources of learning, feel a continuing need to keep up with recent knowledge in their field. The East-West Communication Institute, under the general supervision of Dr. Robert P. Worrall and the specific direction of Dr. John Middleton, and with the support of the U.S. Agency for International Development, has made an effort to respond to this need.

The Modular Learning Materials, of which this is one unit, are not quite like any other learning materials in the subject area. They have been developed with the aid of scholars and practitioners, and tried out by representatives of the audience for whom they are intended: working professionals. Consequently, they represent a blend of theory and practice in what we believe is a usable form and one we hope will be widely helpful.

Wilbur Schramm
EDITOR'S INTRODUCTION

These materials are part of a series of development modules designed and produced at the East-West Communication Institute to assist professionals working in population and family planning information, education, and communication (IEC) programs in sharpening their professional skills. A wide range of expertise--drawn from IEC programs in Asia and the United States, from universities, and from the Communication Institute staff--has been brought to bear on the development of the materials. Acknowledgment of authorship is given in each module. The project has been supported with a grant from the U.S. Agency for International Development.

We began this project with the major goal of producing professional instructional materials which, in addition to serving as the core of population IEC professional development programs at the Institute, could be adapted and used in a variety of training and development settings. To this end we have attempted to make each module as complete and self-sufficient as possible. The modules are self-instructional to lessen the burden on teaching and training staffs, and to facilitate their use on an individual basis. We have built the modules around real life cases, problems, examples and data, and have sought at all times to strike a balance between principles and techniques for practical application.

A basic premise of our work with the modular materials is that they will be constantly revised. As we use the materials in Honolulu, and as cooperating institutions use them in other institutional settings in Asia, Africa, Latin America, and the United States, we receive feedback which helps us refine and improve the modules. We are especially grateful to the 40 participants from Asia, Africa, Latin America, and the United States in the First Modular Program of Professional Development in Population and Family Planning IEC who helped us conduct the first full field test of the materials in Honolulu in the spring of 1974. Their critical review and commentary has been a rich source of ideas for improvement. We owe a similar debt of gratitude to the numerous IEC experts around the world who reviewed and criticized the materials. A special vote of thanks is due the Planned Parenthood Federation of Korea, which has generously shared with us the results of their project to review, revise, and adapt modules for their own use.

Recognizing the need for continual improvement of the modules, we are nonetheless sharing them in this "second revised form." We encourage non-profit education and training institutions to use the materials, revising, adapting, translating and tailoring them to meet their needs. We would be grateful for feedback on the nature and results of such efforts.
We intend to continue developing existing modular materials and will be adding modules as the need arises. Institutions interested in obtaining copies of the modules and audiovisual support materials are encouraged to write to the Communication Institute for more details.

The conceptualization and coordination of the project has been the work of the Task Group for Modular Professional Development. Without the creativity and hard work of these people, there would have been no modular materials: Ronny Adhikarya, George Beal, Jerry Brown, Ellwood B. Carter, Sanford Danziger, James R. Echols, O. D. Finnigan, Francine J. Hickerson, Ying Ying Hsu, D. Lawrence Kincaid, David Kline, Sumiye Konoshima, Jan LaBrie, Iqbal Qureshi, David Radel, Syed Rahim, Merry Lee San Luis, John Shklov, Mary-jane Snyder, Victor Valbuena, Hichul Whang, Margaret White, and Robert P. Worrall.

This project was supported by the Office of Population, U. S. Agency for International Development, AID/csd-1059. Special thanks are due to Dr. Wilbur Schramm, whose guidance has been essential, and to Dr. Robert P. Worrall, who, as Assistant Director, gave this project the support needed to transform an idea into reality.

John Middleton
Honolulu, 1977
ACKNOWLEDGMENTS

The development and final printing of this module would not have been possible without the many months of hard work and cooperative effort by a number of people. The authors would like to acknowledge all of these people and their contributions, and especially Mary Harrison for typing and reproducing the draft administered to the participants at the 1975 Modular Workshop; Bates Buckner for her critical review and suggestions for revisions of the draft; the 1975 Modular Workshop participants for doing the module, expressing their reactions, and making suggestions; and Louise Good for seeing the manuscript through copy editing and the final printing.
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AN OVERVIEW

PROBLEM

A prevailing and persistent problem in population programs as well as in many other development programs is the inadequate use of available information for solving program problems and in program activities. As a consequence of this underutilization of information, program progress is hindered, much energy is wasted, and activities are duplicated at high costs.

There are various reasons why this problem exists. Users or potential users lack knowledge about the availability of needed information. Many users fail to recognize or identify the information they need and to apply this information to decision-making, program activities, and problem solving. Existing information in the subject field is not systematically organized, and the provision of relevant and appropriate information to the users is deficient. The staffs at different levels of functioning do not communicate and coordinate sufficiently with each other and fail to pool their individual knowledge and capabilities into group strength for application to program activities and problems.

This module is addressed to this problem and the factors related to the inadequate and ineffectual use of information in population program activities.

ASSUMPTIONS

This module is a structured set of reading assignments, group discussions, and exercises aimed at helping you become a more effective user of information and, thereby, more effective in solving problems. This module is based on the following premises:

1. Problem solving is a process by which the individual (a) analyzes the situation; (b) defines the problem and identifies its causes; (c) identifies alternative solutions; and (d) evaluates these alternative solutions, choosing the best one.

2. At each phase of the problem-solving process, the individual handles information in some way. The more effectively the individual handles information in each phase of the problem-solving process, the more effective he or she will be in solving problems.

3. Information handling involves: (a) the identification of needed information; (b) the evaluation of the information already available; (c) the gathering, retrieval, or generation of the information still needed; (d) the processing of the information; and (e) the presentation of the information in a manner comprehensible and otherwise acceptable to the intended audience.
GOALS

We expect that after completing this module, you will be able to:

1. Assemble and analyze existing information and determine whether the information is adequate for the purposes for which it is needed. This will involve, among other things, knowing what information exists—both in and out of one's own organization, what are the different sources of different types of information, and how to tap these different sources of information.

2. Determine what kind of new information-gathering activity (research) should be undertaken to fill this gap if the information immediately available is inadequate.

3. Synthesize the data once the information on hand is adequate (either because it was adequate from the start or after the information-gathering activity has been completed). That is, you should be able to select, summarize, and organize the data for problem analysis, solution identification, or program development.

4. Present the data in a form understandable to and implementable by different audiences.

It all sounds very elaborate and complex, but it really is not. What we have done is express in somewhat technical language what we all do when we try to solve a problem or to make some decision. These are all routine information-handling activities that people engage in unconsciously, almost instinctively.

This module is an attempt to help you become more conscious about the information-handling activities you routinely engage in when you solve problems. By becoming more conscious about these activities, you will, we hope, become more sensitive to and appreciative of the information-handling skills that go into problem solving.

We hope that you will, in the future, practice these information-handling skills more consciously, for it is only through practice that we sharpen our skills at handling information and in this way, our skills at solving problems.

AUDIENCE FOR THE MODULE

This module is intended for three types of people: the administrator of the program, the in-house or affiliate researcher, and the information resource person. It is designed to be used with groups of all three categories of people and to stimulate interaction and evoke greater awareness by these persons of the advantages and benefits of interaction and coordination in effectively applying
information to problem solving. It defines the roles these three categories of persons play in promoting and improving the use of information for program activities and solutions to program problems.

STRUCTURE

The module consists of seven units. Unit I, the Introduction, discusses the basic concepts and premises underlying information use in problem solving and the development of the module. Unit II provides the reader with practice in identifying and analyzing program problems and their possible causes that might be overcome by IEC activities. This unit then relates information needed for identifying causes of the problems and for selecting appropriate and feasible alternatives for IEC activities to solve the problem.

In Unit III, the various sources for needed information are discussed. Unit exercises for finding appropriate sources include the concept of teamwork and pooling of resources to select the most appropriate information for application to problem solving. Unit IV provides practice in the application of information to a plan of action through development of a set of recommendations with justification for these recommendations based on information selected by the participant.

The information resource center's role in meeting the information needs of programs is covered in Unit V. The problem areas in transforming information and getting it used are discussed as well as the ways in which the information resource unit might handle these problem areas in carrying out its information service functions.

Unit VI presents the topic of making research more useful for solving program problems. The approach to research utilization in this unit is that it is a communication process encompassing the role relationships between the administrator/practitioner/consumer and the researcher/producer. The roles of different types of researchers—in-house, market, and academic—are also discussed. Other subject areas covered in this unit include where to go to get research; identifying available, useful research; replication of pilot projects; writing up research results for different audiences; dissemination of research results; and the role of the linker between the producer (researcher) and the consumer (administrator/practitioner) in the dissemination process.

OTHER MATERIALS

Units V and VI have appended materials which are composed of additional readings and examples of items related to the topics discussed in the two units.
A module manager's guide gives suggestions for the effective use and adaptation of the module. It elaborates on the concepts underlying the rationale for the module and defines terms as used within the context of the module. The key roles of administrator, researcher, and information resource person are further explained and the interaction of these roles as an integral part of the module is emphasized. The guide suggests possible modifications for some of the units and exercises and discusses the implications of adaptation for readings, the exercises, and the case study. The rationale for the given exercises is presented, as well as some of the experiences of the East-West Communication Institute in administering the module.

The case study of Limat in a separate volume gives the module participant a specific context in which to identify program problems, to define and analyze causes of the problems, and to relate the information needed in this process of problem identification and analysis. The case study also provides a common context for group participation and discussion exercises in Units II, III, IV, and VI.
UNIT I

INTRODUCTION
THREE INFORMATION-HANDLING ROLES

We are dealing with problem solving in an organizational situation and so we cannot treat problem solving as something done by an individual but as something done cooperatively by several individuals occupying positions within an organization. Within any organization, the problem-solving task is split up among several positions.

There is an executive responsible for carrying out some function or some program. Being responsible for the program, he or she sees to it that the program performance comes up to standard, and when it does not, he or she must find out why, identify different means by which performance can be brought back to standard, and decide which of these means to use. We will refer to this executive role as the role of administrator.

The administrators make decisions on the basis of information that they evaluate. Part of this information may be readily available and need only be retrieved; part may be unavailable and therefore has to be gathered. Administrators generally do not gather or generate this information themselves. Generally, they have some subordinates whose duties include the retrieval and gathering of information. Depending on the confidence the administrators have in these subordinates, they may give them a smaller or larger role in helping to evaluate the information on which they will base their decisions.

Aside from the administrator, we identify two other information-handling roles. There is the researcher, whose main function is not so much to gather information as it is to design ways to gather information—both on a regular basis (information needed to answer recurring questions, such as the level of program performance) and on special occasions (information needed to answer new or unforeseen questions, generally having to do with new problems or new programs).

Researchers may be in-house employees of the agency or they may be persons with whom the agency has contracted. The contract researcher may be associated with a commercial firm, such as a marketing research organization, or with an academic institution. Organizations with in-house researchers try as much as possible to have all their information-gathering activities done on an in-house basis. But when the in-house researcher cannot do the job, the organization will think of contracting someone from the outside. More often than not, in-house researchers are responsible for gathering the information needed on a continuous basis and outside researchers are retained to gather information needed for special purposes.

There is a lot of information that an organization receives routinely and this information is generally stored in some organized manner so that it can be retrieved quite easily. This is the responsibility of the information
resource person—a role that is filled to one extent or another by people as diverse as the staff assistant to an executive, an in-house researcher, a librarian, or a secretary.

As the administrator tries to solve a problem, he or she is assisted in the information-handling activities by the researcher and the information resource person. As the administrator analyzes the situation, defines the problem, identifies alternative solutions, and decides on the best one, the researcher and the information resource person assist the administrator in determining what information is needed, retrieve or gather the information needed, process the information (that is, select, summarize, and organize the information), present the information to the administrator in a form understandable to and implementable, and, where necessary, assist the administrator in evaluating the information.

On the other hand, it is not simply a matter of the researcher and the information resource person assisting the administrator. The administrator also assists the researcher and information resource person by being clear and precise about what information he/she needs and what it is needed for. The administrator who respects the judgment and advice of the researcher and information resource person and otherwise treats them as fellow professionals is more likely to receive the needed assistance.

Further, the researcher and the information resource person also assist each other. By keeping the researcher informed of what information is available and readily retrieveable within the organization, the information resource person spares the researcher the task of gathering data that, unknown to the researcher, is on hand. And the researcher, by apprising the information resource person of what data will be needed on a more continuous basis, can help the information resource person become more responsive to the administrator's and researcher's information needs.

The effective use of information for problem solving depends on the quality of interaction among the roles of administrator, researcher, and information resource person. Each role makes demands on the other two; in turn, each role supports (responds to the demands of) the other two roles.

When an administrator is deciding among alternative solutions to a problem and asks for relevant information, he/she is making demands on the information resource person to furnish him/her with the information relevant to the problem he/she is trying to solve as well as the solutions he/she is considering. Similarly, he/she is making demands on the researcher to help him/her interpret the data the information resource person provides. But for these demands to be met, the administrator has to be clear—-to both the information resource person and the researcher—about what he/she wants and why he/she wants it.
The researcher—if he/she is to help the administrator interpret the data—may need even more information than the information resource person has provided the administrator. The researcher may want to know more about the theoretical premises and the methodology underlying the technical information provided.

And, the information resource person would have to know specifically, what the administrator and the researcher want to know and why. And, in the longer range, the information resource person would have to know what are the recurrent problems on which the administrator or the researcher are likely to want information. This way, he or she can build up the type of information resource unit that will be able to respond quickly to information needs.

The three roles effectively mesh with each other when the holder of any one role can place him/herself in the respective situations of the other two. The researcher and the information resource person must know what problem the administrator is facing and the options open to him/her. The researcher and the administrator must know what goes into the process of information retrieval to have realistic expectations of what the information resource person can or cannot do. And the administrator and the information resource person must share enough of the researcher's orientation to understand why the researcher tends to demand more information than seems necessary, to be cautious about interpreting available information, and to insist on seemingly unnecessary evaluative mechanisms.

Of course, this empathy does not develop overnight. It develops over time, through a series of successful and unsuccessful "transactions." As the holders of these three positions get to know each other better, each is better able to respond to the others' respective demands, to criticize the others' respective responses to his/her demands, and later on to anticipate—and respond to—the others' demands. In short, each should almost instinctively ask, "What demands for information am I making on the others? Am I giving them enough information about what I want and why I want it to enable them to respond quickly, correctly, and efficiently?"

Finally, it is through the appreciation of others' actual and potential contribution—what they are doing and what they could be doing, under ideal circumstances—that one can rationally and efficiently allocate scarce resources to the rather neglected information retrieval and research functions.

THE PROBLEM-SOLVING-PROCESS

In the Overview, we said that problem solving is a process by which an individual: (a) analyzes a situation, (b) defines the problem and identifies its causes, (c) identifies alternative solutions, and (d) evaluates these alternative solutions.
When an individual says he has problems, he can be referring to anything that causes him some worry or dismay and this can cover a lot of ground. But when we talk of an organization having problems, we are generally referring to some difficulty the organization has in attaining its objectives.

Every organization exists to perform some task or mission and generally has developed a set of more or less routine practices and procedures meant to attain that objective. A newspaper organization, for instance, exists to gather, print, and distribute news, so it can hopefully make a profit, and it has procedures for gathering news (reporters covering specific beats, rewrite men and editors going over reporters' stories), printing (typesetting, make-up, printing), and distributing (subscriptions, street sales).

An organization has some more or less definite standards for deciding whether it is performing adequately or not, adequate performance referring not only to over-all performance (in the case of our newspaper organization, profits) but also to the performance of certain procedures that are expected to bring about the over-all objective (in the case of our newspaper organization, number of stories submitted by reporters, speed at which the typesetting is done, number of newspapers sold, etc.).

These standards are seldom set arbitrarily. On the contrary, these standards have generally developed in the context of the situation in which the organization is working. By and large, the situation includes the need or demand for the task performed by the organization, the portion of this need or demand served by other organizations, and the performance of these other organizations. To return to our newspaper example, the publisher cannot expect sales to exceed the number of people in the community he serves. His target circulation will depend on whether there are other newspapers competing with his in the same community. And he would be imprudent to expect each of his reporters to cover three beats if reporters on the competing papers each cover one.

It is more difficult to define standards of performance for agencies involved in social action and other activities that do not make profits. The manager of a business enterprise knows he is in trouble if he loses instead of makes money. On the other hand, the director of a family planning organization has a little more difficulty in defining successful performance: Does 30 family planning acceptors a month constitute success?

Let us go to the phases in the problem-solving process.

1. **Analyzing the situation.** Earlier, we spoke of organizations performing some task or mission in some setting. When we talk of analyzing the situation, we refer to the extent to which the organization has performed its task or mission and the factors that make the organization's task harder or easier. When we analyze
the situation, we are viewing the organization's performance in the context of the setting in which it works. This setting includes the people the agency is serving or is trying to reach, the different ways or channels through which the organization can provide these people with services or otherwise reach them. The setting also includes the other agencies whose work in the same setting may reinforce or oppose the work of the organization. Finally, the description of the extent to which the organization is performing its task is incomplete without some statement about the organization's own resources and capabilities for continuing or expanding the services it is providing.

It is not sufficient to have the data on task performance, people served, channels for services, and organizational capabilities. The data have to be organized in some way. More often than not, the data are organized in terms of the organization's strategy for performing its task. If, for instance, a family planning organization takes the position that it is only lack of access to pills, condoms, and IUDs that keeps people from accepting family planning, it will adopt a strategy that calls for the establishment all over the country of clinics where doctors and nurses will simply wait for women to come for pills and IUDs. Such an organization, when it analyzes the situation, will be interested in how many clinics have been established, the geographical dispersion of these clinics, and the number of acceptors per clinic. If, on the other hand, the organization believes that people must first be persuaded to accept family planning and therefore adopts a strategy of educating the people through print and broadcast messages, complemented by motivators who would go from house to house, then such an organization's analysis of the situation would also include data on the distribution of print materials, coverage of broadcast messages, number of house-to-house visits made, etc.

We would expect that much of these data would already be available within the organization, especially if it has been in operation for some time. In fact, much of these data should be gathered routinely by the organization.

2. Defining the problem and defining its causes. Earlier, we stated that when an organization is said to have problems, this generally means that the organization is having some difficulty in attaining its objectives. At this point, we can be a little more specific: When data coming back from the field indicates that the organization is not performing adequately, the leaders of the organization have to decide whether this indication of poor performance is a random, temporary phenomenon or whether it signifies that something has gone wrong somewhere and that unless corrective action is taken, performance will continue at this same lower level or may even drop further.

If the leaders of the organization feel that it is a random phenomenon, they are not going to do anything about it. They will wait and see what the next set of data indicates. If the next (and succeeding) sets of data indicate that performance has remained at an unacceptable level and may even be declining some
more, it becomes harder and harder to dismiss the performance gap as a random, temporary thing. If, therefore, the leaders of the organization decide that the data suggest that something is wrong somewhere, they will exert efforts to find out exactly what that "something" is, where it is, and what can be done to remedy the situation.

If the leaders of the organization decide that the data indicate a problem, then they have to determine its causes; they will have to determine whether the problem is due to poor implementation of the strategy or errors in the strategy itself.

a. The problem may be due to breakdowns in the implementation of the organization's strategy for performing its mission. Consider our example of a family planning organization that tries to persuade people to accept family planning through a system of print and broadcast media and face-to-face visits by motivators. A drop in the number of acceptors could be due to poor distribution of the propaganda materials, poor preparation of these materials, laziness, and incompetence on the part of the motivators, nurses, or doctors, or simply a shortage of pills and IUDs in the clinics themselves. To determine whether the problem is due to breakdowns in the implementation of the organization's strategy, the organization's leaders would have to go over the data that management people call management information, that is, data on the implementation of those routine procedures that, according to the strategy, should bring about the desired effects. If the leaders of the family planning organization find out that the drop in the number of acceptors for the quarter was accompanied (or perhaps, preceded by) a drop in the distribution of propaganda materials and a drop in the number of motivators' home visits, they may conclude that one or both of these factors were responsible for the drop in the number of acceptors. The solution would be obvious: They would call for tighter supervision of field operations to keep distribution of materials and motivators' home visits at a high level. When the problem is due to breakdowns in the implementation of the strategy, the solution generally involves little more than tighter supervision of operations so that these operations conform more closely to the strategy.

b. The problem may be due to errors in the strategy. Consider the situation where a check of the management information shows that all the routine procedures that should produce the desired effects were in fact implemented; nevertheless, performance has fallen down. Such a situation would suggest to the leaders of the organization that there is something wrong with the strategy itself, and so solving the problem would involve changes in the strategy. These changes could range from fairly minor ones to a complete revamping of the strategy. For instance, the leaders of
the organization could decide that a better way to achieve face-to-face persuasion would be to work through existing mothers' clubs rather than through face-to-face visits. Or, they could reason that it would be easier to persuade people to accept family planning if the persons who persuaded them to accept were neighbors who had accepted family planning. Having reasoned this way, they would then proceed to replace existing motivators with family planning acceptors, one for each neighborhood. Or, the leaders of the organization could reason that rational appeals do not work and decide to replace the entire strategy based on persuasion to a strategy based on incentives. When the problem is due to something wrong in the strategy, the solution involves changes in the strategy—changes that may range from alterations in the procedures the strategy calls for to the complete rejection of the strategy and the substitution of something different.

Quite often, leaders of the organization may take the position that they are trying to achieve too much with too little and so the solution is simply the infusion of more funds to enable them to do more using the strategy. Quite often too, they would be correct. Most service organizations could certainly use more money than they actually have. But in reality, the probability of getting large budgetary increases is low. And so, even if administrators are convinced that all they need is more money, they should be willing to ask themselves whether they could do much more with the same amount of resources if they changed their strategies into more efficient ones.

3. **Identifying alternative solutions.** Once the causes of the problems have been identified, a major step has been taken towards the identification of solutions. If the problem is due to a breakdown in the implementation of the strategy, then, closer supervision is called for, particularly for those steps that were not implemented well. If the problem is attributable to flaws within the strategy, then a review of the strategy is called for. This review can take place at different levels. The leaders of the organization can question the effectiveness of the entire strategy (persuasion versus incentives); they can retain the strategy but question the validity with which the strategy has been applied (Is a paraprofessional motivator more credible than a non-professional neighbor who has accepted family planning?); they can retain the strategy and the application of the strategy to the problem at hand but question the procedures (Is face-to-face persuasion on a one-to-one basis in a home visit situation better than a one-to-one persuasion in a mothers' club situation?). And at each level, there may be more than one alternative: At the strategy level, the leaders could decide among a persuasion strategy, an incentives strategy, a coercive strategy, and several other strategies combining persuasion, incentives, and coercion.

4. **Evaluating alternative solutions, deciding on the best one.** Unless there are fairly firm criteria for evaluating one solution as better than another, the task
of evaluation can develop into an acrimonious debate that does not solve anything. Unlike profit-making organizations whose criterion of success—profits—is generally accepted and is fairly easy to measure; a social action organization finds it difficult to evaluate alternative solutions because criteria for success or failure tend to be greater in number (and some criteria may conflict with others) and they are difficult to measure. About all that we can say in this respect is that it would be a gross oversimplification to use only measures of performance as the criteria for evaluation. Over and above measures of performance (such as number of acceptors per month and other more sophisticated measures of family planning clinic performance), administrators invariably have to consider financial, bureaucratic, political, and cultural realities. An administrator, for instance, may be fully convinced that an incentives-based strategy is the best, but realizing that the legislature will never approve such a program and even if it did, there would be no money for it, he will have to settle for a strategy less effective in his eyes but with a greater chance of approval by the legislature (or his own superiors in the organization).

IDENTIFYING APPROPRIATE SOURCES FOR NEEDED INFORMATION

The kind of information needed for problem solving will depend on the stage of the problem-solving process we are in. As we move from analyzing the situation to deciding on the best solution, we need different kinds of information and we may have to go to different sources of information for the data that we need.

Under ideal conditions, the data that we need for analyzing the situation and defining the problem should be available within the organization itself. When the organization developed its program, it presumably did so using data on the environment, the resources of the organization, and the task the organization has to perform. Presumably, these data have been continuously updated and upgraded by the organization itself.

In case of a new organization or a new program, however, we would not expect to find the needed information within the organization itself. But leaders of the organization should be able to obtain the information that they need: Once they decide exactly what kind of information they need, it should be fairly easy to determine which other agencies or organizations are likely to have the information needed. If, for instance, a new family planning organization wanted to start operations in a rural province, it could probably get the information it needed on the population of the province, the distribution of this population, and the extent to which the people have access to medical care by consulting officials in the provincial government, the census office, the Ministry of Health, etc. Organizations working on similar tasks in the same (or similar) environments would be likely sources for needed information. Organizations whose main functions include the gathering of data, for example, the census office, the national economic planning office, would also be likely sources.
As for data needed for deciding whether the problem (decline in organizational performance) is due to a breakdown in implementation or flaws in the strategy itself, again, the best source would be the organization itself, which presumably has been gathering management information on a regular basis.

We have a more difficult situation when the problem is attributed to flaws in the strategy. Here, we first have to determine how much of a change in the strategy is necessary to solve the problem: Is it the entire strategy, or the way that strategy has been applied, or the routine procedures that are to be changed?

Note that as we move from general strategy to routine procedures, we move from the general to the particular, from the abstract to the particular. This suggests the kind of information that we seek: If we are reviewing the general strategy, then we should seek more general, abstract information—the type of information that is more likely to be found in scientific and theoretical books and journals. If, for example, we were reviewing a strategy of persuasion with an eye to replacing it with a strategy of incentives, we would do well to review the scientific literature on knowledge, attitude, and behavior change brought about by incentives. On the other hand, if we were reviewing merely the routine procedures, then it would be more appropriate to seek the more concrete information found in case studies and project reports on the operations of other family planning organizations.

In cases where a review of the strategy is called for, we may not be able to find the needed information within the agency itself. The library of the organization (if it has one) may have few case studies and reports on other organizations, professional journals (whose articles, while still fairly general, deal with the application of theories to particular problems), and scientific journals and books. Consequently, the organization often has to seek the information that it needs from elsewhere. For the case studies and reports, it may have to ask other organizations; for the professional and scientific journals, it may have to check on various professional and academic libraries.

The task of seeking program-related information of this sort has been made easier in recent years by the establishment of mission-oriented libraries and information clearinghouses. That is, certain libraries and information centers have been set up for the purpose of collecting, abstracting, indexing, and making available information materials deemed relevant to a particular task or mission. There are a number of such clearinghouses for missions ranging from agriculture to national development. Also, there are discipline-oriented libraries and clearinghouses on subjects ranging from agriculture, medicine, and family planning to chemistry, physics, and psychology. The scope of these libraries and clearinghouses may be international, regional, or national. Some countries are luckier than others in that they may possess information resource units functioning as mission-oriented clearinghouses.
Unfortunately, not all of the information that we are likely to need is available within our own countries. While we should be familiar with the information sources within our own countries, we should keep in the backs of our minds the possibility that we may have to write to institutions in other countries—clearinghouses that cover the world, the region, or some country similar to ours—for the information that we need.

Fortunately, there are lists of the different clearinghouses available. Some of these lists also indicate what kinds of materials are available from these clearinghouses. Many of these clearinghouses from time to time publish lists of their holdings. By using these lists, we will find it easier to determine which clearinghouses we should communicate with, and which materials we should request from them (what kind of information and, perhaps better yet, which particular articles).

Finally, we look at this topic from a rather different angle. Let us recognize that different people, because they occupy different positions within the organization, because their experiences are different, and because they have been educated differently, are likely to come up with different ideas about what information is necessary to solve a given problem. Thus, before spending time and money in gathering additional information, it may be well for people within the organization to get together and agree on what information should be gathered. And as they discuss what should be gathered, they will invariably have in the back of their minds not only the type of information needed to enable them to make up their minds but also the type of information needed to convince other decision-makers (for example, higher-level administrators, legislators) that the decisions they have made have been the right ones. More often than people care to admit, information is sought not to discover the best solution to a problem but to justify and rationalize a decision made long beforehand.

**APPLYING INFORMATION IN PROBLEM SOLVING AND PROGRAM ACTIVITIES**

Here, we can merely reiterate what we said earlier. The application of program information to problem solving and program activities is a synthesis of information. When we apply information to solve a problem, we are doing nothing more than defining the problem and its causes, identifying the factors in the environment that tend to solve or aggravate the problem, and proposing a series of steps to solve the problem. In other words, we are describing how and why the problem developed and identifying the processes in the environment that have brought the problem to its present level. In proposing solutions, we have to show how the series of steps (process) we are proposing will minimize the problem. Often, the strategy that we propose may not attack the problem directly. Rather, it may work against some of the causes of the problem. Or, it may facilitate some of the processes already taking place within the environment that tend to minimize the problem.
It would be unrealistic for anyone to expect that the information retrieved from libraries and clearinghouses (even that material retrieved by skilled information resource persons) will give the administrator clear directions as to what he or she should do to solve the organization's problems. In fact, much of the material retrieved may at first appear useless and impracticable. This material can be made useful by skilled persons (who may be administrators, researchers, information resource persons, or other people on the organization's staff) who know how to generalize and extrapolate from the materials available.

Most of the scientific and professional articles available in libraries and clearinghouses explore or test more or less general theories and hypotheses. That is, they test for the existence of a relationship(s) between two or more variables, or measure the strength of the relationship(s). Because the writers of these articles want their findings to be as precise as possible, they tend to study the relationships among only a few variables at a time. The other variables are either held constant or allowed to vary randomly (and so, are hardly discussed in the articles). As a result, we may know with a great degree of confidence that two variables, for example, the expertness of the communicator and the communicator's success in persuading people, are related, but this relationship is qualified by the all-important phrase, everything else being equal. But in the real world, it is not true that everything else is equal. And so, the person who wants to apply this finding in the real world not only has to determine what expertness means in the real world (that is, what traits in the communicator would make his audience consider him an expert) but also how the other variables—which were treated as equal in the study but are not equal in the real world—are going to affect the relationship between communicator expertness and credibility. The question before us is, How does one draw valid implications for practice in a real concrete situation from the general findings of a scientific study?

It may not be very much easier to apply the findings of case studies and project reports. True, these case studies and project reports deal with concrete problems in particular environments and, therefore, they may not be written in the abstract language of the scientific report. On the other hand, these case studies and project reports, while accurate descriptions of what was done at some particular place or time, make no claim to being applicable to other situations, so there is no guarantee that a variable that may be important in the case study under consideration will be equally important in some other situation. The question before us is, How do we extrapolate from case studies and project reports dealing with other situations to our own situation?

About the only thing we can suggest about applying information from scientific articles and case studies to our own particular problem is to proceed intelligently, critically, and cautiously. The more confident we are that the problem we face is a specific instance of the general hypothesis explored by the scientific article, the more willing we should be to consider the implications of that scientific article for our problem. The more similar our situation is to the situation
described in the case study, the more willing we should be to consider that case study as a model to follow. But with greater dissimilarity, we should be more critical and cautious.

The application of information to a problem faced by an organization is not merely a question of deducing a particular course of action from a general principle. We wish we could say that the question of applying information to problems is by and large one of combining knowledge with logical and analogical skills. Unfortunately, we cannot even say this. Often, people have to act in the absence of necessary information. Often, action has to be taken on pressing problems without being able to wait until all the evidence is in. And so, we are forced to conclude that the application of information to problems involves not just the combination of knowledge with logical and analogical skills; the skill to weigh risks and the willingness to take these risks must complete the picture.

MEETING INFORMATION NEEDS THROUGH THE INFORMATION RESOURCE UNIT

One of the major reasons for the failure of many organizations to make full use of information for solving their problems is that they generally have not been very efficient in gathering, retrieving, and otherwise distributing the information that they are likely to need on a continuing basis. Even though many organizations gather information and receive information from other organizations, this information often does not reach all the people it was meant to reach. Furthermore, all too often, this information is misplaced and is not available when needed.

Forward-looking organizations make provision for the handling of information by assigning to one or more units the tasks of information-gathering, information retrieval, and internal information distribution.

It would do well for us to consider our own organizations and evaluate the extent to which they discharge the information-handling function. Some of the questions we might ask are:

1. To what extent does the information resource unit know what kind of information the organization needs on a continuous basis? To what extent does the staff of the information resource unit know which of the organization's staff members need what kinds of information? Does the information resource unit staff know how to determine these information needs?

2. What steps has the information resource unit staff taken to build up its collection of information? Does it know what information is available? Has it taken full advantage of all the opportunities needed to build the collection? Does it make an effort to screen out materials that are not useful or have become outdated?
3. To what extent has the information resource unit staff processed the materials in its collection so that staff members and other users can easily retrieve the material that they need?

4. To what extent has the information resource unit staff promoted the use of the information in its collection?

There are, of course, more specific questions that can be asked, but these will do for starters. Perhaps the most important thing to remember is that the information resource unit is not a mere depository of old publications but a growing collection of materials that is expected to be used (or is actually being used). The work that goes on in the information resource unit—acquisitions, indexing, abstracting, etc.—is not a set of rituals that are conducted because "all self-respecting information resource units do these things." It is a set of operations aimed at getting more people to use information more effectively. Unless this test is met, something is wrong with the information resource unit.

On the other hand, we should be equally sensitive to the fact that the effectiveness with which the information resource unit does its job will depend to a large extent on the support the organization gives it. Often, support is interpreted to mean funding, but funding is only one side of the coin. The other side of the coin is utilization. Obviously, the more the information resource unit is utilized, the more justification there is for giving it funds. But utilization includes more than borrowing and reading the materials in the collections. A good information resource unit is not merely a collection of materials. It is also a group of people trying to get the best materials available and doing their best to see that these materials are well used. The utilization of the information resource unit, therefore, also involves the acceptance of the information resource unit's staff members as fellow-professionals on the same team.

MAKING RESEARCH MORE USEFUL FOR PROBLEM SOLVING

Let us consider a situation where the organization is trying to solve a problem and, after having looked for information necessary for a solution, finds out that there is no information available (or what information has been located proves inadequate to justify a decision one way or the other). This is a situation where the organization is likely to commission a research study to gather the information needed.

Organizations that have taken this step are likely to report mixed results. Some organizations have been very pleased with the results. The complaints have varied from the accusation that the findings were so common-sensical that there
was no point in spending money to find out something so obvious to the charge that the findings were irrelevant and/or unintelligible.

It is true that much of the research conducted by academicians in a university setting may not have any action implications (because it was not planned to have such implications). It is also true—and regrettable—that much of the research commissioned by administrators to help them solve their problems proves to be "useless." While it is easy for the administrator to claim that the researcher either was incompetent or had acted deviously to get the agency to subsidize the researcher's hobby, a closer look suggests a more complex situation. Even in cases where the researcher is honestly trying to come up with answers to the administrator's questions, we find instances where the administrator finds the results of the research study to be useless.

This situation, it appears to us, stems from the failure (on the parts of both administrator and researcher) to consider the research process as having a strong communication component: The needs of the administrator have to be communicated well to the researcher; the researcher's findings have to be well communicated to the administrator.

Too often, administrators and researchers see their relationship as one where the administrator presents the researcher with a question, the researcher goes off and does the research, and then submits a technical report to the administrator. This pattern of work militates against the utilization of the research findings. The researcher, in designing the study with little consultation with the administrator and other staff members of the organization, may fail to take into account the unique characteristics of the situation, the informal relationships and procedures within the organization, the financial and bureaucratic constraints the organization works under, etc. By failing to take these and other factors into account, the researcher may well come up with an inadequate study design: The variables the researcher chooses for analysis may not be the variables that the administrator can alter or control and the range of policy alternatives as seen by the researcher may not be the range that actually exists. Moreover, the exclusion of the administrator from the research process—intended or not—cannot but lower his commitment to the research study and its results.

The situation is aggravated if the rest of the organization is not involved in the research. To the extent that the researcher's data-gathering activities may interfere with the work of other staff members, he is less likely to get their cooperation (in fact, they may even be suspicious of him) or acceptance of his findings.

We are simply trying to make this point: The more involved the prospective users of research are in the total research process, the greater the possibility that they will actually use the research findings.
So far, we have talked of researchers as if there were only one type of researcher. Actually, there are many types of researchers (depending on what criterion we use for classifying them). For our purpose, it would be useful to distinguish researchers in terms of their institutional base (which tends to dictate their interest). There are: (a) in-house researchers, who are based within the organization itself and who are more likely to be engaged in the day-to-day evaluation of performance as well as one-shot research projects on the organization's operations; (b) market researchers (based in commercial firms) who regularly survey the people in the community for media and marketing firms; (c) academic (university-based) researchers, whose major interests lie in testing scientific hypotheses.

This distinction among types of researchers, their base of operations, and their interests is useful because certain research problems are more appropriate to different kinds of researchers. An administrator faced with a problem whose solution necessitates a research project would do well to choose the type of researcher best suited for the job.

So far, we have discussed the issue of making research more useful for problem solving as if the major burden lay on the administrator. In fact, it is a burden shared by the researcher. Let us take a look at the researcher's responsibilities in this area.

First of all, the researcher has to satisfy himself/herself that a research project is really necessary. For all he/she knows, there may be other studies which, taken together and well interpreted, could provide some of the answers the administrator is looking for. Such a review of the scientific literature often involves the cooperation of the information resource person. A good review and synthesis of the research and technical literature will often provide answers. Even if it does not provide all the answers, it at least cuts down on the number of questions the research study has to answer. It also facilitates the design of the research study.

Second, the researcher should realize that the administrator is more interested in the specific rather than the general. Hence, the researcher (especially the academic researcher) should curb his interest in coming up with generalizations and patterns of relationships among variables. The academic researcher may be satisfied with a generalization about the average number of hours a day people spend listening to the radio. But the administrator who wants to air messages at a time and on a station so that he reaches the most number of people would also want to know which stations are listened to most and the times of the day during which most people are listening.

Third, in designing the research study, the researcher should focus on mutable (or malleable) variables, for example, variables that are under the control of the administrator. There is nothing so frustrating to the administrator as a
research study whose recommendations are unimplementable. There is little, for instance, that the administrator can do about a finding that women with a high need for achievement are more likely to accept family planning.

Fourth, the researcher should realize the importance of rapid results. The administrator wants information quickly, so the researcher generally does not have the luxury of taking all the time in the world. Part of this problem can be met by regularly providing the administrator with interim reports.

Finally, the researcher's reports should be geared to the different audiences that will read it. The researcher should realize that he is not writing a scientific paper to be published in some scientific journal but a technical report with action implications to be read by busy administrators who do not have the researcher's academic background. Hence, project reports should be brief, use as little jargon as possible, and contain concrete recommendations. To the extent that different kinds of people may read the report, different versions of the report--appropriate to each group--may have to be written. And the researcher should consider the possibility of using media other than the printed page for communicating the results of his findings.

CONCLUSION

We might say that the process of using information for problem solving is the process of transforming information so that it becomes "relevant." We have deliberately limited the use of the term "relevant" throughout this Introduction because the term has been used so ambiguously in the past. The word "relevant" has little meaning until we specify for whom and for what.

At this point, we are ready to specify. The use of information for problem solving involves the transformation of information so that it helps administrators make decisions that will enable them to solve the organization's problems, that is, raise the performance of the organization to certain desired standards.

There are many ways of making information relevant:

1. A set of scientific propositions is used as the basis for developing a cause-and-effect model of some social process. That is, we take some scientific conceptual scheme and its related hypotheses and use it to explain how and why a certain social process takes place. For instance, we can take the scientific literature on how knowledge, attitudes, and behavior are developed, maintained, or modified and come up with a description and explanation of how people can be persuaded to think, feel, or do certain things. Here, it is not a matter of selecting a few scientific articles. More often than not, this task involves a review and evaluation of the scientific findings on how some social process takes place. In effect, we are making a set of scientific propositions, relevant to some social process, of interest.
2. On the basis of this cause-and-effect model of a social process of interest, a strategy is developed to hasten or slow down this process. From the cause-and-effect model, we could infer that a strategy to persuade people to think, feel, or do certain things should aim at changing knowledge, then attitudes, and then behavior and, for each purpose should use different channels, for example, mass media for information, face-to-face communication for attitude and behavior change. The cause-and-effect model tells us which variables will affect others and why. The program implementer, however, cannot always manipulate the variables of interest directly. Often, he has to manipulate them indirectly through variables that are under his control. The development of a program strategy, therefore, calls for a review of the cause-and-effect model concentrating on the ways in which these variables should be manipulated to bring about the desired results. In this way, we are making a scientific cause-and-effect model relevant to some general objective. What results is a general strategy.

3. The strategy has to be applied to a particular subject or content area. The strategy is still quite general. It could be applied to a family planning program, an agricultural extension program, a political education program. We should therefore take the general strategy and modify it in terms of the unique characteristics of the content area. For instance, our persuasion strategy, if applied to family planning, should take into account the fact that in this area, couples, not individuals, make decisions. On the other hand, if we are to apply our persuasion strategy to promote credit unions, we have to realize that the decision to form such a union is made by a group of individuals. To modify the general strategy so that it takes into account the particular characteristics of the subject or content area of interest, we should know a lot about the content area of interest. But this does not mean that we have to start from scratch. Our job is easier if we review the strategies followed by other programs working within the same area of interest. Quite often, we use the communication strategies developed and implemented by other family planning programs as the starting point for the development of one of our own rather than developing one from scratch. When we make a general strategy relevant to a particular subject or content area, we are developing a program strategy.

4. The program strategy has to be applied to a particular situation. The program strategy has to be made specific to the environment in which it is to be applied. The program strategy—which is an ideal picture of what should be done—should be viewed in the context of the real world environment in which this strategy is to be implemented. Instead of talking of "mass media," we should now be able to specify which newspapers, radio stations, and television stations; instead of "credible sources," we should talk of teachers, village elders, or neighbors. Obviously, we have to take into account all that we know about the environment we will be working in. And it would also do well for us to consider the program strategies developed for and implemented in environments quite similar to our own. When we make the program strategy relevant to the situation, we are moving from an ideal strategy to one specifically tailored to what must
be done in practice in this particular situation. Here, what we have is a pro-
gram of action.

5. The program of action has to be broken down into more discrete
steps which, if implemented in the prescribed sequence, should bring about the
desired results. It is not sufficient to say that implementers of a family planning
information, education, and communication (IEC) program should "work through
opinion leaders." It may be necessary to enumerate the steps by which opinion
leaders are identified, recruited, and utilized within the IEC program. Involved
here are issues of implementation and we should review the operations of other
organizations with similar programs of action to find out the different ways in
which a given process has been broken down into discrete steps. When we make
the program of action relevant to implementation, we have an operations model.

6. The operations model should be modified to take into account the
capabilities of the implementing organization. Not all organizations have the
funds or personnel to carry out the series of steps recommended in the opera-
tions model. Certain compromises must be made. The organization may decide
to lower its targets (become more realistic), to keep its targets but modify the
operations model so that the prescribed series of steps are easier for it to imple-
ment, or to set later deadlines and use the additional time for further training or
recruitment of personnel, more fund-raising, etc. Here, the operations model
is matched against information about the organization. Here, we are making the
operations model relevant to the implementing organization.

We have tried to present in a logical manner the process of making infor-
mation relevant to action, but this logical sequence of steps is not necessarily
followed in the real world. If, for instance, the implementing organization does
not have very much funds, it would be more realistic to consider the capabilities
of the organization even before taking into account the characteristics of the envi-
ronment. That is, instead of developing a full-blown program of action and oper-
ations model and then considering the extent to which the organization can imple-
ment the operations model, it may be more prudent for an organization to consid-
er some general strategy and then decide, on the basis of its limited funds, to
implement only one small portion of the strategy (leaving the rest to other organ-
izations) or limit its operations to a small geographical area.

Further, in many instances, one does not really start with a set of sci-
entific propositions and develop some cause-and-effect model of some social pro-
cess. Very often, these cause-and-effect models already exist. And, there are
many instances of general strategies applied in other social programs that a pro-
gram developer may merely pick up and adapt for his particular subject area or
environment.

And so, we come full circle.
Although the use of information for problem solving is really one of the most natural things in the world in the sense that all of us use information when we solve problems, all of us could learn to use information more efficiently and effectively.

There are definite phases in the problem-solving process—the analysis of the situation, the definition of problem and the identification of its causes, the identification of alternative solutions, and the evaluation of these alternative solutions so as to choose the best one.

At each phase of the problem-solving process, we handle information in some way. We must identify the information that we need, evaluate the information we have on hand, retrieve or gather the information that we still need, process the information, and present the information in a manner comprehensible to the intended audience.

Processing the information is perhaps the most difficult of these tasks because it involves combining different types of information, emphasizing certain pieces of information and disregarding others, and coming up with a finished product "relevant" for certain people and certain purposes.

It is our hope that you will find this module "relevant."
UNIT II

IDENTIFYING MAJOR CAUSES OF PROBLEMS,
THEIR IEC IMPLICATIONS,
AND INFORMATION NEEDED TO SOLVE THEM
INTRODUCTION

Every family planning program, no matter in what stage of development, has major and minor problems which must be solved if the program is to move ahead. You, as a staff member, in cooperation with your colleagues, are in a position to contribute to the solutions of these problems, or at least provide information which would assist the policy-makers and administrators to make good decisions on how to solve the problems.

However, before you can act on a problem, you must recognize that a problem exists. You must be able to identify the problem and its implications. You must be able to define the problem clearly and articulate its implications for program activities, not only for clarification in your own mind, but also for your colleagues within and outside of the program who can help with the solution.

Problem solving and decision-making are based on information, even though the information may not always be articulated, correct, or complete. Nevertheless, the information element is there in the process of decision-making and problem solving. The probability of arriving at a good or best solution is greater if the solution is based on accurate, complete, and appropriate information.

But before using information to solve a problem or make a decision, you must know what information you need, be able to translate the problem into information needs, and be able to describe these needs to others who are in a position to provide you with relevant information.

OBJECTIVES OF UNIT II

In Unit II you will have practice in: (1) analyzing given program problems, and identifying and describing the possible causes of these problems that might be overcome by IEC (information, education, communication) activities; (2) stating the kind of information needed in order to select the most likely cause or causes of the problem; (3) identifying possible IEC activities to overcome the most likely cause or causes of the problem; (4) stating the kind of information needed to select the most appropriate and feasible alternative(s) from among these possible IEC activities.

You will also have practice in (5) identifying components of a selected IEC activity, and (6) stating the kind of information required on the components to develop a plan of action.

During the course of this practice, you will have made a conscious effort to seek information-based solutions to problems.
SECTION ONE: INFORMATION AND PROBLEMS:
THEIR CAUSES AND SOLUTIONS

The following is an example of a program problem, its causes and their implications for possible major IEC activities. Also described is the kind of information needed in order to identify the most likely cause or causes and to select the most appropriate and feasible activity to overcome the most likely cause or causes of the problem.

THE FAMILY PLANNING PROGRAM IN ZED: AN EXAMPLE

The family planning program in Zed has been in existence for six years. The agency which administers and implements the program is a semi-autonomous agency and has its own staff at central and regional offices and its own corps of fieldworkers. From time to time there has been some restructuring of the organization of the agency, and about one year ago agricultural extension workers were assigned to family planning motivational work in addition to their other extension duties. An equivalent number of agency fieldworkers was released, and the remaining were assigned to urban areas. The restructuring of fieldwork operations was an attempt by the government to integrate the family planning program with rural development.

In each of the first five years, the target for new acceptors has been reached and the program has progressed smoothly. The statistics on new acceptors for the past year, however, are not keeping pace with those of the previous years. The chairman of the Committee on Population and Family Planning in Zed has expressed concern about this decline and has asked the director of the family planning program to investigate the problem.

*1. What might be the causes of the problem of decline in new acceptors? The program has been in existence for six years. Perhaps the most easily motivated people have already been recruited and the program is now faced with the hard core of resisters. In the restructuring and reorganization of the agency, the motivators may have been deployed to recruit in inappropriate areas of the country. Perhaps there is less staff now to cover the regions with populations who are harder to recruit. Or, the capabilities of motivator/fieldworkers has changed, or the context in which they work may be responsible for the decline in new acceptors, etc.

*This and the following numbers in this example correspond to the numbered statements in the paragraphs above on "Objectives of Unit II."

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2. Some of the possible causes have been identified in 1. But what kind of information does the director need to identify the most likely cause or causes? Do survey figures indicate that those with favorable attitudes toward family planning have indeed already accepted family planning and practice contraception? What areas of the country had the greatest decline? What type of motivator/fieldworkers cover these areas? What kind of population must they attempt to motivate to accept family planning? Are the characteristics of the present fieldworkers significantly different from those working during the successful years of the program? Is there any specific new factor characterizing the motivators who perform less well than the others? Does the organizational and administrative context in which the new recruiters work create conflict between their agricultural and family planning responsibilities? Are the information and motivation campaigns directed to the appropriate audience and is the message content appropriate for this audience?

3. Assume that the new agricultural extension workers have been identified as the most likely cause of the decline in new acceptors, because the information collected indicates that most of the deficiencies focus on the agricultural extension workers' situation. What kind of possible IEC activities might be proposed to remedy the situation? Some possible activities are training to improve the family planning communication skills of the agricultural extension workers; identifying the appropriate intended audience and providing IEC support materials for the extension workers' activities; developing an information/motivation mass media campaign directed toward rural audiences.

4. The possible IEC activities that might be undertaken to overcome the problems related to the agricultural extension workers have been identified in 3 above. What kind of information is needed to determine which of these activities would be the most appropriate and feasible to carry out? Information on the adequacy of the extension workers' communication skills for motivating people to accept family planning, on whether the intended audience for family planning is the same audience with whom the extension worker is already in contact, on the availability and use of appropriate support materials for the intended audience, and on the mass media coverage in the rural area would all be needed.

5. and 6. Let us assume information collected in the previous step indicates that the most appropriate and feasible activity should focus on improving the extension workers' individual skills and the effectiveness of the extension system to facilitate the communication and motivation in family planning. What components of this activity and what information on these components must be considered in developing a training program? The following are examples of components (underlined) and the information needed on each:

- The extension worker. What is her/his background, previous training, education, other socioeconomic and attitudinal characteristics, general performance in extension work?
• The *audiences* or people whom the extension worker is attempting to reach. Who are they, what are their characteristics, how do they perceive the source of the family planning message (the extension worker)? Are the decreases in acceptors equally divided among the extension workers' areas?

• The *message*. Is it appropriate for the intended audience?

• The *support materials and reinforcing elements* for the extension worker's activities. What and who are they, and how can they give this support and reinforcement?

• The *institutional and organizational context* in which the extension workers function. What is the organizational structure? What is the incentive and motivation provided to the worker by the agency? What is the geographical coverage and workload required by the agency?

The entire process discussed in the above example is illustrated in Figure II-1.

Now READ Exercise II-1 in preparation for analyzing the case study of Limat. Then READ and ANALYZE the case study (separate volume). Be sure to read the "Guidelines for Use of This Case Study," on page 1 of the case study. Then DO Exercise II-1.
FIGURE II-1

Problem: Decrease in the number of acceptors

Possible causes

- Hard-core resistors
- Deployment of fieldworkers
- Agriculture extension workers
- Restructuring of agency

Information to determine most likely cause(s)

- Potential easy to recruit already acceptors
- What areas have greatest decline
- Characteristics of present fieldworkers compared to before
- Does organizational structure create conflict

Most likely cause: New agriculture extension worker

Possible IEC activities to overcome cause

- Training in communication
- Identify target audience & provide appropriate support materials
- Mass media campaign for rural audiences

Information to determine most feasible/appropriate activity

- Adequacy of extension worker's communication skills
- Intended audience is the same one worker is in contact with
- Appropriate support materials available to be used

Most appropriate activity: Training program in communication for worker

Components of activity

- Extension worker
- Audiences
- Message

Information needed on components

- Previous training, socioeconomic background, attitude toward family planning
- Characteristics perception of extension worker
- Content appropriateness for intended audience
EXERCISE II-1: APPLYING INFORMATION
to Problem Causes and Solutions

The chief of the Education and Information (E & I) Division has been presented with a program problem by the deputy director of Health Services for Maternal and Child Health and Family Planning, the head of Limat's family planning program. The chief of the E & I Division has been asked to analyze the problem and identify and describe the implications for major IEC alternative activities for solving the problem. The chief of E & I Division has asked you—his deputy administrator (A), the Information Resource Person (IRP), and the Researcher (R)—to examine the problem and to suggest major alternative IEC activities that might be carried out and contribute toward the solution of the problem.

We have selected the program problem that needs to be analyzed. It appears on a separate exercise sheet. Space is given on the sheet in which to write your responses to the four steps in the process of applying information to the problem causes and solutions.

Use the case study as the basis of your analysis and identification of causes of the problem and information needed to select IEC activities for solution of the problem. You should:

1. Identify and describe the possible cause or causes for the problem that might be overcome by IEC activities. If a cause does not have any implications for major IEC activities, do not list them and indicate "No IEC implications."

2. Identify and write down the kind of information needed to determine which is the most likely cause or causes of the problem.

3. Identify possible IEC activities that might help overcome the most likely cause or causes of the problem. To do this, you must make an assumption as to the most likely cause and state it.

4. Describe the kind of information needed to select the most appropriate and feasible alternative solution(s) to carry out.

Complete Exercise II-1 during the allotted time. If you have time, list any additional problems with major IEC implications that you identified while analyzing the case study. You may wish to refer back to "The Family Planning Program in Zed: An Example" in this unit while doing this exercise.
EXERCISE II-1 SHEET

Problem: The annual number of vasectomies has been declining year by year. Policy calls for vasectomy as the major focus in the program.

1. Possible cause(s):

2. Information needed to identify most likely cause(s):

3. Assumed most likely cause:
   Possible IEC activities:

4. Information needed to establish the priorities of activities:

(If you need more space, use the next page.)
EXERCISE II-1 SHEET

Other Problems Identified in the Case Study

(If you need more space, use the next page.)
QUESTIONS FOR GROUP DISCUSSION ON EXERCISE II-1

For each problem listed, the following questions should be discussed. For taking notes on the discussion, pages titled Notes on Discussion of Exercise II-1 have been provided.

1. What data or clues in the case study enabled you to identify the possible cause or causes of the problem?

2. Are the identified IEC activities major and what kind of impact would they have toward the solution of the problem?

3. If any of the given problems do not have any implications for major IEC activities, identify the areas of the program which do have major implications.

4. In what way, or how, would the identified information as needed help you to determine which activity should be carried out. Base your answer on the given facts in the Limat case study.
NOTES ON DISCUSSION OF EXERCISE II-1

Given Problem:
NOTES ON DISCUSSION OF EXERCISE II-1

Other problems identified in the case study:
SECTION TWO: INFORMATION AND PLANNING PROBLEM SOLUTIONS

READ Exercise II-2 carefully and then DO Exercise II-2.

EXERCISE II-2: IDENTIFYING COMPONENTS OF A SELECTED IEC ACTIVITY AND INFORMATION NEEDED ON THE COMPONENTS

The chief of the E & I Division has issued a directive to the staff to carry out a major mass media campaign to help solve the problem of continuing decline in the number of vasectomies over the past few years in Limat. A mass media campaign has been selected as the remedy for this problem. Identify and write down the components or aspects (audiences, messages, etc.) that must be considered in developing a plan of action. For each component listed, indicate what kind of information is needed for that component to develop this plan of action for the campaign.

Example:  Component  Kind of Information Needed

Existing media  Which media reach intended audience?

Wherever possible, base your answers on the information contained in the case study. You may wish to refer back to "The Family Planning Program in Zed: An Example" in this unit while doing this exercise.
## EXERCISE II-2 SHEET

**Selected IEC Activity:** Mass media campaign to increase vasectomy acceptors

<table>
<thead>
<tr>
<th>Component/Aspect/Variable</th>
<th>Kind of Information Needed on Component/Aspect/Variable</th>
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</thead>
<tbody>
<tr>
<td>1. Media (example of one component or aspect to be considered in developing plan of action). List other components to be considered in developing a plan of action.</td>
<td>1. a. What media are available? (Example of kind of information needed on media to develop a plan of action.) List other kinds of information needed on media to develop a plan.</td>
</tr>
<tr>
<td></td>
<td>b.</td>
</tr>
<tr>
<td></td>
<td>c.</td>
</tr>
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<td></td>
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<td>e.</td>
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<td>f.</td>
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<tr>
<td>2.</td>
<td>2. (List kind of information needed on Component 2 to develop a plan.)</td>
</tr>
<tr>
<td></td>
<td>a.</td>
</tr>
<tr>
<td></td>
<td>b.</td>
</tr>
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<td></td>
<td>c.</td>
</tr>
</tbody>
</table>

(If you need more space, use the next page.)
3. (List kind of information needed on Component 3 to develop a plan.)
   a. 
   b. 
   c. 
   d. 
   e. 
   f. 

4. (List kind of information needed on Component 4 to develop a plan.)
   a. 

(If you need more space, use the next page.)
b.

c.

d.

e.

f.

(If you need more space, use the next page.)
QUESTIONS FOR GROUP DISCUSSION ON EXERCISE II-2

For taking notes on the group discussion, pages for Notes on Discussion have been provided.

1. How does the objective (increase in vasectomies) of the activity (mass media campaign) relate to the components listed. For example, the selection of the media to be used should depend upon the extent to which the media penetrate the intended audiences of potential acceptors of vasectomy.

2. Explain why you need the kind of information on each component listed in Exercise II-2. For example, you need information on the attitudes of the intended audiences toward vasectomy and family planning in order to either counteract negative attitudes or reinforce positive ones in the message content.
SUMMARY

In Unit II, you have analyzed a given problem and identified the possible causes that have major IEC implications. You have described the kind of information needed to identify the most likely cause or causes of the problem. After having determined the most likely cause or causes, you have indicated the possible IEC activities that might help overcome the most likely cause or causes of the problem. You have then described the kind of information needed to select the most feasible and appropriate IEC activity for solving the problem. Having selected the appropriate IEC activity, you have identified the components that need to be considered to develop a plan of action and have indicated the kind of information needed on each component for the planning. Information needs have been the primary focus: Information is needed to make a decision; information is needed to carry out an activity that will help solve a problem.

Now that you know what information you need, where do you go for the needed information? What are the sources for the needed information? In Unit III we will discuss sources of information and approaches to identifying appropriate information sources and to obtaining appropriate information.
POSSIBLE ANSWERS FOR EXERCISE II-1:

Problem: The annual number of vasectomies has been declining year by year. Policy calls for vasectomy as the major focus in the program.

Possible causes:

Negative experience and complications of those who have had vasectomies; lack of pre-vasectomy counseling; incentive value may have declined; negative feedback to potential clients; fear of unknown; motivators/community leaders not well trained; message content not convincing, too general; religious factors.

Information needed to identify most likely causes:

1. What negative information was communicated by whom?
2. Level of knowledge of other family planning methods.
3. Value of incentive and perception of incentive.
4. Decision-making process of clients.
5. Perception of vasectomy by acceptors.
6. Potential acceptors and their perception of and attitudes toward vasectomy.
7. Side effects.
9. What are the communication channels and strategies used?

Assumed most likely causes:

1. Side effects, disadvantages.
2. Perceived inappropriate disadvantages.
3. Community leaders not adequately prepared to counteract negative feedback.

Possible IEC activities:

1. Campaign to counteract rumors.
2. Shift to another target audience.
3. Training in IEC for motivators.
4. Message content change.
Information needed to establish the priorities of activities:

1. What are the negative reports?
2. What was previous training of motivators/community leaders?
3. What was message content and reaction of audience to content?

Some other possible problems in the Limat program identifiable in the case study.

1. The level of practice of family planning is much lower than the level of positive attitudes toward the subject.

2. Women hesitate to come to public hospitals for abortion although abortions have been legal in Limat since 1972.

3. There are 150 less clinics in the urban areas than called for in the plans.

POSSIBLE ANSWERS TO EXERCISE II-2

<table>
<thead>
<tr>
<th>Components/Elements/Variables:</th>
<th>Kind of Information Needed:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variables:</strong></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>What's going on now?</td>
</tr>
<tr>
<td></td>
<td>How legitimate are the complaints?</td>
</tr>
<tr>
<td><strong>Media</strong></td>
<td>What media are available?</td>
</tr>
<tr>
<td></td>
<td>What media reach target audience?</td>
</tr>
<tr>
<td></td>
<td>What kind of program/format is most suitable?</td>
</tr>
<tr>
<td></td>
<td>What kind of mix should there be between interpersonal communication and mass media?</td>
</tr>
<tr>
<td></td>
<td>Who can be used in communication/mass media message?</td>
</tr>
<tr>
<td></td>
<td>What is the accessibility to the media?</td>
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<tr>
<td><strong>Audience</strong></td>
<td>Male -- eligible</td>
</tr>
<tr>
<td></td>
<td>Soon to be eligible</td>
</tr>
<tr>
<td></td>
<td>Wives -- eligible</td>
</tr>
<tr>
<td></td>
<td>Age and number of children</td>
</tr>
<tr>
<td></td>
<td>Rural versus urban</td>
</tr>
<tr>
<td></td>
<td>Pre- and post-vasectomy</td>
</tr>
</tbody>
</table>
Influentials
Community groups
Accessible to medical facilities
Caste groups

**Message**
What should be content to alleviate fears, counter rumors?
What kind of reaction was there to previous messages?

**Source**
What are the legitimate/respected sources for messages and information?

**Cost Factor**
Which media and other channels of information reach and penetrate the target audiences with greatest cost-benefit return?
What will be the cost for staff and materials?
Costs of the various media?

**Available Facilities and Other Resources**
What media facilities are available for the campaign?
What other community resources are available?
What other government sectors have facilities which might be used?

**Evaluation**
Are evaluation reports on similar vasectomy campaigns available?
What kind of evaluation was done on the initial campaign?
What were the results?
UNIT III

IDENTIFYING APPROPRIATE SOURCES
FOR NEEDED INFORMATION
INTRODUCTION

Unit II discussed the identification of information needs and the role of information in decision-making and problem solving. But to apply information, one must obtain the needed information. In this unit we are going to discuss the different sources and variety of information.

After completing this unit you will be able to: (1) identify a large number of sources of information that potentially can be applied to problem solving; (2) use several approaches in identifying appropriate sources of information; (3) select documents and materials which will probably contain the most appropriate and relevant information; and (4) convey and describe your information needs precisely and clearly to providers of information.

SECTION ONE: SOURCES OF INFORMATION AND THEIR USE

Institutions and agencies began organizing, processing, and making information and materials on population and family planning available only as recently as in the 1960s. Even so, a wealth of information and materials exists and is provided by a broad range of institutions, from sophisticated computerized operations to small units connected with local family planning agencies.

The variety of materials and information included in the collections of the different resource centers is numerous and still growing. Table III-1 (pp. 62-63) will give you an idea of the different kinds of resource centers and the wide variety of materials and information that they provide.

INFORMATION FROM AGENCIES IN OTHER SECTORS

An information source need not necessarily specialize in population or family planning information for it to be useful to your programs and projects. For example, you might need information on agricultural extension work in your country. Assume you are preparing a training program for agricultural extension workers who will be communicating family planning as part of their work. The family planning component is to be considered and incorporated, where appropriate, in the training program. You should have as much background information as possible on agricultural extension work.

Where do you look?

You would probably go to the information division of the Department or Ministry of Agriculture and Rural Development, or to a library or information center on agriculture and rural development, which may also have helpful information from other countries.
TABLE III-1. EXAMPLES OF INFORMATION SOURCES, TYPES OF

INFORMATION SOURCES

- Carolina Population Center, North Carolina
- Center for Migration Studies, Italy
- Chinese Center for International Training - Family Planning, Taichung, Taiwan
- Clearing House & Information Section, Population Division, ESCAP, Thailand
- Colombo Planning Bureau, Sri Lanka
- Demographic Institute, Djakarta, Indonesia
- Harvard Center for Population Studies, Harvard University, Massachusetts
- Institute of Population Problems, Ministry of Health and Welfare, Japan
- Institute of Population Studies, Chulalongkorn University, Thailand
- International Planned Parenthood Federation, England
- Iranian Documentation Centre
- Korean Institute for Family Planning
- National Institute of Community Development, India
- OECD, Development Center, France
- Planned Parenthood Federation of Korea
- Population Center, The Philippines
- Population Council, New York
- Population Information Program, George Washington University, Washington, D.C.
- UN Economic Commission for Africa Population Programme Centre, Ethiopia
- UNESCO
- Regional Office for Education in Asia
- Population Education, Thailand
MATERIALS AVAILABLE AND THE TOPICS COVERED BY THE MATERIALS

**TYPES OF MATERIALS**

- books
- journals
- newsletters
- research reports
- conference papers
- pamphlets
- summaries
- abstracts
- bibliographies
- documents
- films
- filmstrips
- posters
- slides
- flipcharts
- wall newspapers
- audio tapes
- video tapes
- transparencies
- charts

**Campaign Materials:**

- match boxes
- T-shirts
- fans
- calendars
- shopping bags
- postage stamps
- automobile stickers
- greeting cards
- games
- invitation cards

**TOPICS**

- acceptor characteristics
- birth control
- change agents
- communication
- cost benefit
- delivery systems
- demography
- educational materials
- evaluation
- extension education
- family planning education
- fertility behavior
- fieldworkers
- health care systems
- health education
- incentives
- industrial workers
- KAP studies
- literacy
- mass media
- maternal and child health
- midwives
- migration
- motivation
- nutrition
- oral contraceptives
- ovulation
- population education
- population growth
- postpartum services
- reproduction
- research methodology
- sex determination
- social change
- son preference
- sterilization
- survey methodology
- traditional media
- training
- voluntary workers
- youth
The following are examples of how information sources in other disciplines and subject areas can be used for population/family planning IEC program activities.

1. In a study project for developing an effective approach to teaching family planning in a rural Philippine setting, the staff turned to anthropological and agricultural information sources. As a result, the techniques and materials they created used comparisons with ideas that were familiar to and already valued by farm families. These materials also incorporated local beliefs, customs, and traditions.

2. An international agency mission team was sent to a Middle East country to review the activities of social institutions in education, health, and welfare services. The team was also charged with assessing the capacity of these institutions to contribute to the national family planning program. To conduct this review and to assess the potential for an integrated, multisector national program for family planning, the team needed to obtain information in a number of areas: legislation, available social services, occupational safety, health, social security, and workers’ education. These data were available from government agencies.

INTERNAL AND EXTERNAL SOURCES

Your own agency or institution, its units and staff are equally useful sources of information. In the course of administering programs, various kinds of data are collected and recorded, such as the number of acceptors, dropouts, and attitude surveys so that program progress can be monitored and managed and plans for future programs can be developed. This internal management information is crucial for program development, evaluation and problem solving. But information (beyond the internal management-type data) from external sources can be just as crucial and useful in problem solving or program development.

The following examples illustrate the use of existing information and materials from both internal and external sources for training, research, planning and production activities, and the resulting savings in time, energy, and money.

1. A regional population/family planning organization conducted a training workshop. Workshop proceedings were published in a report which included a chapter on the factors to be considered when planning a national training program for family planning. The organization makes this guide available for use by participants in the workshop but also to anyone else who might be planning a national training program. You, for instance, if such a program were made your responsibility, could begin planning immediately, applying the general
planning guidelines to your specific program and modifying them as necessary. The time-consuming basics applicable everywhere have been done for you.

2. To carry out accurately an IEC evaluation of a mass media program in an Asian country, the research people needed to know several things:
   a. The month and time of day the program was aired
   b. The content of the message
   c. How often it was aired
   d. The unit costs and total costs

This information, crucial for evaluation, was found systematically recorded and available from the agency producing the program.

3. The IEC official responsible for developing the design and message for a family planning postage stamp in Taiwan needed authoritative information for use in an important decision-making process. The major slogan at that time in Taiwan was "3-3-33" "Have up to three children, space each birth three years apart; stop having children when you are 33 years old." Based on research data indicating that four was the ideal number of children desired by most couples, the discussion focused on whether two or three children ought to be illustrated on the stamp. "If four is the ideal number for most couples, should you push for the closer three or go further to two?" Those advocating two cited the demographic need (derived from research)—to achieve a zero rate of population growth by the year 2030—meant bringing the net reproduction rate to one by 1978. You will note two pieces of research-supplied information: ideal family size and projected necessary family size to obtain zero population growth.

4. A communicator was asked by an African nation to produce a handbook as a training aid for fieldworkers. To make it as inclusive and valuable as possible, he borrowed examples of successful innovations and failures in agriculture and health from other sources. Since the main task of the fieldworkers is to reach rural families with information about agriculture, health, nutrition, family planning, and other aspects of family living, much important research had been done on the necessary basics. The first chapter of Reaching Rural Families in East Africa: A Handbook for the Fieldworker by Shawki M. Barghouti includes selected case studies from Angela Molnos' Cultural Source Materials for Population in East Africa. The case studies from the Molnos book are used in Chapter 1 to illustrate the communication of new ideas and practices and the factors affecting resistance or acceptance of them. One of the case studies analyzes reasons why a number of women do not go back to family planning clinics in a certain area in Kenya; another case study of an
innovation failure in agriculture is incorporated to illustrate the importance of adequate information in introducing new ideas and practices. These case studies enlarge and enrich the content of the book.

5. A research institution needed to review its communication activities in family planning for a five-year period. They had neglected to retain documents on their own activities and store the relevant reports, papers, etc. It had to turn to an external agency in order to complete its files so that the review of research activities could be done. Time, energy (and considerable money) were wasted.

6. The use of ideas transmitted across boundaries can be seen in the adoption by a number of countries of the "red triangle" symbol (which originated in India); the use of other family planning logos, many of them similar; the series of "pregnant" man posters, originally done in England and now appearing in seven--perhaps more--countries; the Walt Disney film strip and a resulting adaptation for the Philippines and other countries; and the use of the postage stamp for legitimizing the family planning message begun in Korea and subsequently used in many other countries. These examples are only a few from the many instances in which ideas have been borrowed and used by various countries and programs.

There is no limit to the variety of sources of information. These sources can include a range from directories, journals, newsletters, to records in offices, postage stamps, and replicas of logos. We sometimes forget that people are also information sources. Information sources are located in your office files, on book shelves, in computers, in your agency's information resource unit, and in other agencies within your country or in other countries.

Now, to become aware of how wide a range of information sources can be used to solve just one problem, let us do the following exercise.
SECTION TWO--EXERCISE III-1: IDENTIFYING POTENTIAL SOURCES OF NEEDED INFORMATION

Let us assume that the Planning and Strategy Committee for the IEC campaign to promote acceptance of vasectomy in your country has assigned you to identify potential sources of information that it needs to develop a plan of action. The Committee has provided you with a list of the components or aspects of the campaign and indicated the kind of information it needs on each component (Exercise III-1 Sheet). Write down on the exercise sheet any source that gives you the information or indicates where to go for the needed information. List as many different kinds of sources as you know about. In case the Committee forgot any important components or items of information needed, add them to the list and also indicate for each of them possible sources of appropriate information.
Activity: IEC Campaign to promote vasectomy in your country.

<table>
<thead>
<tr>
<th>Component</th>
<th>Information Needed</th>
<th>Sources of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audiences</td>
<td>Who are the primary/secondary audiences? Socio-cultural, educational, economic, demographic characteristics Psychological characteristics, values, attitudes, felt needs, readiness Media/communication habits and use Communication setting, include community setting Prior experience knowledge with family planning, vasectomy</td>
<td></td>
</tr>
<tr>
<td>Message</td>
<td>Content in relation to program objectives and intended audiences Approaches: technical information, persuasive, reinforcing, etc. Consistency with other program messages Appeal - ideological, participatory Timing and sequence of transmission Source of message Message form related to media use</td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>Available facilities and suitability of media for message Dissemination and delivery capabilities Single media or multi-media Selection of media 1) Characteristics of media 2) Credibility of media 3) Compatibility with message format Ownership</td>
<td></td>
</tr>
<tr>
<td>Support/Reinforcement</td>
<td>Local leaders, influentials, formal and informal, reference groups Social/political forces Support materials, incentive activities (contests) Family planning workers and following through services</td>
<td></td>
</tr>
<tr>
<td>Cost Factors</td>
<td>Media Staff Materials Local resources</td>
<td></td>
</tr>
<tr>
<td>On-going Evaluation of Activity</td>
<td>Methods of evaluation Application of on-going evaluation results to program in process</td>
<td></td>
</tr>
</tbody>
</table>

(If you need more space, use the next page.)
QUESTIONS FOR GROUP DISCUSSION ON EXERCISE III-1

1. How appropriate are the information sources that the group members cited?

2. What sources would probably have the most appropriate information?
NOTES ON DISCUSSION OF EXERCISE III-1

Activity: IEC Campaign to Promote Vasectomy in your Country

<table>
<thead>
<tr>
<th>Component</th>
<th>Information Needed</th>
<th>Sources of Information</th>
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</table>

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SECTION THREE: FINDING APPROPRIATE INFORMATION SOURCES

In this section, we are attempting to illustrate, through the example of the Handbook,* the various approaches to locating/finding the most appropriate external sources for the specific information which you need. The enormous volume of information relevant to population/family planning makes it impossible for anyone to sort through all of the information and select only what is needed. The Handbook illustrates one way by which information is organized so that the users of information can retrieve more directly only that portion which they need. This exercise also gives you an indication of the wide scope of topics in the field of population/family planning and the terms used to name these topics.

EXERCISE III-2: IDENTIFYING EXTERNAL SOURCES OF INFORMATION, USING THE HANDBOOK ON SOURCES OF INFORMATION ON POPULATION/FAMILY PLANNING

Exercise instructions. For the given component and the related needed information, which are on the exercise sheet, use the Handbook to identify the appropriate sources of the needed information. Write down all of the terms in the Handbook indexes that you use to find the source. Include even those you think of but do not find in the Handbook indexes. List the source or sources and indicate which source appears to be the most appropriate. Use the following exercise sheet for this exercise.

*The Handbook on Sources of Information on Population/Family Planning is available from the Clearinghouse and Information Section, Population Division, ESCAP, Sala Santitham, Bangkok-2, Thailand.
EXERCISE III-2 SHEET

Activity: Mass media campaign to promote vasectomy in your country

<table>
<thead>
<tr>
<th>Component</th>
<th>Information Needed on Elements of Messages</th>
<th>Index Term Used or Thought Of</th>
<th>Sources (Acronym)</th>
<th>Most Appropriate Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message</td>
<td>a. Content in relation to program objectives and intended audience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Approaches--technical information, persuasive reinforcing, etc.</td>
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</tr>
<tr>
<td></td>
<td>c. Consistency with other program messages</td>
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<tr>
<td></td>
<td>d. Appeals--ideological, participatory</td>
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<tr>
<td></td>
<td>e. Timing and sequence of transmission</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>f. Source of message</td>
<td></td>
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</tbody>
</table>

(If you need more space, use the next page.)
<table>
<thead>
<tr>
<th>Component</th>
<th>Information Needed on Elements of Messages</th>
<th>Index Term Used or Thought Of (Acronym)</th>
<th>Sources</th>
<th>Most Appropriate Source</th>
</tr>
</thead>
<tbody>
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QUESTIONS FOR GROUP DISCUSSION ON EXERCISE II-2

1. How appropriate are the index terms selected by members of the group for the needed information?

2. Explain why you selected as the most appropriate source the specific source indicated on the exercise sheet.

3. As a user of the Handbook, what do you consider to be the good features of the Handbook? The bad features?
NOTES ON DISCUSSION OF EXERCISE III-2
SECTION FOUR: TEAMWORK IN OBTAINING, PROVIDING, AND USING INFORMATION

You are staff members and colleagues within a program who should work as a team to plan, develop, and implement programs, and solve problems. As staff members of the program, you are also part of the internal information resource.

Functioning as a team, you can all contribute to the process of facilitating the obtaining, providing, and using of relevant, appropriate information for program problem solving and decision-making. Your knowledge of a wide range of information sources, of approaches for selecting appropriate sources, and your skill in describing and conveying information needs to providers of information will have an effect on your program. Greater knowledge and skill will decrease the time, energy, and costs and increase benefits of using information.

EXERCISE III-3: GIVING AND INTERPRETING INSTRUCTIONS ON INFORMATION NEEDS IN ORDER TO SELECT APPROPRIATE MATERIALS

A Subgroup. Write concise instructions on the following forms to the IRP and R persons on the kind of information you need on all of the components of the mass media campaign on increasing vasectomy acceptors. You need the information to develop a plan of action for the chief of the E & I Division of Limat family planning program. To refresh your memory of the components of this campaign and the information needed, refer back to Exercise II-2, p. 45.

When you have finished writing the instructions, give the appropriate instructions to the IRP and R persons respectively. Then examine the "List of Resource Materials" provided on the next pages and put an "X" next to the seven items that are most relevant to the kind of information you need for developing your plan of action under the heading "A Selection."

IRP and R Subgroups. Examine the "List of Resource Materials" provided on the next pages. Make a tentative selection of the seven items that you consider most relevant to the kind of information needed to develop a plan of action for a mass media vasectomy campaign for Limat. Put an "X" next to these seven documents on the "List of Resource Materials" in column IRP/R under the "Tentative" heading.
Now take A's instructions and revise your final selection of seven documents based on these instructions, and put an "X" under the "Final" heading.

Individuals in the A Subgroup may wish to work together as a group. The IRP and R Subgroups may wish to work together as one group.
Instructions to IRP from A (Insert carbon paper between this page and page 83 to make a copy for A.)

(For more space, reverse carbon and write on page 84.)
EXERCISE III-3 SHEET

Instructions to R from A  (Insert carbon paper between this page and page 87 to make a copy for A.)

(For more space, reverse carbon and write on page 88.)
EXERCISE III-3 SHEET

Instructions to R from A

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A's copy

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87
## List of Resource Materials

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| 1 Ahmad, Javed Sajjad  
Vasectomy folder: mailing study (a summary report).  
Research Section, Sweden-Pakistan Family Welfare Project,  
| This report summarizes the findings of a study undertaken by the Sweden-Pakistan Family Welfare Project relating to the effectiveness of mailing as a channel of communication for conveying a specific message about family planning to a target population. Some of the questions the study aimed to answer were: To what extent did the eligible persons on the mailing list receive the folder? To what extent did those who read the folder remember the contents? To what extent did the folder clarify rumors about vasectomy? Diagrams and tables are utilized in reporting the following findings, with respect to the above questions. The findings point to the importance, in a mailing program, of 1) an adequate mailing list; 2) adequate postal distribution; and 3) a vocabulary that is understood by the target population. |               |           |       |
| This report is a compendium of tables representing the following topics: Demographic Data; Literacy and Education; Housing; Medical Care Personnel and Facilities; Mass Media; Manpower; The Economy--An Overview; Agriculture; Livestock and Fisheries; Industry; Transportation's Future Economic Development; and Additional Vital Statistics. The latter deals with such factors as birth rates, infant mortality rates, fertility rates, marriage rates, and life expectancy rates; the other topics are self-explanatory. The dates vary by table, though the majority represent the 1960's. |               |           |       |
| 3 Gooch, Laurel F  
| The purpose of a survey undertaken by the Limat Census Department was to "determine the impact of the family planning scheme in the reproductive behavior of married women, the extent to which family planning is adopted, the consequent effect on population growth, and the extent to which different media of publicity have helped in popularizing the scheme." The women were asked if they were aware that pregnancy could be deliberately controlled; with what methods they were familiar; and, for the source of their information. |               |           |       |
| 4 Green, Lawrence W., et al.  
**EXERCISE III-3 SHEET**

**List of Resource Materials**

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Evaluates the relative effectiveness and efficiency of family planning programs directed at husbands only, at wives only, or at both, using data collected from an urban program in Dacca, Bangladesh. Research methodology, evaluation design, summary of findings, and implications for future family planning programs are discussed.

5 Institute for Survey Research

For the past two years Population Services International (PSI) has carried out a project to promote and encourage the use of condoms by young men from economically deprived groups in the U.S. The objectives of the project were three-fold: 1) to increase condom use; 2) to increase knowledge about condom contraception; 3) to find the most effective means of imparting contraceptive information. The project methodology involved a letter of explanation, a follow up telephone call, and a follow up letter-questionnaire—the respondents themselves were drawn from a list sample provided by PSI. In reporting the various results of the survey project, numerous tables are employed, reflecting such aspects as demographic placement, age, educational level, sexual relationship history, and frequency of intercourse. In general, the project proved to be quite successful in providing the sample subjects with substantial information regarding various aspects of contraception, and an increase was noted in the frequency of contraceptive use after the program's inception. The survey also recommended the use of the direct mail/mail order technique as an effective way to increase condom use.

6 Manoff, Richard K

The mass media are relatively recent innovations: newspapers and magazines are elitist media through which literate people communicate and until radio, there was no mass medium, i.e., radio made the total population a total audience. What is true of radio has become even more true with television. In terms of the number of people they can reach, mass media advertising techniques have important implications and value for family planning programs. The basic elements of advertising are described. Manoff includes a diagram charting the development of a media campaign in illustrating a set of strategies—media strategy, creative strategy, research strategy, promotion strategy—for the use of mass media in family planning programs.

Two principle weapons available to the family planning program are discussed: the mass media and the personnel who are attached to family planning centers and deal directly with the public. The mass media have been used to the fullest possible extent to create a receptive audience for the extension worker. The present paper outlines the second phase of a mass media directed family planning program; a diagnosis is presented, followed by program objectives and Phase Two strategy, which essentially involves the use of a slogan which specifies action to be taken by the individual, instead of presenting an appeal that requires the individual to feel deep concern for national benefit and then translate this into an action.

8 Marsick, Victoria J (ed.)

The Consultation in Bangkok attempted to study and assess progress achieved by the Thailand Adult Education Division of the Ministry of Elementary and Adult Education, the Philippine Rural Reconstruction Movement, and the Philippine Bureau of Public Schools, with regards to the adult literacy and family life planning programs initiated in those countries. Materials and methods were emphasized, such as written/audio-visual materials, teacher training, etc., and country teams reviewed or formulated programs with a view toward clarifying objectives. The present report summarizes the proceedings of the Consultation and highlights future program plans.

9 Mencher, Joan P

This paper focuses on two major variables in attempting to examine some aspects of social continuity and factors leading to social changes: 1) the role of caste, and 2) the social structuring of economic roles. Though the caste system itself is far from disappearing and plays a major role in people's lives, the data presented lead to the conclusion that within the sample village, it is becoming less and less meaningful to speak of the caste system as a rigid, hierarchical, tightly linked socio-economic system. Any hypotheses which attempt to relate caste structure and change must recognize the multi-factor character of such concepts as "rigid caste system," "Hindu orthodoxy," "cultural innovation," and "social change." For example, ritualistic and social aspects of caste behavior must be differentiated. Mencher examines the historical background of the sample village, places it in a larger regional matrix, and then compares the earlier situation with the present in providing evidence for the above mentioned conclusions. The author includes tables indicating the caste composition of the village in 1871 and 1963.
relations among the three major castes—in order of social rank: Brahmins, Nayakars, and Paraiyans—have not undergone significant economic change, probably due to the fact that 48% of the workers are owner-cultivators, as opposed to a situation of a large rural proletariat and a small group of wealthy landlords. Whatever change has occurred has been between castes close to one another in the social hierarchy. In short, the widespread notion of the unity of the Indian village is supported by certain external appearances which in actuality, conceal a great deal of internal variation in needs, goals, and attitudes, which become most relevant as the village faces change.

10 Mullen, Patricia and others
Planning a vasectomy education program for couples from survey data in Hayward, California. 1972. 27 p.

The paper reports the results of a survey of 387 male and female respondents in Hayward, California, of knowledge about and attitudes toward vasectomy. Community awareness proved to be quite high—90% had heard of vasectomy; it is also clear from the data that men considering vasectomy involve others in the decision and that there is open communication about the method between husbands and wives. There was little concern expressed, by either males or females, about possible effects on sex drive or sexual ability, though female respondents reported worries related to communication and trust between them and their husbands, such as a worry that the husband might later blame the wife if he regretted the operation. The data were collected on behalf of the Planned Parenthood/World Population affiliate for Alameda and San Francisco Counties to provide information useful in planning an education and service program.

11 Pandit, A
Rumors, apprehensions, and misconceptions on family planning programme and methods and how to counteract them. Dept. of Family Planning, Ministry of Health, New Delhi, 1970. 18 p.

This paper attempts to identify the nature and source of rumors surrounding the Family Planning Program in India, as well as to suggest methods on how to counteract them. In general rumors occur when there is a resistance to the behavioral change necessitated by any development program, and perhaps to a greater degree with family planning due to its distinctive and rather controversial nature. Rumor types are roughly organized under four headings: physiological, social, cultural, and political; program organizational; and psychological. With regards to the counteraction of rumors, three levels of action are cited: the local level, policy level, and research level—measures of action per se take the form of either/or preventative or curative measures. As the Family Planning Program in India depends on its voluntary acceptance by the people, mass education plays a vital role in forming a social atmosphere conducive to necessary behavioral changes. Pandit augments her paper proper with

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numerous appendices and tables related to the Family Planning Program in general.

12 Poffenberger, Thomas and Shirley B


Since studies have found the vasectomy to be a highly satisfactory method of controlling birth in India and the U.S., the authors feel that a comparison of some of these findings may be of value to persons working in fields related to population control. The comparisons made in the present paper are based largely upon samples from California and Gujarat State during the years 1960-1964, and are outlined in terms of the following factors: 1) primary motivation or desire to terminate fertility; 2) secondary motivation or desire to have a vasectomy; 3) interpersonal and institutional communication regarding vasectomy; 4) availability of the operation; 5) action or the point of the operation; 6) response of the individual to the operation; 7) feedback of the individual's feelings about the operation to the culture.

13 Pohlman, Edward


From a strictly research point of view, little is known as to why men or women practice or do not practice contraception effectively, or why people do or do not want children. There is a tendency to generate lists of motives without clear ideas of how various, separate, and discrete motives are interrelated or what the hierarchy is. In so far as males are concerned, it is, and will continue to be believed that men want to have babies partly to prove their sexual potency, virility, and adequacy. However, among young men, there appears to be a definite trend toward developing a better understanding of male-female interaction and a corresponding value system, though the majority remain in search of an identity that will accommodate themselves first and then womankind.

14 Rahaman, Faizur


Report of the survey on family planning knowledge, attitudes, and practices conducted by the West Pakistan Family Planning Association on a
random sampling of workers in 3 different industrial areas in West Pakistan (part of a joint study project conducted in East and West Pakistan) is given. A comparison of the results of the KAP survey data between East and West Pakistan by tables and conclusions is included.

15 Raina, B. L. and others
A study in family planning communication—Meerut District.
Central Family Planning Institute (CFPI) New Delhi, 1967. 82 p.
(CFPI Monograph Series-3)

Following a 1965 Grant from the Central Family Planning Institute, New Delhi, the CFPI assisted in implementing a family planning mass information program in Meerut District, emphasizing vasectomy operations, which would serve as a model for future such programs in other districts. Meerut was selected as two-thirds of its northern sector is rural in character while the southern portion is a rapidly growing industrial area from which important comparisons, data, and methodologies might emerge. The CFPI project concluded that: 1) a relatively modest amount spent on publicity purposes can have a sizeable effect on public knowledge about family planning; 2) a careful phasing of family publicity is necessary; 3) an effective family planning information program, using the Meerut model, can be mounted at the district level; 4) the information program should be closely tailored to the nature of family planning services available in the district, and various target groups; 5) of the various media, mass mailing, cinema slides, newspaper inserts, and information racks proved to be the most effective or potentially effective means of distributing contraceptive information; and 6) the distribution of condoms through commercial channels at subsidized rates can substantially increase the number of users.


In general Nigeria's family planning program has been thwarted by the resistance of men to contraceptive practices. As a follow up to the Family Planning Program Council's first "awareness" campaign of May 1972, a short follow-up campaign has been proposed, utilizing mass media and community education to create more positive attitudes among men as to the use of modern contraceptives. The mass media emphasis would be on radio, press, and film, while the community education program would work through men's organizations and societies. Attempts to measure positive attitude changes would be undertaken in the form of pre and post surveys and the program proper implemented by a specially organized committee working with advertising and funding agency representatives.

17 Soel, Veena
At a District Development Seminar, held in August 1970 in Ernakulam District (Kerala State, India), it was decided that family planning should be given the very highest priority in view of the problem of excess population growth and its impact on socio-economic development. Following this policy directive, a decision was made to hold a massive vasectomy camp in Ernakulam from Nov. 20 - Dec. 20, 1970, at which 15,005 vasectomies were performed, setting an all-India record. The success of this first camp prompted the organization of an even larger and more comprehensive family planning camp during July, 1971—this month was selected as the rainy season slackens employment while sterilization acceptance peaks. Termined The Family Planning Festival, this second effort witnessed 62,913 vasectomies and 505 tubectomies. As the magnitude of the camps' performance is a positive move in the direction of a national family planning program, the object of this present report is to lay the groundwork for such. One report per se is divided into eight chapters—which are further reduced by topic—and a conclusion: 1) summary; 2) Ernakulam District and the camps; 3) coverage and demographic impact of the camps—a comparative analysis; 4) acceptor characteristics—a comparative analysis; 5) acceptor characteristics—two-way classifications (rural-urban residence and religion); 6) categories of promoters and class motivated; 7) cost analysis; 8) unique features of the camps; and 9) conclusions. Numerous data tables are also employed.

Ernakulam District, on the western coast of India facing the Arabian Sea, is one of the most densely populated districts, is highly industrialized, and has a literacy rate of 65%, one of the highest in the country. A total of 38.4% of the District’s eligible couples with three or more children have been provided permanent contraceptive protection, and of the three major religious groups represented at the first camp—Hindu, Christian and Muslim—the Hindu acceptors tended to exceed their share in the total population. Briefly, the following characteristics of the camps help to explain their outstanding accomplishments: the widespread and effective involvement of community leadership, non-governmental agencies, and voluntary workers; the assumption of the managerial role by the District collector; the promotion of the camps as family planning festivals; and the massive organizational scale and central location of the camps. The camps have demonstrated that an innovative approach can, within a short period of time, produce substantial results with the mobilization of existing resources and some additional expenditure.

This report deals with the subject of vasectomy; the contents include information concerning physical contra indications; testicular function and male hormones, psychological effects and infection possibilities. A 262-source bibliography is also included. Briefly, vasectomy is a standard procedure for fertility control and is no longer in an
**EXERCISE III-3 SHEET**

**List of Resource Materials**

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experimental state: techniques include removing a portion of the vas and tying the ends; fulgurating the ends by electrocaritery; applying clips or staples; or inserting valves or other obstructive devices within the vas. Though temporary side effects such as bruising and swelling may occur following the operation, the overall complication rates for vasectomy are very low in comparison to other contraceptive methods.

19 Voran, Dallas

This paper suggests that in a country where the population growth is excessive, if employers are presented with the facts about the nature of population growth, and if they are given the opportunity to think through its long term ramifications, they will most likely conclude that the rate of population increase is of direct concern to them. This suggestion is based on two assumptions: a) that the successful entrepreneur views the future not only in terms of the next quarter or the next year, but also in the time frame of decades; and b) that a healthy national economy and a stable society are essential to his company's long-range welfare. Voran includes three "Attachments" (A, B, C) which deal with the respective topics of population growth, planning and implementing a program, and role of employer organizations. Briefly, actions taken by a company to promote family planning among employees fall into three main categories: policy formulation, education and motivation, and delivery of contraceptive services. Whatever program is designed should meet the common-sense criteria of feasibility, effectiveness, and efficiency, as well as incorporate a clear-cut plan for sustaining long-term support.

20 Wirama, I. G. N. and others
Family planning: vasectomy. University of Udayana, Bali, School of Public Health, University of Hawaii, Honolulu, 1975. 6 p. 28 slides. (slide narration)

This paper is in the form of narrative sequences meant to accompany slides concerning vasectomy procedure; the target audience is the rural, male population of Bali. Short and concise explanations are employed to explain the operation itself, follow up procedures and possible complications, and the post-operation benefits incurred, such as the release of the woman from sole responsibility as to contraception and the permanent nature of vasectomy.
QUESTIONS FOR GROUP DISCUSSION ON EXERCISE III-3

1. Based on the annotations from the "List of Resource Materials," and the information you need, justify your selections.

2. Are A's instructions to IRP and R clear? Are they specific? Do the instructions indicate that A's interpretation of information coincides with the interpretation of IRP and R?
SUMMARY

In Unit III we have identified and discussed a wide range of sources, internal and external, that provide information relevant to program problems and activities. We have experienced the ways in which information in the field of population/family planning is organized by using some of these information sources. You have seen some of the methods used by information centers to assist the user in locating relevant information and obtaining material more quickly and easily. You have had firsthand experience in writing instructions to your colleagues for obtaining needed information or in interpreting these instructions for selecting appropriate materials. You have selected from a list the materials that are possibly the most relevant for your information needs.

In the next phase of the module, you will have an opportunity to actually apply information in documents and materials to a practical problem—the development of a plan of action.
EXERCISE III-1

The following are some of the possible sources of information on the components of an IEC campaign to promote vasectomy: program administration sources; census, anthropological/sociological population studies centers, local government, education departments; KAP studies, survey data, sociocultural studies, content analysis studies; advertising agencies, marketing agencies, Departments of Information.
The following are examples of some of the index terms listed by persons who took the module.

**Activity:** Mass media campaign to promote vasectomy in your country

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<th>Index Term Used or Thought Of</th>
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<tr>
<td>Message</td>
<td>a. Content in relation to program objectives and intended audience</td>
<td>Vasectomy side effects, Religious and ethical aspects, Catholicism and family planning, Male reproductive biology, Male sterilization</td>
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<td>b. Approaches—technical information, persuasive reinforcing, etc.</td>
<td>Psychological aspects of fertility, Sexual beliefs, Behavior and family planning, Social-psychological aspects of sterilization, Communication in population/family planning, Audience identification</td>
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<td>c. Consistency with other program messages</td>
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<td>d. Appeals—ideological, participatory</td>
<td>Message development</td>
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<td>e. Timing and sequence of transmission</td>
<td>Message development, Rumors</td>
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<td></td>
<td>f. Source of message</td>
<td>Incentive (side effects)</td>
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</table>
EXERCISE III-3

The following items were selected by all of the subgroups as most relevant at the time the module was administered in 1975: 2, 11, 12, 15, and 18.
UNIT IV

APPLYING INFORMATION
IN PROBLEM SOLVING AND PROGRAM ACTIVITIES
INTRODUCTION

A great deal of information on population and family planning has been generated at a tremendous cost in energy, time, and money. This information is becoming increasingly available to persons who need it to make the best of possible program decisions, to solve program problems and to develop program action plans. It is now possible to gather all of the needed information from various sources. But, unless the information is applied in some way to the process of decision-making, problem solving, or planning, you will have wasted the energy, time, and money expended to identify needed information and its sources and to obtain the information. You will not have taken advantage of existing relevant information to arrive at a good decision or solution unless you use the information.

The following examples illustrate how existing research information was applied directly to subsequent IEC program activities.

- An Asian country program needed two posters—one on condoms and another on vasectomy—for an information and motivation campaign. Research results indicated that the condom is associated in people's minds with prostitutes and with prevention of venereal disease when visiting prostitutes. To counteract the negative prostitute association, the poster was designed to "domesticate" the condom. The poster shows a farmer's room with the mosquito-net covered bed, or mat, in the background. In the foreground is an opened condom packet near the lamp. The inset on the left-hand side at the bottom shows the foil-strip container and an extended condom. This picture shows that the condom can also be used at home for family planning purposes.

- Interviews with men in rural areas indicate that the greatest mental obstacle to their being vasectomized is the fear that their physical strength will decline following the operation. To allay this fear, a poster was designed showing a muscular man in a boat throwing a large fishnet. This poster attempts to convey to the audience that men who have been vasectomized still maintain their physical strength and ability to do heavy work. Thus, information resulting from research was used in the design of campaign materials.

- Information on media habits of a large segment of the potential mass audience was needed by the officials developing long-range media plans for the family planning motivation program of an East Asian country. Data gathered in the country revealed that audience exposure had changed considerably in the last five-year period, in that frequency of television exposure had increased substantially over that of radio. In addition, they reported that the most favorable
times for television viewing and radio listening respectively did not overlap, so that messages on each could be used to supplement and reinforce the other. Thus, the results of the research data substantially changed the long

INFORMATION ANALYSIS AND APPLICATION

In this unit you will analyze abstracts of materials that contain information relevant for your problem. You will identify specific information and apply it to a given problem, demonstrate how you integrate and use the specific information in problem solving, and specify new information that is required for the solution of the given problem.

EXERCISE IV-1: ANALYSIS OF ABSTRACTS OF MATERIALS AND APPLICATION OF RELEVANT INFORMATION TO PROBLEM SOLVING

Instructions for A: The head of the Family Planning Bureau of Limat (Deputy Director of Health Services for Maternal and Child Health and Family Planning) has requested that you submit to him major recommendations for a Plan of Action on the Mass Media Campaign to increase vasectomy acceptors in Limat. Write your recommendations on the Exercise IV-1 Sheets that follow. Analyze the "List of Resource Materials" and case study provided for this module. Document and support your recommendations with information based on the abstracts of at least seven of the documents and from the case study.

Instructions for IRP: The head of the E & I Division of the Family Planning Bureau of Limat requested that you submit to him your major recommendations for a Plan of Action on the Mass Media Campaign to increase vasectomy acceptors in Limat. Analyze the "List of Resource Materials" and the case study provided for the module. Document and support your recommendations with information based on the abstracts of at least seven of the documents and from the case study. Write your recommendations on the Exercise IV-1 Sheets that follow.
In Exercise III-3 in Unit III, A (the administrator) has given R (researcher) concise instructions on the kind of information that is required to develop a Plan of Action for a Mass Media Campaign to increase vasectomy acceptors. Bearing in mind the kind of information required by A, suggest possible new areas of research, or modification of existing research, needed to obtain additional information to be applied to the Plan of Action.

Instructions to R: The head of the E & I Division of the Family Planning Bureau of Limat requests that you submit to him recommendations for a Plan of Action on the Mass Media Campaign to increase vasectomy acceptors in Limat. Analyze the "List of Resource Materials" and the case study provided for this module. Document and support your recommendations with information from at least seven of the documents and from the case study. Write your recommendations on the Exercise IV-1 Sheets that follow.
EXERCISE IV-2: GROUP PLANNING AND DECISION-MAKING

Instructions to Subgroup A; Subgroup IRP; and Subgroup R:

Discuss among the members of your subgroup the recommendations and the information used to support the recommendations. Be prepared to justify your recommendations and position in the discussion session of the total group. A representative of your subgroup will present the recommendations of your subgroup and justify with supporting information these recommendations to a planning meeting on strategy in Exercise IV-3.
EXERCISE IV-3: PRESENTATION AND JUSTIFICATION OF RECOMMENDATIONS

A planning strategy meeting of the chiefs of E & I, the IRPs, and Rs has been called. The head of the Family Planning Bureau will chair the meeting. Each subgroup will present its recommendations and justification of these recommendations based on information from the abstracts of the "List of Resource Materials" and the case study.

Present your recommendations and arguments from the point of view of the role—A, IRP, R—in the discussion.
SUMMARY OF UNITS II, III, AND IV

In Units II and III of this module, you have examined given problems and identified the possible causes of the problems which have IEC implications. You then focused on the information needed to determine which was the most likely cause, and identified the possible IEC activities which might help overcome the cause and solve the problem. From among these possible IEC activities, you have described the kind of information needed in order to select the most appropriate and feasible activity. Given the most appropriate and feasible IEC activity to carry out, you have identified the components and information on the components which need to be considered in order to develop a plan of action.

You have become aware of the wide range of information which is needed in order to make decisions or solve problems. You have gained knowledge about (1) the variety of sources for this needed information; (2) the organization of information by information centers; (3) various approaches to obtaining needed and appropriate information on topics through the use of the index terms; (4) the formulation and interpretation of instructions on information needs; and (5) the selection of materials relevant to these needs.

The exercises and discussion in Unit IV have provided you with the opportunity to interpret and apply knowledge and information to a plan of action and to specify new areas of needed information to solve problems. You have used information to support and justify decisions. You have had to consider all of the important pertinent information (factors) in attempting to make good decisions and develop the best possible solution to a problem.

You have become aware of how information applied to decision-making, problem solving, and other program activities can result in more effective action with savings in time, energy, and money. You have learned that, for the best results, you should interact and cooperate with your colleagues in this process of information utilization.
UNIT V

MEETING INFORMATION NEEDS
THROUGH THE INFORMATION RESOURCE UNIT
INTRODUCTION

We have already seen how the three roles of administrator, researcher, and information resource person (IRP) can interact to identify a specific problem, gather pertinent information, and come up with a solution to the problem. In this unit, you will be examining more closely the on-going process of information gathering, transformation, and dissemination.

After completing this unit of the module, you will be able to identify some of the methods that can be used to plan, build, and implement an information resource unit that facilitates the achievement of program objectives.

BACKGROUND

In most well-established family planning programs there now exists some kind of library, documentation unit, or what we will call an information resource unit. The extent to which these units actually perform a pivotal function in the operations of their family planning program varies greatly. In too many instances, administrators have not recognized the value that already existing information, whether generated from within their own countries or from without, can have in the development and implementation of a family planning program. As a result, information, even that which reaches the program, is not utilized in any meaningful way.

The problems facing an IRP are many and complex. They range from technical processing, indexing, cataloging and classification, record-keeping, budgeting, organization, and staff training to long-range planning. Even though the focus of this module is on functions and problems immediately related to information transformation and utilization, it does not imply that the above-mentioned problems are less important or that they are not crucial factors in the successful accomplishment of the transformation and utilization processes. Quite the contrary. As Bates Buckner, director of the Technical Information Services of the Carolina Population Center, pointed out in a letter to the authors, there are two sides to the information equation: one is the dissemination of information to users and the other is the long and difficult process of building a base for the system that will allow for the acquisition, organization, and retrieval of the information to be thus transformed and disseminated. The importance of this "base building" process is typically underestimated by administrators and IRPs alike. It is this misunderstanding that leads to staffing information resource units with untrained and unqualified IRPs, to unrealistic space and budget allocations, and to the resulting downward spiral or poor performance and low expectations in the area of information services.
PROBLEM AREAS IN INFORMATION TRANSFORMATION
AND UTILIZATION*

1. Little assessment of audience needs. The basic communication edict to know one's audience is widely violated by information units. Naturally lip service is paid to the notion that one must orient the service to one's audience, but in practice there are almost no attempts to learn in a systematic fashion what program administrators and practitioners really want to know or need to know. Depending upon the nature of their own field experience, the effectiveness of their empathetic skills, and plain luck, the operators of information units are judging these needs with varying degrees of success.

2. Access to information is largely limited to program elites, scholars, and international agency personnel. While many people in Third World development programs would like more information than they are getting, others such as key national leaders, researchers, foreign advisors, and international agency personnel are suffering from the effects of the "information explosion." Meanwhile, large numbers of middle and lower level program staff are starving for technical information related to their work.

3. Little targeting of information. Often a "shotgun" approach is used by information resource units, showing again their disregard for user's needs. In other words, the same materials are sent to people with vastly different jobs at different levels of responsibility.

4. Little systematic feedback about information services. Almost no informational materials are ever pretested. Yet feedback is essential if an information resource unit is going to serve its users effectively.

5. Lack of effective promotion of information services. In many cases, information resource units do not provide users with information on which information services are available. Even large information agencies sometimes have no consolidated statement describing the services that are offered. The busy practitioner does not know where to turn for information.

6. No mechanisms for sending information on users' needs back to the producers of information. Even among those information units that are to a greater or lesser extent assessing the information needs of their users, this vital feedback is not being transmitted to the original producers of information, for example, researchers, nor is it being shared with other information...

*This list of problems was taken from a paper prepared by David Radel on Information Sharing: Issues and Problems, for the Technology Resource Information Acquisition and Dissemination (TRIAD) Planning Workshop, East-West Technology Institute, Honolulu, Hawaii, June 9-20, 1975.
agencies/units. Occasionally meetings are held to decide on research needs and priorities, but rarely, if ever, do information specialists play a role in this process.

7. Inadequate transformation of information. The inability of busy program managers to use great masses of information, usually written in the jargon of researchers, means that rather radical rewriting and summarizing needs to be done by information research persons. Another critical problem is the lack of translations of informational materials into the language of the users.

8. Dominance of scholarly approaches. The concepts used to organize information and the methods chosen to disseminate information—frequently journals and similar periodicals, are basically those used by academic researchers and university teachers. Frequently even publications that are intended to serve program managers have a tendency to become more "scholarly" with less "how-to-do-it" articles and useful case studies of administrative innovations.

9. Very weak relations between international/regional agencies and national/local information units. Formal ties between local information units that serve the needs of a single institution, province, or country, and regional or international information agencies are very limited.

10. Too little coordination among regional and international information agencies/units. There is relatively little coordination of information efforts within given fields let alone between fields. Yet the "information explosion" is rapidly forcing information people to reconsider the traditional procedures for information processing and dissemination.

SECTION ONE: ESTABLISHING AND OPERATING AN INFORMATION RESOURCE UNIT

INTRODUCTION

A good information resource unit does not just happen. It requires planning, like any other new or on-going program. Immediate and long-range goals for the unit must be established, based on analyses of user needs, and a detailed plan of action for implementing these goals must be developed. The plan must provide for continuing user assessments, processing and storage of documents, information transformation services, promotion of information and materials utilization, liaison with cooperating information resource units, staff training, and evaluation.

IRPs must practice what they preach to others—that good decision-making requires information. Before deciding on the types of information
processing system to use and what services to offer, the IRP should collect and read as much information as possible on the technical aspects of basic types of information processing systems as well as "how-to-do-it" information on innovations in the field of technical information services. To help prepare the plan, the information resource unit staff may want to bring in an outside expert. This may lend credibility to plans, an important consideration if substantial budget increases will be asked for.

Figure V-1 shows a model developed by Ronald Havelock for the Center for Research on Utilization of Scientific Knowledge (CRUSK) at the University of Michigan. You will see that it is essentially a communication model allowing for feedback from users to the information resource unit and from the information resource unit to the producers of information. Below is a list of the eleven functions shown on the diagram. They can be used as a checklist for an effective information resource unit.

FUNCTIONS OF AN INFORMATION RESOURCE UNIT

1. **Acquisition.** The starting point is to establish and then in time to expand mechanisms for acquiring various kinds of information and data. This should involve as many relevant materials sources as possible. This flow of information must be kept up throughout the life of the information unit since new knowledge is being constantly generated. Stress should also be placed on obtaining information as rapidly as possible since certain kinds of information lose their value with time.

2. **Screening.** Materials and information that make their way to information units are not always relevant to users' needs. Therefore, since processing and storage of information costs time and money, some type of screening process is needed to select relevant and reject irrelevant, useless information. In addition to relevance, other criteria might include quality and format, although the rejection of certain forms of material simply because they are difficult to process or store (for example, information in non-print form) should be discouraged.

3. **Processing.** To be able to identify materials when they are needed later, it is necessary to assign them some unique symbol as they are put into the collection. Subject descriptors or index terms should be assigned to each item in order that all of the information on a given topic can be readily found. Processing might also involve the writing of annotations to assist users in determining whether a given document is relevant to his or her needs.

4. **Storage.** Both the information itself (documents, etc.) as well as the information about information (catalogue cards, bibliographies, etc.) need to be stored in a way that permits users to get to them easily. To save space,
FIGURE V-1. ELEVEN KEY FUNCTIONS OF AN INFORMATION RESOURCE UNIT

For an explanation of the numbers, see the text.
Source: Havelock.
materials can be placed on microfiche or other microforms. It is also valuable to be able to copy documents.

5. **Transformation for users.** To make information more useful, an information resource unit can transform or change it in various ways: translating documents from one language to another, summarizing their contents, or preparing state-of-the-art papers. Information can also be packaged in different ways to increase its usefulness. For instance, individual documents, sets of documents, or summarized information can be put together in packages and sent to a specific group of users.

6. **User access.** Users must be able to make use of the information unit's services in person, by phone, or by mail easily. They must be able to get information by topic, by author or other source, by geographical descriptor, and by type of material.

7. **Dissemination.** Materials developed by the information research unit (for example, annotated lists of holdings) should be disseminated as widely as possible to its users. The services available through the unit need to be advertised and promoted through brochures. If resources permit, seminars and workshops with current or prospective users can be extremely useful, both as a means of promoting more intelligent use of the information services and also as a mechanism for getting feedback about the unit’s services.

8. **Assistance to users.** Users will need help in order to make the best use of the services offered. Guidance in how to find relevant information and in its application to problem solving are needed if information is to be fully used.

9. **Communication from users.** For the information unit to serve its users adequately, it must maintain free and open channels of communication with them. Among the ways of doing this are conducting surveys of user information needs, asking for reactions to information received, and obtaining opinions about the services themselves.

10. **Assessment of user needs.** The results of the information gathered from users (see 9 above) must be assessed and interpreted as they relate to the services of the information unit and possible changes in those services. Ideally, the future needs of users will also be taken into account by predicting the direction in which the organization's program seems to be moving.

11. **Feedback to researchers and other sources of knowledge.** A very important but nearly universally neglected function that an information unit can perform is to provide those producing new knowledge (for example, researchers) with guidelines for new or revised input. The information needs of the unit’s users can, for example, be conveyed by that unit to those who can produce the kind of information that is desired.
We will now examine certain of these functions, not necessarily in the same order, in more depth.

SECTION TWO: ASSESSMENT OF USERS' NEEDS

If the information needs of program administrators, practitioners, researchers, policy-makers, trainers, etc., are to be met, there must be a systematic program of information gathering, processing, transformation, and dissemination. To set up such a program, you must first determine what your users' needs are. To date, there has been very little done along these lines in population/family planning programs. Most family planning agencies have accumulated documents on a hit or miss basis with little attention given to tailoring information acquisition and services to fit the goals and objectives of the program being served.

In the early years of family planning program development (during the sixties), there was such a lack of information that what little existed was welcomed by everyone. Now this picture is changing. There are over 125 journals and newsletters in the field, and numerous conference reports, research studies, and other types of materials are being published and disseminated each year by international, regional, and national agencies and organizations, as well as by academic institutions. Yet, at the same time, a great deal of highly relevant information that is being generated is never disseminated at all or only to a very limited audience.

An imbalance exists in terms of those receiving information. The top program administrators complain of information overload, while practitioners below the top level in national family planning programs claim that they do not get enough information, or that it is too technical or out-of-date.

To correct these imbalances in the flow of information, the IRP must actively search for relevant information; serve as a screening agent for those who are being swamped by too much, often unneeded, information; and at the same time, see that appropriate information reaches those who need it. The key to serving the information needs of the total organization, from the national level down to the fieldworkers, is selectivity based on assessment of users' needs.

User studies are important because their results can be used to evaluate the existing information services (if any), to design new services, to forecast future needs, and to affect document selection policies and processes. Studies can show the way existing services and facilities are being used and even assess the impact of information on the decision-making process. User studies can also show what your users' other channels and sources of information are, for
INFORMATION UTILIZATION PROBLEMS

OVERLOAD

NOT ENOUGH

OUT-OF-DATE

TOO TECHNICAL
example, interaction with colleagues, attendance at conferences, and journals that they subscribe to on their own.

METHODS OF ASSESSING USER NEEDS

There are several methods that you can use to determine the information needs of your users. These include (1) informal but planned interaction with program staff and (2) the interview and questionnaire approach. The method or methods you select depends on the number and nature of your users; their proximity to you and the information resource unit; and the time, staff, and resources available to you to carry out a user study.

Method One: Informal Interaction with Program Administrators, Practitioners, and Researchers

Perhaps the least difficult and, under certain circumstances, the most effective method of finding out your users' information needs is through direct personal contact with them. You need to know what program activities and research projects are in progress. You also need to know what is being planned so you can anticipate information needs before they actually arise.

But how can the information resource person assess the information needs of those who are not located in or near the central organization? In these cases, the informal methods of needs assessment are not as easy to carry out. It may be difficult for a distant user to express his or her needs well in a letter. And the information resource person does not have the opportunity that face-to-face interaction provides to question and draw out information needs that may not be well defined in the user's own mind. One solution would be for the information resource person to visit district or field units as frequently as possible and to encourage those working at these levels to visit the information resource unit whenever they have an opportunity. Another would be through the questionnaire approach described below.

Much of the effectiveness of these less formal means of assessing user needs depends on the active support of administrators and researchers. They should see that the information resource person is involved in all phases of program development and implementation, and encourage other staff members to make use of the services, resources and expertise of the information resource person.
EXERCISE V-1: KEEPING INFORMED

What can be done so that the IRP keeps or is kept informed of programs, projects, and activities? Please list the informal/interactive ways that enable an IRP to keep informed of programs and activities.

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Method Two: The Interview and Questionnaire Approach

In 1974, a study was conducted by Lois Bradshaw entitled Distribution and Utilization of Periodical Technical Population Information in Southeast Asia.* Her study was based on the following hypotheses:

1. Much of the technical information in family planning periodicals does not meet the needs of family planning practitioners, due to irrelevant subject content, confusing format, or unappealing quality. It is due also to failure to identify information needs and to make continuing use of feedback to meet changing needs.

2. The present information distribution system results in information overload for some, a lack of information for others, and in information reaching the wrong users.

3. More efficient flow of population information can be achieved by the coordination of clearinghouses or information units that are either planned, being implemented or operating at the national, regional, and international levels.

In the Bradshaw study information was gathered from a selected sample of persons in major government and private population programs at the national, regional, and local levels in each of three Southeast Asian countries—Indonesia, Malaysia, and the Philippines. The people interviewed and who filled out the questionnaires were from among the following general program areas: policy/administration; clinical services; information, education, and communication; training; and research and evaluation. Although the study focused on the perceived usefulness of publications received from various sources, interesting findings were generated on the unmet needs for informational materials in general. For instance, it was found that at the national level, the need for management information was most often expressed; at the regional level, information on the interdisciplinary aspects of population was needed; and at the local level, "how-to-do-it" information was most desired (see Table V-1).

There were great differences in perceived needs among program areas: policy/administration respondents wanted management information; IEC respondents expressed the need for IEC-related materials, communication methodology, and information about the interdisciplinary aspects of population; research and evaluation respondents wanted research results, particularly case studies; clinical personnel cited contraceptive technology and family planning service delivery methodology (how-to-do-it); those involved in training activities wanted training-related materials. (Table V-2 gives the perceived needs of respondents by program area excluding policy/administration respondents, which are shown in Table V-1.)

*Dr. P. H. Dissertation, Tulane University, New Orleans.

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Table V-1. Perceived Information Needs in Order of Priority by Program Level

<table>
<thead>
<tr>
<th>National Level</th>
<th>Regional Level</th>
<th>Local Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Management (12)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1. Interdisciplinary Aspects of Pop. (6)</td>
<td>1. Methodology (How-to-do-it) (9)</td>
</tr>
<tr>
<td>- General (8)</td>
<td>- Relationship of Health &amp; F.P. (2)</td>
<td>- Family Planning Service</td>
</tr>
<tr>
<td>- Clinic Staffing (2)</td>
<td>- Economic development of F.P./pop. (2)</td>
<td>Delivery (8)</td>
</tr>
<tr>
<td>- Policy &amp; Decision-Making (1)</td>
<td>- Social Problems &amp; Pop. (1)</td>
<td>- evaluated (1)</td>
</tr>
<tr>
<td>2. Methodology (how-to-do-it) (7)</td>
<td>2. Birth Control Methods (4)</td>
<td>- Innovations (1)</td>
</tr>
<tr>
<td>- Research (3)</td>
<td>- Sterilization (2)</td>
<td>- General (2)</td>
</tr>
<tr>
<td>- Planning (3)</td>
<td>- Abortions (2)</td>
<td>- IEC (1)</td>
</tr>
<tr>
<td>- Training &amp; Tr. Materials Evaluation (1)</td>
<td>- Menstrual Regulation (1)</td>
<td></td>
</tr>
<tr>
<td>3. IEC (5)</td>
<td>3. IEC (3)</td>
<td>3. Research Results (4)</td>
</tr>
<tr>
<td>- Innovations (2)</td>
<td>- Innovations (1)</td>
<td></td>
</tr>
<tr>
<td>- Communications Theory (1)</td>
<td>- Audio-Visual Aids (1)</td>
<td></td>
</tr>
<tr>
<td>- Audio-Visual Aids (1)</td>
<td>- Population Education (1)</td>
<td></td>
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<tr>
<td>- Family Life Education (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Research Results (5)</td>
<td>4. Research Results (2)</td>
<td>4. Interdisciplinary Aspects of Pop. (1)</td>
</tr>
<tr>
<td>5. Interdisciplinary Aspects of Pop. (4)</td>
<td>- Non-specified (1)</td>
<td>- Relationship of Health &amp; F.P. (1)</td>
</tr>
<tr>
<td>- Pop. &amp; Development Planning</td>
<td>- Acceptor Characteristics &amp; Continuation Rates (1)</td>
<td></td>
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<tr>
<td>- Status of Women &amp; Population (1)</td>
<td>5. Demography (1)</td>
<td></td>
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<tr>
<td>- Legal Aspects of Population (1)</td>
<td>6. Seminar Findings (1)</td>
<td></td>
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<tr>
<td>6. Directories (2)</td>
<td></td>
<td></td>
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<tr>
<td>- On-going Research (1)</td>
<td></td>
<td></td>
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<tr>
<td>- Donor Agencies (1)</td>
<td></td>
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<tr>
<td>7. Training Materials (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Demography (1)</td>
<td></td>
<td></td>
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<tr>
<td>9. Seminar findings (1)</td>
<td></td>
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<tr>
<td>10. Rule of Voluntary Organizations (1)</td>
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</tbody>
</table>

*aNumber in parentheses denotes number of times mentioned.
Source: Bradshaw, p. 110.
Table V-2. Perceived Information Needs by Program Area

<table>
<thead>
<tr>
<th>IEC</th>
<th>Research Evaluation</th>
<th>Clinical Services</th>
<th>Training</th>
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<tr>
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<tr>
<td>IEC (4) a</td>
<td>Research Results (7)</td>
<td>Service Delivery Methodology (8)</td>
<td>Training (5)</td>
</tr>
<tr>
<td>- Approaches</td>
<td>- Case Studies</td>
<td>- Contraceptive Technology (5)</td>
<td>- Materials</td>
</tr>
<tr>
<td>- Communications</td>
<td>- Acceptor Char. &amp; Continuation rates</td>
<td></td>
<td>- Demographic books</td>
</tr>
<tr>
<td>Theory</td>
<td>Research Methodology (1)</td>
<td></td>
<td>and Journals</td>
</tr>
<tr>
<td>- Family Life Ed.</td>
<td>Directory of on-going Research (1)</td>
<td></td>
<td>- Audio-Visual Aids</td>
</tr>
<tr>
<td>Methodology (3)</td>
<td>Clinic Staffing (1)</td>
<td></td>
<td>- Evaluation of Training</td>
</tr>
<tr>
<td>- Planning</td>
<td>Role of Voluntary Org. (1)</td>
<td></td>
<td>and Training Materials</td>
</tr>
<tr>
<td>- F.P. Program Eval.</td>
<td></td>
<td></td>
<td>Innovations</td>
</tr>
<tr>
<td>- Communications Evaluation</td>
<td></td>
<td></td>
<td>- Technological</td>
</tr>
<tr>
<td>Interdisciplinary (3)</td>
<td></td>
<td></td>
<td>- F.P. Program</td>
</tr>
<tr>
<td>Aspects of Evaluation</td>
<td></td>
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<td></td>
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<tr>
<td>- Relationship of Health and F.P.</td>
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<td></td>
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<tr>
<td>- Social Problems and Pop.</td>
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<tr>
<td>- Religion and F.P.</td>
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<td></td>
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<tr>
<td>Management (2)</td>
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<td></td>
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<tr>
<td>Research Results (1)</td>
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<td>Seminar Findings (1)</td>
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<tr>
<td>Training Materials (1)</td>
<td></td>
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</tbody>
</table>

aNumbers in parentheses indicate number respondents citing

Source: Bradshaw, p. 112.
EXERCISE V-2: MAKING UP A QUESTIONNAIRE ON INFORMATION NEEDS

A sample questionnaire for assessing user needs begins on p. 171. Before looking at it, please make up a list of questions that you would include on a user needs questionnaire for your own organization. Use the space provided below and on the next page.
HOW TO USE THE INFORMATION
YOU HAVE GATHERED ON USER NEEDS

There are several ways to use the information that has been gathered on user needs.

1. **For planning information services.** Once you have concluded your user needs assessment, you should be able to draw some conclusions as to the overall information needs of the organization as well as those of individual users or categories of users. You should share with the members of the staff the results of the survey, as well as their implications, as you see them, for acquisition policies. At the same time, a plan of action that outlines the kinds of services the information resource unit staff is able or, with sufficient support, would be able to offer in light of these expressed information needs should be developed. Such a plan can be an effective tool for strengthening the hand of the IRP at budget time.

2. **For developing individualized or tailored information services.** The questionnaires that have been filled out should be used to develop user profiles of key users or categories of users. The profile may include the names of journals that they want routed to them, the journals that they subscribe to on their own, the subjects they are most interested in, the types of projects and programs that might be going on in other countries that they consider relevant to their own projects, etc. As you get to know your staff through continuing interaction, you will not need to refer to their user profiles. But for those staff members who seem reluctant to use the information resource unit's services for one reason or another, for new staff members, or for those with whom there is little opportunity for personal contact, the user profiles are an effective tool. If for no other reason, by working with a potential user in the development of a profile, you are able to demonstrate your interest in filling his or her information needs.

3. **For feedback to researchers and other sources of knowledge.** One of the important responsibilities of the IRP is to serve as a two-way linker between information producers and users. You should communicate the results of your user assessment findings as widely as possible to researchers and other sources that generate program-related data both within your own country and outside of it. To date, very few, if any, information resource units are assuming this function, which is vital to the success of the research utilization process.
SECTION THREE: COLLECTION BUILDING

ACQUISITION OF INFORMATION AND MATERIALS

Based on the findings of your assessment of users' needs, you, in close consultation with key program administrators and researchers, should be able to draw some conclusions as to the kind of information that should be collected by the information resource unit and the kinds of information services that should be offered to the users. In acquisitions, the aim is to build a collection of materials that will be relevant to current and future information needs, changing in its subject scope and emphasis as information demands change.

In too many cases, the information resource units in population/family planning organizations play a passive role in building their collections of materials. They are on the mailing lists of many international and regional publications programs and are the recipients of information that may or may not be relevant to their users' needs. Or, they wait for administrators or researchers to request documents as they read or hear about them. However, to have a really superior information resource unit you must aggressively collect materials and data from a variety of sources, including your own family planning program.

USE OF ACQUISITIONS LISTS

One effective means of identifying materials of interest to your users is through the scanning of acquisitions lists put out by libraries and other information resource units in the field of population and family planning and related fields. These lists, which are often free, are often good sources of information about new research and program materials. Acquisitions lists can also be used to alert your users to new materials in the field, thereby becoming a kind of "current awareness" service. Almost all population libraries, clearing-houses, and information resource units issue such listings in some form. A few are annotated or include abstracts, which greatly increase their value. These lists should be circulated to staff after you have made your initial selection based on your knowledge of user needs. Staff should be encouraged to make suggestions for additional selections (those you have already ordered should be marked) and to indicate those that they are interested in seeing as soon as they arrive.

Other useful sources for identifying relevant documents are journals, research reports, conference proceedings, and other materials that include reviews, subject bibliographies, and lists of new publications.
ACQUIRING INFORMATION FROM USERS

Usually when one thinks of acquisitions one thinks of gathering materials, published or unpublished, from outside agencies and organizations. A lot of very valuable information is probably being produced within your own program and related social and economic development programs within your country. However, it is usually difficult to get this information from researchers, evaluators, administrators, and practitioners. There is no effective mechanism to uncover such information, to collect it from widely scattered sources, and to process it for users. You must conduct a continuing campaign to get your users to send the information they have produced to the information resource unit and you must devise ways for handling such miscellaneous information as rosters of persons, project descriptions, unpublished KAP data, trip reports by staff members, materials staff have collected at workshops, samples of IEC campaign materials, training aids, etc.

SCREENING INFORMATION AND MATERIALS

Not everything your information resource unit receives or even orders, will be relevant to your users' needs. Incoming materials must be screened for their usefulness in terms of its subject, clarity, and relevancy. The old saying, "garbage in, garbage out" must be kept in mind. Selectivity is necessary if your users are to be served well. It is far more satisfying to users to get ten good highly relevant documents, than 100 documents that they must spend their time going through to find those ten useful ones. However, as you screen incoming materials, it is a good idea to keep in mind that documents that are not suited to your users' current needs might be very useful to other information units. Hopefully, you would also have access to them if they were needed at a later date.

The other side of screening is "weeding" or the removal of irrelevant, redundant, and outdated information from your collection. This should be a continuing process.

SECTION FOUR: TRANSFORMATION OF INFORMATION FOR USERS

Information resource unit staff must change--transform--research and other materials so as to maximize their value to the various users in the organization or served by the organization. They must then transmit information so that it reaches all those needing it. According to Havelock and Lingwood at the Center for Research on Utilization of Scientific Knowledge (CRUSK), the agency must help people use the knowledge by changing it into understandable
and interesting form for the user and delivering it to the user. Primary research data are too long and wordy, too specialized and technical and filled with statistics, and are usually written for other researchers. There are many ways to change this knowledge into more usable forms—condensing, repackaging, simplifying, summarizing, etc. Reaching different audiences requires different types of forms.*

In the Bradshaw study, respondents indicated that how the information and material is presented has a great effect on whether it is read or not. Over half reported not only a preference for short articles, but actual rejection of long articles as too time consuming. Long documents were either postponed for home reading or put aside until needed. "Almost all those who expressed a need for research findings preferred abstracts or summaries to the full reports." After reading the abstracts or summaries, users can decide which particular reports they want to read in their entirety.

There are many ways that information can be packaged, tailored, and then targeted for specific users, given the necessary staff and money. These include abstracts and extracts, "headliners," summaries of selected projects that spell out implications for users, state-of-the-art papers, magazines, or newsletters designed as transformation devices, contents pages of journals, bibliographies, etc. In reality, since most information resource units do not have the staff or budget to offer all possible services, decisions must be made as to which ones to offer in light of program objectives and users needs.

ABSTRACTS, ANNOTATIONS, SUMMARIES, AND EXTRACTS

An abstract is a summary of a publication plus bibliographic description (author, title, publisher, date, and length). An annotation is a shorter description, usually only a few sentences. An informative abstract should be factual rather than critical and specific rather than general. It should include information about the following: (1) the scope and purpose of the research, (2) methods and types of treatment, (3) results obtained, (4) conclusions of results as the author sees it, (5) specialized content (tables, charts, bibliographies, etc.).

Abstracts (if they are well-written) are extremely valuable to your users. However, not many information resource units are sufficiently well staffed or funded to carry out a substantial abstracting service. There are

ways of overcoming these limitations to some extent. Some of the acquisitions lists mentioned in the previous section contain abstracts that can be used. There is also a growing trend of including abstracts in research reports, and research contracts often require that an abstract be written. The extent to which you wish to rely on abstracts prepared by the author or by another information resource unit depends on the needs of your users and your resources. You may take a middle course--do some and use some. For instance, you may identify, or an administrator researcher may identify, a document that contains information of special interest to the program. In this case, you may want to do your own abstract, highlighting information that is of particular relevance to your users.

**Summaries** are longer than abstracts, usually several pages in length. They provide in-depth analyses of methods used and data gathered. They also go into detail on final conclusions and recommendations, if any. For most users, a summary provides all of the information needed on a specific research study or project. Only those who need very detailed information on the project will want to see the original document. Summaries may be prepared by members of the information resource unit staff or by members of the program's research staff.

**Extracts** (the lifting or "extracting" of certain portions of a document) can be used as an alternative to abstracts or summaries. They are usually easier to do and less time consuming. The Bradshaw study reported that over 90 percent of the reports analyzed included a summary of the research findings, while half contained both a summary and recommendations. In some cases, therefore, an extract could be made by simply using the sections of a document that give the purpose of the study (usually one of the opening paragraphs), the conclusions, and the recommendations for program action (usually found at the end of a document).

Tailoring abstracts, summaries, or extracts to meet the needs of different types of users is highly desirable but not always possible. Administrators are most interested in the management implications of research or program reports (how a project was planned and implemented, its political and public acceptability, administrative feasibility, economic implication, and apparent effectiveness); researchers are concerned more with the research design and methodology; and practitioners want basic "how-to-do-it" information. An information resource unit might decide to tailor its information transformation services to meet these different audiences in the following way: one type of abstract or extract will be prepared for administrators and another type for researchers; for practitioners in the field, two-page summaries of selected projects that spell out implications for these users will be prepared; and for policy-makers and leaders, reviews of documents that highlight policy implications and contain information useful in preparing speeches, news releases and budget presentations, etc. will be written.
HEADLINERS

These are usually one- to four-page publications that are designed to alert administrators and practitioners to current and upcoming developments in the population/family planning field including significant research findings, innovative projects, upcoming conferences and workshops, and new materials such as films, slides, training aids, etc.

BIBLIOGRAPHIES

Bibliographies are lists of documents with common characteristics. For our users, we are most concerned with subject-oriented, annotated bibliographies. The IRP staff may produce them at the request of program staff or on their own initiative for frequently requested information or for upcoming projects and programs. Bibliographies produced by other information resource units should also be acquired for your users.

STATE-OF-THE-ART PAPERS OR REVIEWS OF THE LITERATURE

Another type of information transformation device is the state-of-the-art paper. These review a number of studies in a particular area of knowledge. This becomes more and more important as the size of a knowledge base increases. These reviews are of prime importance to the researchers and, to a lesser extent, administrators. They offer an important access link to the total research base of a particular discipline or program area. Wilbur Schramm states, "Bibliographies are all right so far as they go: they tell a reader what research he might be interested in reading. Abstracts are all right so far as they go, which is mostly to scholars. Summary papers or 'state of the art' papers are a very promising device. For example, in a field that I know well, instructional communication, I can see a great potential use for annual summaries of research and experience on such subjects as the usefulness of small and inexpensive media (filmstrips rather than film, radio rather than television, and so forth); also up-to-date information on the costs of different kinds of instructional systems; and, to take one more example, on patterns that have been found effective in non-formal and rural education."*

MAGAZINES AND NEWSLETTERS AS TRANSFORMATION DEVICES

Some journals or newsletters are being published for program administrators and practitioners by international and regional agencies as well as by national family planning programs. They include descriptions of innovative projects, address problems people may have in the field, and provide solutions to these problems based on research, innovative programs, and reviews of the literature. They also include abstracts of studies of particular interest to these audiences.

TABLE OF CONTENTS PAGES

As mentioned earlier, there are over 130 periodical publications in the population/family planning field ranging from brief organizational newsletters to substantial research reporting publications. Some are sent free to family planning programs (either on request or unsolicited) while others are received on a subscription basis. Based on your user assessments, you know which titles are of interest to particular readers or groups of readers. In a small organization, current issues of periodicals can be circulated to all who have indicated a desire to read the publication on a regular basis. In a large program, it would take too long to circulate popular periodicals. An alternative is to disseminate copies of the tables of contents and then reproduce articles on request. Significant articles in which your users demonstrate a high degree of interest might be processed as a separate document. Table of contents pages from research reports can also be copied and circulated (another alternative to preparing an abstract).

Other types of information services that might be carried out by the information resource unit include clipping and circulating newspaper articles, translation services, maintenance of a calendar of events, and development of a roster of persons and institutions in the population/family planning field.

SECTION FIVE: INFORMATION PROCESSING

The development of systematic procedures for processing and storing documents in a way that allows access to any document at any time is of utmost importance to the successful function of an information resource unit. There are many ways of indexing, filing, and storing materials so that users have subject access to documents in the collection. Some of the systems that are being used in various information resource units include subject/author/title catalogs, computerized storage and retrieval systems, edged-notched cards, and uniterm systems. Unfortunately, we do not have time to describe these different systems nor to go into the advantages and disadvantages of each. However, in adopting, designing, or revising a processing system, careful
consideration must be given to the types of users who will be served by the system and the complexities of their information needs.

Because there is no universally accepted standardized list of index terms for the population/family planning field, most IRPs have had to develop their own indexing language through necessity. Several organizations have developed and published their own thesauri or "authority lists" of terms for indexing documents in their own collection. As yet, there has been no general consensus to adopt one of these as definitive for the field.

COMPUTERIZED STORAGE AND RETRIEVAL OF INFORMATION

As most family planning organizations and agencies grow in size and complexity, the question of whether or not to computerize their information resources will probably arise. This is always a difficult decision that requires in-depth analyses of how a computerized system would serve program and user information needs, the costs involved, and comparable advantages and costs of other systems, including whatever system is currently being used by the information resource unit. The IRP must be prepared to answer or find information to answer the computerization issue. Most IRPs, however, have little, if any, understanding of what computers can and cannot do, and how they work. It is certainly to their advantage, as well as to that of the organization they serve, if they can acquire through training or reading a basic understanding of the concepts and processes involved in the use of computers. In April 1975, the East-West Communication Institute sponsored a Workshop on the Role of Computers in the Development of an International Technical Information Network for Population/Family Planning. The workshop consensus was that "computerization—and on-line access to computers—were extremely desirable and if available at low cost, would be adopted. It was also recognized that computerization is simply a matter of time: costs of computerization and data transmission are going down and are expected to go down further in the future. At this time, however, many of the clearinghouses, especially the national clearinghouses, cannot justify computerization on the bases of costs, size of data base, or number of inquiries. The workshop noted that computerized services will play an increasingly important role in the dissemination of information."

SECTION SIX: INFORMATION DISSEMINATION
AND ASSISTANCE TO USERS

Users must perceive that the information services offered by the information resource unit are of value to the accomplishment of their program responsibilities. They must know what is available, how they can gain access to what is in the collection, and the range of services open to them. In other words, you are offering a service and it must be promoted to make your target audience, in this case the users of information, aware of it.

The staff of the information resource unit must be prepared to provide reference-type services. Two factors are very important here: (1) your knowledge of materials in your collection and other collections, and (2) subject access to the materials.

In providing reference services, a great deal of skill might be necessary on your part to find out exactly what a user needs. He or she may approach you with only a vague notion of what the problem is and what kind of information is needed to solve it. In these situations, it is best to get frequent feedback from the user as the search goes along. The user's goals may be redefined several times as data and information are acquired and examined.

The kinds of personalized reference services provided can include answering specific factual questions, compiling or furnishing bibliographies, preparing state-of-the-art papers on particular topics, and participation in the identification of problem causes and selection of program activities.

SECTION SEVEN: EXPANDING YOUR INFORMATION RESOURCE BASE, OR NETWORKING

Each information resource unit cannot hope to have on hand all of the information that its users will need at any given time. The IRP must be prepared and able to turn to other sources of information within and outside of the country. You have already had practice in Unit II in identifying likely sources of information for a given problem.

An efficient IRP is continually looking for new resource bases that might have information relevant to his or her users' needs. These other resource bases might include university libraries, government agencies, national family planning information resource units in other countries, and regional and international clearinghouses. The IRP should establish and maintain working relationships with these other information centers by sending copies of publications and other materials produced by his or her own program, by exchanging acquisitions lists on a regular basis, by visiting such centers whenever possible, and by investigating the quality of their services by actually using them to find out
EXERCISE V-3: PROMOTING INFORMATION SERVICES

Can you suggest at least three ways an IRP can encourage users to take advantage of the information collected and services offered by the information resource unit?
how thorough they are in filling information requests, how fast, the specialized terminology used by them, the costs involved, etc. The East-West Communication Institute publication, Sources of Information on Population/Family Planning: A Handbook for Asia, attempts to provide a list of sources of information on population/family planning throughout the world.

In recent years, a sense of community has begun to develop among those working in family planning information services. The Association of Population Libraries and Information Centers International (APLIC) provides a forum for professional librarians and information specialists in the field.

At the 1975 workshop on The Role of Computers in the Development of an International Technical Information Network for Population/Family Planning held at the East-West Center, the participants were fully in agreement that the establishment of a formal network among population and family planning information centers is desirable. It was noted, however, that to be acceptable, such a network must be consistent with the self-interest of each member, for instance, it should enable each member institution to do its job more effectively than would be possible outside of the network. Participants proposed that the network should evolve out of present patterns of information exchange among different centers, which currently tend to be unorganized and informal. The participants placed first priority on the strengthening of national population information systems, particularly in the developing countries. Considerable attention was also devoted to the problem of standardization since standard ways of describing the contents of documents will greatly facilitate the smooth flow of information between network members.
EXERCISE V-4: SOLUTIONS TO PROBLEMS

In the introduction to Unit V, ten problems in the process of information transformation and utilization were listed. We would now like you to present solutions to these problems based on your experiences in doing Unit V.

1. Little assessment of users' needs.

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2. Access to information is largely limited to program elites, scholars, and international agency personnel.

3. Little targeting of information.
4. Little systematic feedback about information services.

5. Lack of effective promotion of information services.
6. No mechanisms for sending information on users' needs back to the producers of information.

7. Inadequate transformation of information.
8. **Dominance of scholarly approaches.**

9. **Very weak relations between international/regional agencies and national/local information units.**
10. Too little coordination among regional and international information agencies/units.
APPENDIX V-I: EXAMPLE OF A NATIONAL INFORMATION NETWORK: A PLAN OF ACTION FOR INDONESIA

Most of the major points we have covered so far in Unit V are exemplified in the following description and plan of action for the Indonesian information network.

With the establishment of the Indonesian national family planning program in 1967, substantial amounts of information began to be generated and collected by implementing agencies and by other institutions carrying on related activities. Collections of useful, and sometimes crucial, information and materials grew up in widely scattered locations.

In 1970 the Bureau of Reporting and Documentation of the National Family Planning Coordinating Board (BKKBN) undertook to design and develop a system begun in 1972 as the forerunner of the presently conceived national information network on family planning/population. During 1973, numerous meetings within BKKBN and with other Indonesian institutions, agencies and organizations directly concerned were held to explore the feasibility of a network. Among the participating Indonesian institutions and organizations were Indonesian Planned Parenthood Association (PKBI), National Scientific Documentation Center (PDIN), the Library of the National Museum, the Indonesian Library Association, Indonesian Institute for Sciences (LIPI), along with BKKBN's Bureaus of Information and Motivation and Reporting and Documentation.

It was decided that the establishment of a national information network on family planning/population would help in overcoming barriers and facilitate effective use of existing information and materials. The network, under the coordination of BKKBN, would provide:

1. Systematic recording, retrieval, and awareness of all relevant existing materials (including audiovisual campaign and training materials), and information for use by program staff administrators, policy-makers, researchers, trainees and others concerned with family planning/population.

2. A way of identifying existing information and materials on specific subject areas with less expenditure of time and energy. The provision of appropriate and timely information would facilitate maximum integration of already-acquired information and materials to research, training, and other program activities. Wasteful duplication of efforts would be avoided. Better program decisions based on better information would be made.
3. Expansion of the information/data base beyond the capacity which any one institution alone could provide.

4. A channel for internal communication among family planning/population program staff that would alert them to the latest developments in the field.

5. An efficient system for retrieval of program-generated materials and information to give background support for funding requests.

6. Transformation and translation of research and technical information into usable, simplified forms tailored to specific audiences.

International activity and participation contributed towards the consolidation of plans for the national network. Staff from the various implementing units and cooperating institutions attended the Workshop of Population Library Development Institute and the Working Meeting on Asian Resources for a Population Information Network sponsored by the Carolina Population Center and the Economic Commission for Asia and the Far East (ECAFE) in Bangkok in 1973. Two staff members received eight-week internships in Communication Documentation at the East-West Communication Institute. ECAFE sent a consultant to survey the Indonesian situation. A core team of staff members visited the Philippines, Thailand, and Singapore to observe and examine the development of network activities in those countries. A short assessment/survey on population/family planning information needs, awareness, and use was conducted under the auspices of Inter Governmental Coordinating Committee (IGCC), and reported in a meeting at BKKBN by the researcher.

In November of 1974, the services of a specialist were acquired under IGCC's sponsorship to begin detailed and systematic planning of a five-year program for the network. In consultation with the deputy chairman in charge of the Bureaus of Research and Evaluation, and Reporting and Documentation, and with members of his staff and others in the implementing units, the following plan was developed and presented as a suggested course of action for the Indonesian network. An abbreviated version of the five-year plan of action follows.

PLAN OF ACTION FOR THE INDONESIAN NATIONAL INFORMATION & DOCUMENTATION NETWORK ON FAMILY PLANNING/POPULATION 1973/74-1977/78

I. 1973/74

A. Feasibility study/exploration for establishing a network.
B. Task Force meeting ECAFE*; Working meeting on Reporting and Documentation BKKBN; consultation visit by ECAFE.

C. Agreement in principle for establishment of national network from deputy chairman of LIPI.

D. Formulation of:
   1. Team of experts that includes specialists and librarians/talists;
   2. Working team of representatives from implementing units.

E. Translation and publication of:
   1. Micro-thesaurus in Family Planning and Population published by the Carolina Population Center;
   2. "Report of the expert group on developing indices for measuring the impact of training..."

F. Training—Two staff members in communication documentation at East-West Center, two staff to IPPA Workshop on population libraries; Workshop on networking; 5 trainees to Ministry of Health on documentation related to health and family planning.

G. Assessment of information needs and awareness—Bradshaw study/survey with meeting and discussion at BKKBN.

II. 1974/75

A. Inventory of resources (centers/units/institutions/agencies, etc.) which have relevant information and materials on family planning and population.

   1. Identify all major implementing units and their sub-units and obtain data on:
      a) Staffing;
      b) Collections of all materials (to include own publications,

* ECAFE became ESCAP (Economic and Social Commission for Asia and the Pacific) in 1974.
documents and other products within the institution or agency's sub-divisions and offices);

c) The major emphasis or subject focus in the collections;

d) Equipment, space, and access to facilities (e.g., publishing/printing facilities);

e) Dissemination capabilities; scheme for processing/organizing materials.

2. Identify institutions/agencies with collections and information/documentation units which cover closely allied subject (e.g., university libraries, research institutions, government agencies, international and foreign assistance agencies, etc.).

3. Incorporate information on relevant materials into the Union Catalogue to be done in conjunction with the inventory.

4. Incorporate data from studies already planned or underway (e.g., UNDP/UNICEF Development Support Communication Services survey of developmental communication resources and facilities in Indonesia).

B. Promotion of utilization of information and materials.

1. Development of promotion schemes to foster use of materials by all levels of staff.

Some suggestions:

a) Publish a one or two page flyer indicating kinds of materials and information which are available from various sources.

b) Orientations when groups meet at center - where information/documentation/library units exist.

c) Include flyers with mobile unit materials.

d) For program administrative, research, and evaluation training staff - Target information on specific items of interest to specialist as they are received - sort of individual "current awareness" service.
C. Assessment of information needs: (needed for guideline for collection development)

1. Preparation and planning of methodology.
   a) Cooperation with East-West Communication Institute in developing methodology. Examine other studies of information needs for methodology used.

2. Carry out assessment/study.

3. Incorporation of data from training needs assessment project, Bradshaw study, or any other feedback data on information needs from field and sub-units.

D. Establish liaison with implementing units and sub-units and other relevant institutions to foster support, cooperation and participation in network.

E. Manpower development:

1. Planning of short-term, 3-weeks, national training session for 35 documentalists/librarians.


F. Development of operating system and processing system for materials and information.

1. Working papers to present a plan of operation and some alternative systems of processing/cataloguing/indexing of materials.

2. Workshop/seminar of major implementing units to be held in the early stages of operation for discussions on:
   a) Operations of system,
   b) Processing/indexing/cataloguing systems for compatibility among units,
   c) Areas of responsibility for information and materials acquisitions and dissemination among the units.
3. Union Catalogue Project/Inventory of materials relevant to Population/Family Planning in various units.

G. Development and preparation of detailed budget for 1975/76; 1976/77; and 1977/78 phases of Network.

H. Evaluation of progress toward meeting objectives and sub-goals as scheduled.

1. Use baseline data collected through visits of core staff.

2. Criteria for evaluation of progress.

   a) How many implementing units established and staffed during year?

   b) How many cooperating units incorporated into network?

   c) Status of Union Catalogue.

   d) Training/Manpower Development - How many staff members trained during year?

   e) Promotion activities during year.

   f) Meeting information and materials needs of users.

      i) Based on data collected on information needs, have collections in various implementing units developed accordingly?

      ii) Have information and material requested reached designated person? How quickly?

      iii) Does feedback from user indicate material and information where appropriate for his purpose?

      iv) How much summarization, interpretation or transformation of information and materials was initiated by implementing units or central unit, e.g. in the form of "headliners," news sheets, etc.?

      v) How many reference questions were answered? How many copies of documents and other materials from collections were sent? How many referrals to other implementing units were made?
III. 1975/1976

A. Manpower development

1. Additional staffing in central unit coordination. As activities increase and flow of information and materials increases between and among units and central unit, additional manpower requirements for efficient and effective operations will need to be met.

2. Follow-up and continuing training sessions for old and new staff in units and sub-units of network.

3. Short-term study/training/observation professional development trips abroad of key staff persons for keeping abreast of current and new developments related to population/family planning information networks, with the view of possible incorporation or application to the national network.

B. Integration of additional new units and sub-units into the network system.

1. Development and publication of a manual of operations and policies for network members. To be up-dated as procedures and policies change.

C. Completion of Union Catalogue of materials; continuous up-dating.

D. Assessment of materials and information needs of program staff of units in network. Materials and information needs change as programs develop and change.

E. Active dissemination and utilization of information and materials among units of network.

F. Equipment and space

G. Annual evaluation of progress of network development to meet goals according to five-year plan.

IV. 1976/77

A. Continue, expand, refine and revise existing operations as required.

B. Training/continuing education of existing staff.
C. Assessment of information and materials needs of program staff users (needs change as programs develop).

D. Application of INNOVATIONS in technology to network operations.

1. Pilot experimental project - computerization - terminal access and retrieval of data, information from computerized data base - abroad and within Indonesia.
   
a) Possible use of satellite for computer to computer data input and retrieval, or retrieval from terminal.
   
b) Use of computer for analysis of literature to produce "state-of-the-art" papers.
   
c) Cooperative use of computer with other institutions, e.g. Demographic Institute.

2. Microform as vehicles for transmitting information - experiment.
   
a) Use study
   
b) Comparative cost factors
   
c) Space factors
   
d) Cooperative use of fiche, filming equipment

E. Some field observation/training for National Network System staff from other countries - develop program of activities for:

1. "Ad hoc" visits

2. 4 field visits by network staff from other countries for one week per visiting group.

F. Annual evaluation of network progress toward meeting goals according to five-year plan.

V. 1977/78

A. Continue to refine, revise and expand existing operations and activities as required.
B. Manpower development - training/continuing education of existing and new staff.

C. Assessment of information and materials needs and of information services.

D. Continuation of pilot experimental application of technology to network operations (computer/microforms).

E. Further development of liaison with regional and international network.

F. Demonstrations of national network system as model for the South-east Asian countries.

G. Review and evaluation of five-year development of Network - Any revisions/additions/deletions to system based on review and evaluation.
EXERCISE V-1: KEEPING INFORMED

Some of the things you might have listed include the following:

1. The information resource person should attend and participate in regularly scheduled staff meetings and special program planning meetings.

2. The information resource person should examine budget and program planning documents for their implications regarding information needs. For instance, if you learn that a vasectomy campaign is being planned for the next fiscal year, you can start gathering relevant documents and information well in advance of their actually being needed.

3. The information resource person should talk formally and informally with individual staff members or heads of teams to find out their specific needs, to describe what is currently on hand in the information resource unit, to suggest other sources of information, and to offer specialized services.

4. The information resource person should make special efforts to seek out those who have never used the information resource unit's services or documents to determine why. It may be necessary to overcome reluctance based on poor information services in the past.

5. The information resource person should regularly read the circulating correspondence file if there is one. For many organizations, this is one of the best means of facilitating internal communication. When there is already a fully functional IRU in which staff have developed confidence in its information capacity and services, you can learn about needs by observing the kinds of materials requested, those documents that seem to be most heavily used, the ease with which users seem to find materials in the collection, services that are frequently used or commented on, the interest that researchers and administrators take in materials that are circulated, etc. However, it might be easy to infer that lack of information requests in a certain area means there is no need for such information when in reality it may reflect the users' perception that such information is not available.
SAMPLE QUESTIONNAIRE

1. Please check (x) the subject areas listed below that you need information on. Put a double check (xx) by those which are the most important to you.

**POPULATION CHARACTERISTICS AND CHANGE**

- [ ] Population characteristics
- [ ] Population growth and change
- [ ] Demographic research methodology

**SOCIAL, ECONOMIC, CULTURAL, AND PSYCHOLOGICAL ASPECTS OF POPULATION/FAMILY PLANNING**

- [ ] Socio-psychological aspects of population/family planning
- [ ] Religious and ethical aspects of population/family planning
- [ ] Family aspects of population/family planning
- [ ] Sexual beliefs and behavior and family planning
- [ ] Women's status and population/family planning
- [ ] KAP (knowledge, attitudes, and practices) in regard to family planning
- [ ] Legal, policy, and political aspects of population/family planning
<table>
<thead>
<tr>
<th>Development and population/family planning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HUMAN REPRODUCTION, FAMILY PLANNING METHODS, AND HEALTH ASPECTS OF FAMILY PLANNING</strong></td>
</tr>
<tr>
<td>- Biological aspects of family planning and human reproduction</td>
</tr>
<tr>
<td>- Family planning methods</td>
</tr>
<tr>
<td>- Contraceptive methods</td>
</tr>
<tr>
<td>- Induced abortion</td>
</tr>
<tr>
<td>- Demographic effectiveness of family planning methods</td>
</tr>
<tr>
<td>- Research and development of new family planning methods</td>
</tr>
<tr>
<td>- Practice of family planning</td>
</tr>
<tr>
<td>- Health aspects of family planning and human reproduction</td>
</tr>
<tr>
<td><strong>FAMILY PLANNING DELIVERY SYSTEMS/PROGRAMS</strong></td>
</tr>
<tr>
<td>- Family planning services</td>
</tr>
<tr>
<td>- Distribution of family planning supplies</td>
</tr>
<tr>
<td>- Users of family planning services or supplies</td>
</tr>
<tr>
<td>- Personnel of family planning delivery systems/programs</td>
</tr>
</tbody>
</table>
Administration of family planning programs

Evaluation methods for family planning programs

INFORMATION, EDUCATION, AND COMMUNICATION IN POPULATION/FAMILY PLANNING

Planning and strategies in population/family planning information, education, and communication

Communication in population/family planning

Mass communication in population/family planning

Advertising and population/family planning

Interpersonal communication in population/family planning

Audiovisual aids in population/family planning

Promotion of family planning through integration/cooperation with non-population/family planning organizations and institutions

Population education

Methods of information, education, and communication research and evaluation

TRAINING IN POPULATION/FAMILY PLANNING

Training in family planning methods and delivery of services
Training in family planning program management

Training in population/family planning information, education, and communication

Training methods in population/family planning

Development and use of training materials in population/family planning

SOURCES OF ASSISTANCE FOR POPULATION/FAMILY PLANNING ACTIVITIES

2. Please describe the activities and projects that you are currently working on.

3. In these activities, have you felt that you have had sufficient information on which to base decisions or to carry out your tasks?

[ ] Yes  [ ] No

If your answer was "no," what kinds of information would have made your job easier?
4. Are you interested in information on similar projects in other countries?

[ ] Yes    [ ] No

If you have any specific kinds of projects or particular countries in mind, please list them:

5. In general, where do you obtain technical family planning information?  
Please put a check (x) by your usual sources of information. Put a double check (xx) by your main source of information. Put a circle (o) by any you never use.

[ ] the information resource unit  
[ ] your files  
[ ] colleagues  
[ ] other sources within the country (please specify any that you use frequently or with better than average success).

[ ] sources outside of the country (please specify any that you use frequently or with better than average success).
6. Does the way material is presented make a difference as to whether or not you read a publication?

[ ] Yes [ ] No

If "yes," please check (x) which of the following factors affect your decision to read the material? Put a double check (xx) by the most important factor.

[ ] length
[ ] format
[ ] style of writing
[ ] arrangement by topic
[ ] language
[ ] other (please specify)
7. Below is a list of periodicals in the field of population/family planning. Opposite each title, please check the appropriate column or columns.

<table>
<thead>
<tr>
<th>Title</th>
<th>I subscribe to it myself</th>
<th>Not known to me</th>
<th>Known and not useful to me</th>
<th>Known and would like to have in IRU</th>
<th>Known and would like to see regularly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Population Studies Series UN/ESCAP</td>
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<tr>
<td>Contraception: An International Journal Geron-X, Inc.</td>
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<tr>
<td>Country Profiles Population Council</td>
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<td>Demography Population Association of America</td>
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<td>Family Planning Perspectives Planned Parenthood/World Population</td>
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<tr>
<td>Family Planning Quarterly Ministry of Health and Family Planning, India</td>
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<tr>
<td>Milbank Memorial Fund Quarterly</td>
<td></td>
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<tr>
<td>Title</td>
<td>I subscribe to it myself</td>
<td>Not known to me</td>
<td>Known and not useful to me</td>
<td>Known and would like to have in IRU</td>
<td>Known and would like to see regularly</td>
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<td>--------------------------------------------</td>
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<tr>
<td>Population Bulletin</td>
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<td>Population Reference Bureau</td>
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<td>Population Bulletin of the United Nations</td>
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</tbody>
</table>

8. What kinds of information transformation services would be or are most useful to you? Put a double check (xx) by the one you consider most important.

- [ ] abstracts/extracts
- [ ] summaries
- [ ] bibliographies on selected topics
- [ ] state of the art papers
- [ ] annotated accessions lists—the information resource unit’s plus those of other libraries
- [ ] contents pages of selected journals.
- [ ] other (please specify)
EXERCISE V-3: PROMOTING INFORMATION SERVICES

Some of the things you might have suggested include:

1. Develop a brochure explaining the subject scope of the collection, the types of materials collected, and the services available. It should encourage users to make suggestions for acquisitions and give feedback on services.

2. Issue your own annotated acquisitions list on a frequent and regular basis.

3. Promote the information resource unit in organizational staff meetings by reviewing important new accessions, explaining new services, reporting on level of use, etc.

4. Develop self-instructional training materials on how to use the information resource unit, how to conduct an information search, how to use the card catalog or whatever system you use for finding documents on a given topic, how to use a thesaurus, etc.

5. Promote the use of the information resource unit through personal contacts with users, making sure they see new materials related to their areas of responsibility, keeping their profiles up-to-date, etc.

6. Publicize services and materials through in-house newsletters or other materials that reach users on a regular basis.

7. Label sections of the collection and put up instructions where needed since many users are reluctant to ask the information resource unit staff for assistance.
UNIT VI

MAKING RESEARCH MORE USEFUL FOR PROBLEM SOLVING
UNIT VI--PRE-UNIT ASSESSMENT FORM

Below and on the next page appear twenty statements that have been found to characterize research projects, the results of which either were highly utilized or were underutilized. Prior to reading Unit VI, would you please read each of these twenty statements and indicate with an "X" in the appropriate column whether you think it is a characteristic of highly utilized projects (1st column) or of underutilized projects (2nd column).

Please do not take a great deal of time to think about each statement. Just read it and decide quickly on the basis of your own experience which type of project it probably characterizes.

We'll want to collect this form from you before you start reading Unit VI. Many thanks!

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Applies to Highly Utilized Projects</th>
<th>Applies to Underutilized Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Had a more wide-open atmosphere and sought more energetically the reactions and contributions of outsiders during the early idea stage.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Tended to exclude practitioners from the early discussions about the basic research idea.</td>
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<tr>
<td>3. Advisory groups tended to be active and involved.</td>
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<tr>
<td>4. Project proposals written by the principal investigator himself or herself.</td>
<td></td>
<td></td>
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<tr>
<td>5. Research idea often introduced from outside of the host agency where the research was being conducted.</td>
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<tr>
<td>6. Inaccurate perceptions of the project widespread.</td>
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<tr>
<td>7. Interaction dynamic and issue-laden, which often led to conflicts and the need for compromise.</td>
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<td></td>
</tr>
<tr>
<td>Characteristic</td>
<td>Applies to Highly Utilized Projects</td>
<td>Applies to Underutilized Projects</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
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</tr>
<tr>
<td>8. Had more problems of a more serious nature during early stages.</td>
<td></td>
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<tr>
<td>9. Tended to emphasize linkage between the projects and the interests and concerns around it.</td>
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<tr>
<td>10. Sought supportive statements rather than assistance from outside groups.</td>
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<tr>
<td>11. Modified substantially as the result of suggestions or contributions made by administrators or practitioners.</td>
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<tr>
<td>12. Solicited involvement from practitioners while the research data were being gathered.</td>
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<tr>
<td>13. Reduced communication when problems developed.</td>
<td></td>
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<tr>
<td>15. Tended to collect more and more data without analyzing what had already been collected.</td>
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<tr>
<td>16. Produced a greater number of publications in journals and greater number of conference reports.</td>
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<tr>
<td>17. Stressed publication of a book that would be based on unassailable evidence and have dramatic impact.</td>
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<tr>
<td>18. Purposefully planned ways to encourage utilization of results.</td>
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<tr>
<td>19. Results presented in a wide variety of formats.</td>
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<tr>
<td>20. Engendered the feeling that the agency in which the research was being conducted was being exploited for the sake of obtaining important research data.</td>
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</tbody>
</table>
INTRODUCTION

"...the translation of knowledge into action is one of the most critical management issues facing family planning operations."

Hans C. Blaise
Vice President
Planned Parenthood Federation of America

In previous units of this module, we have focused on the use of existing information, including research that has been conducted other places or at other times. This final unit will now turn to the question of generating new information. The philosophy throughout the module has been that in most instances it is quicker and less expensive to find and use existing information than it is to collect new information through research. Hence this unit is based on the assumption that new research should not be initiated until existing information sources have been tapped and a conscious decision made to the effect that existing information is not sufficiently relevant to the problem at hand. While the term "research" will be used throughout the unit, basically we are referring to both research and evaluation.

It is important that you be aware that this is not a unit on research methods as such. The discussion will necessarily touch from time to time on different aspects of research methodology, but only to the extent that they are clearly related to the main topic of the unit, which is ways of making research more useful. We shall leave the complex issues of conducting communication research and other kinds of social science research to the many good textbooks on this subject. Our focus here must be on the rather narrow, but very much neglected, topic of how one can go about carrying out research so that it will be more useful. "More useful for what?" you are probably already saying. Basically we are talking about making research more useful for solving practical problems associated with the planning and management of social action programs such as family planning communication campaigns. If the research is simultaneously useful for building social scientific theories, so much the better, but this is not what we are focusing on here.

The objective of this unit is to help you identify ways of planning, conducting, and presenting research so that its results can be more easily and directly applied to problem solving. You will have the opportunity to practice the application of some of the relevant skills. To help you relate your previous experience in the area of communication to this new topic, a simple communi-
cation framework is used to help explain the process of "research utilization," which is the term we shall use here. By "research utilization" we mean this total process of planning, conducting, and presenting research so that its results can be applied to problem solving.

In this unit we shall first look at why it is useful to consider research utilization as a communication process. After that we shall examine the audiences or consumers of research, especially program administrators and practitioners. Then we shall turn our attention to those who conduct research—the different kinds of researchers and how their orientations relate to the research utilization process. Next we shall examine the ways in which the content and conduct of research can increase its utilization. Finally, we shall examine the problems associated with communicating research findings and ways of presenting the results so that they are more likely to be used. This process is shown diagrammatically in Figure VI-1.

There are, in effect, many reasons why research findings are not used more fully than they are. The causes of underutilization are widespread. They are associated with those who use (or do not use) the research, with those who carry it out, with the ways in which it is carried out, and with the ways in which the results are reported and disseminated. The problems that will be discussed in this unit are often a matter of folklore and the solutions, a matter of opinion. There has been very little research conducted on the very problem of research utilization, and sometimes, ironically, the research that has been conducted is underutilized itself. Hence this unit raises more problems than it solves. When you are finished with the unit, you will at a minimum probably be convinced that research utilization is an important problem and that there are some ways of doing something about it. We hope that some of the ways presented here are the right ways. Think about them. Talk about them. Try them out and see if they work for you.

About one thing, there should be no doubt. Research is not being used as fully as it could be. For instance, a study was conducted in Kenya to see how effectively research was being used to promote national development. * A total of

Figure VI-1. MODEL OF THE RESEARCH UTILIZATION PROCESS

- Program problem defined
- Possible causes identified and described
- Existing information assembled and analyzed to determine most likely cause(s)
  - Most likely cause(s) determined
  - Possible solutions (e.g., IEC activities) identified
  - Focused and mutable variables identified
  - Type of researcher selected
  - Research findings applied to program decision-making
- Insufficient secondary information available so new research is needed
- Secondary analysis or synthesis of existing data designed
- If relevant data do not exist, field research or pilot project designed
- Audience specific presentations prepared (choice of message and media)
- Administration
- Activity implemented provided to information resource for future use
- Data, reports, etc. provided to general audience, other researchers, etc.

- Reports prepared for general public, other researchers, etc.
62 social science research projects were identified. These had been carried out by 29 different institutions. It was found that the results of over half of the 62 projects (57 percent) had not been implemented. Only about one-fifth of them (18 percent) had no basic problem with implementation. With 14 percent of the projects there was a serious lack of cooperation or dialogue between those who had conducted the research and the authorities responsible for implementing the results. In 10 percent of the cases, those who were trying to implement the results had, according to the researchers, seriously misunderstood the findings and their implications. For 13 percent of the projects, implementation was being held up due to insufficient financing, the lack of skilled staff, or other operational problems. Nobody can view this kind of record without considerable concern. Research costs money and takes the time of highly skilled people. The losses to society through underutilized research are without doubt very great.

One word of caution should be added to this introduction. It is important not to be misled by the emphasis placed on research in this unit. In no way is it intended to imply that research can provide all of the solutions to our problems. There is a creative synthesis of knowledge and guesses and, yes, some misinformation, too. All this takes place in a way that is far from understood in that most marvelous of all computers—the human brain. And out of this process comes a decision to pursue a certain course of action. Along with using the results of research, any program administrator, for instance, also bases his judgments about making a change in his program on factors such as the explicit or implicit priorities of powerful groups and persons, the perceived consequences that a given change will have for other components of his program, the degree to which the change implied by the research will meet resistance on the part of staff, and so on.

Before we go any further, let us look at the way a very important change in communication programming came about in Taiwan. This brief case highlights the role of research findings in reaching an important decision. One of the main reasons for looking at this example at this point is to emphasize that under proper circumstances (about which we shall learn more throughout this unit) very crucial changes in a program can be brought about through the application of research.
CASE STUDY IN RESEARCH UTILIZATION:
EXPANDING THE USE OF MASS MEDIA--THE KAOSHIUNG STUDY*

The Kaohsiung Study, conducted between 1966 and 1968, serves to illustrate clearly how a communication-oriented study with clear-cut objectives can greatly affect an action-oriented family planning program by serving as a model for a national effort.

THE NEED FOR RESEARCH

The Taiwan IUD-centered program began on an island-wide scale in 1964. It had been preceded by a family planning action-study program, which began in 1962 in Taichung City, the capital of the Province of Taiwan, and by a conventional method-oriented program which provided "pre-pregnancy health" (PPH) services at 120 of Taiwan's 361 local health stations from 1959 to 1963. Since 1964, the main emphasis of the information and education program had been face-to-face communication, carried out by home-visiting family planning workers. Use of the mass media was limited by a lack of official government support for the program (until May 1968), a small budget, and almost no staff. The only use of mass media prior to early 1966 was the limited distribution of news releases. The program was virtually entirely home-visit oriented. In fact, in late December 1965, a survey of key local family planning program leaders and executors showed that the use of mass media had low priority among them, partly due to the low-keyed nature of a program without an official policy behind it.

As it became more evident to program administrators that many key government personnel supported the family planning activities, restrictions on the use of mass media relaxed slightly in 1966. By mid-1966, the key program planners were willing to try out an experimental approach on a small budget to see if mass media could increase acceptance rates. A major city to the south, Kaohsiung, was chosen as the pilot area. Kaohsiung was Taiwan's second largest city and a rapidly growing industrial area. It was chosen for these reasons and because its contraceptive acceptance rate was one of the lowest of the island's 22 county and city areas.

*Taken from George Cernada and T.H. Sun, Knowledge into Action: The Use of Research in Taiwan's Family Planning Program, Papers of the East-West Communication Institute, No. 10 (Honolulu, 1974).
DESCRIPTION OF THE STUDY

The primary purpose of the Kaohsiung study was to prepare for and evaluate a campaign to increase loop practice in Kaohsiung by more active use of mass media, extensive use of this industrial area's organizational network, and increased staff effort. A secondary purpose was to introduce the pill and to find out if it would adversely affect loop acceptances. Taiwan's program was almost exclusively IUD-centered and pill acceptances were limited to those who had discontinued the IUD or had contra-indications to usage.

Prior to the action-oriented program, a sample survey of 1,500 wives was conducted in Kaohsiung City in November 1966 to establish guidelines for carrying out the program. Questions about radio listening habits, movie attendance, newspaper and magazine reading, TV viewing, and attendance at public meetings revealed that the most promising forms of mass media were radio and movies. Questions about family planning knowledge, attitudes, and practice indicated that important groups to reach were the illiterates and those not wanting more children but not practicing contraception. These data were used in campaign design.

The special campaign began in January 1967, using mass media to spread information about family planning. The pill was offered to all wives in Kaohsiung, although its use in the rest of Taiwan was restricted to women who had discontinued the IUD.

A follow-up survey in May 1968 determined (a) the amount and types of exposure to family planning mass media and other public information; (b) changes in knowledge, attitudes, and practice of family planning, particularly with respect to the two program methods (the loop and the pill); and (c) the role the campaign played in promoting change. Longer-term observation was used to determine if providing the pill to all wives who wanted it lowered the acceptances of the loop.

RESULTS AND THEIR USE

The general conclusions were that the campaign was successful in increasing knowledge and acceptance of family planning methods and that the availability of the pill did not decrease acceptance levels for the IUD. Subsequent decisions by the island-wide family planning program directors to use mass media and to introduce the pill throughout the island can in part be attributed to the success of their use in the Kaohsiung Study.

The end results of the intensive Kaohsiung project were dramatic enough to convince program administrators to begin use of mass media on a wider scale. Some graphic illustrations of results follow.

1. Efforts to use public information approaches more extensively broadened staff experience in producing public information materials, identifying audiences, budgeting for and dealing with mass media agencies, and organizing a concentrated effort, particularly with existing organizations other than public health (factories, unions, industrial clinics). The need for an information/education section became clear, and staff were drawn from the project to establish one.

2. The family planning program for the first time acquired information on who listened to the radio, read newspapers or magazines, attended movies, and owned a TV, and on what programs were popular. These findings served as the basis for planning wiser use of public information expenditures. They also served
as leverage to gain more funding for public information, particularly through radio, from outside agencies, and later from local sources.

Program administrators were shown slides detailing the mass media audience profile, and several reports and articles were mimeographed in early 1967 and circulated to staff to try to get program leaders to think about the potential for using mass media on a wider scale. These early results were fed into the program as soon as they became available and were keyed to the interests of program administrators—e.g., the then Health Commissioner had expressed considerable interest in radio as a medium and the high level of radio audience was emphasized. Key administrators who had been concerned with the need to reach the poor and illiterate were provided breakdowns of this group as media audience (see Figure 1).

FIGURE 1: PERCENTAGES OF WIVES AGED 20-44 REACHED BY COMMUNICATION CHANNLES: ALL WIVES AND WIVES WITH NO FORMAL EDUCATION

3. It became clear that public information channels, particularly mass media, can get family planning messages to wives at a comparatively low cost. This finding helped get the island-wide mass media campaign started in 1968.

A good deal of skepticism existed in the program as to whether or not the mass media were too expensive or could help bring couples to accept family planning. This skepticism grew perhaps from a strong orientation toward face-to-face approaches, which had been shown to produce results at low cost, and from a fear of diversion of existing funds from ongoing projects to mass media. Whenever possible, the Kaohsiung Study data were presented as showing that mass media would be a useful supplement to the existing field worker approach. Their relatively low cost was highlighted, as was the possibility of using existing government channels (i.e., radio stations, etc.) to carry out the task at no cost. As larger local budgets became available from 1968 on, the mass media became logical candidates for funding as regular program items.

To demonstrate the value of the mass media in reaching the target audience, the program evaluators spent a good deal of time treating matched cases, discussing ramifications of the pre- and post-surveys (e.g., possible effect of time as a confounding variable), the extent of diffusion beyond the recipients of the media messages, etc. (see Figure 2 and Tables 1, 2, and 3).

**FIGURE 2: ALL WIVES BY PERCENTAGES KNOWING OF LOOP BY SOURCE OF INFORMATION: 1966 AND 1968**

![Figure 2: All Wives by Percentages Knowing of Loop by Source of Information: 1966 and 1968](image)

Interestingly enough, the finished detailed analysis was not completed until mid-1970, or nearly two years after the post-survey was completed. The need to demonstrate results conclusively (i.e., the effect of media on acceptance) had become academic because the program administrators had by then begun an education unit which was carrying out a modest mass media effort (based on the interim results and participation in the Kaohsiung action program). By the end of 1967 they were aware that the low cost of about $2,000 for the added mass media input and increased field worker input had produced an increase in loop acceptances by 12 percent in 1967 versus 9 percent island-wide plus a doubling of total acceptances (if the pill is included) over 1966.

TABLE 1: PERCENTAGES OF WIVES REACHED BY FAMILY PLANNING MASS MEDIA APPROACHES

<table>
<thead>
<tr>
<th>Medium</th>
<th>Percentages receiving information by May 1968 post-survey</th>
<th>Percentages receiving information since November 1966 pre-survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>34.8</td>
<td>28.7</td>
</tr>
<tr>
<td>Mailings</td>
<td>17.4</td>
<td>15.1</td>
</tr>
<tr>
<td>Newspapers</td>
<td>17.3</td>
<td>11.2</td>
</tr>
<tr>
<td>Magazines</td>
<td>10.4</td>
<td>6.2</td>
</tr>
<tr>
<td>Movies</td>
<td>7.7</td>
<td>6.4</td>
</tr>
<tr>
<td>TV</td>
<td>2.4</td>
<td>2.0</td>
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</tbody>
</table>

### TABLE 2: AUDIENCE REACHED BY MASS MEDIA: 1966 AND 1968

<table>
<thead>
<tr>
<th>Type of information survey and information source</th>
<th>Preliminary survey November 1966</th>
<th>Follow-up survey May 1968</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of those knowing of any method citing mass media as source</td>
<td>27 (24)</td>
<td>45 (42)</td>
</tr>
<tr>
<td>Percent of those knowing of loop citing mass media as source</td>
<td>9 (5)</td>
<td>37 (24)</td>
</tr>
<tr>
<td>Percent of those knowing of pill citing mass media as source</td>
<td>23 (13)</td>
<td>25* (14)</td>
</tr>
<tr>
<td>Percent of all wives knowing of family planning through radio</td>
<td>--</td>
<td>25.2</td>
</tr>
<tr>
<td>Percent of all wives who received family planning mailings</td>
<td>--</td>
<td>1.5**</td>
</tr>
</tbody>
</table>


*Although mass media sources did not rise much from 1966 for the pill, 7 percent of all wives had heard about it from the PPH or public health staff compared to less than 1 percent in 1966—an indication of another aspect of the program effort.

**Mailings did not begin until April 1966. No commercial sources carried out mailings.

### TABLE 3: DIFFUSION OF INFORMATION BY PERCENTAGE AMONG ALL WIVES

<table>
<thead>
<tr>
<th>Medium</th>
<th>Learning of family planning news in media from others</th>
<th>Receiving family planning news directly from media</th>
<th>Learning from both sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>26.2</td>
<td>34.8</td>
<td>21.2</td>
</tr>
<tr>
<td>Newspapers</td>
<td>25.0</td>
<td>17.3</td>
<td>12.4</td>
</tr>
<tr>
<td>Magazines</td>
<td>11.6</td>
<td>10.4</td>
<td>7.3</td>
</tr>
<tr>
<td>Mailings</td>
<td>8.9</td>
<td>17.4</td>
<td>5.3</td>
</tr>
<tr>
<td>Movies</td>
<td>6.5</td>
<td>7.7</td>
<td>4.0</td>
</tr>
<tr>
<td>TV</td>
<td>2.9</td>
<td>2.4</td>
<td>1.6</td>
</tr>
</tbody>
</table>

4. Providing pills to all who wanted them in the Kaohsiung Study seems not to have affected loop referrals. The island-wide program had refrained from giving the pill to all wives who wanted it from the fear that it would lower loop acceptances. In late 1970, partly due to the Kaohsiung findings, the pill was made available to all women who wanted it.

Detailed records of acceptors were kept on a monthly basis at each health station in Kaohsiung City. Reports were prepared at headquarters in order to keep the staff informed of progress so that results would be obvious early to those who had to plan well in advance for future programs. Although it was clear by 1968 that the pill was not lowering loop acceptances (the rural study in Tainan also demonstrated this), it was not until two years after the 1968 post-survey that the program took action to remove restrictions and provide pills to all wives who wanted them. Two factors had combined to postpone change. One was the existing program attitudes about the role of the pill as a supplementary method (due to lower continuation than with the IUD); the other was the fear that the then-free supply of pills might come to an end, and funds would not be available to provide supplies to a larger number of women (some of whom would have been switching from commercial brands). The study results were clear, but it took time for these to counter previously existing attitudes.

TABLE 4: AVERAGE MONTHLY LOOP ACCEPTORS: 1965-1969

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Taiwan Area</td>
<td>8,261</td>
<td>9,270</td>
<td>10,045</td>
<td>10,306</td>
<td>10,045</td>
<td>10,306</td>
<td>10,863</td>
<td>10,306</td>
</tr>
<tr>
<td></td>
<td>+12.2</td>
<td>+5.7</td>
<td>+8.4</td>
<td>+2.6</td>
<td>+0.8</td>
<td>+7.8</td>
<td>+21.8</td>
<td>+5.4</td>
</tr>
<tr>
<td>Kaohsiung City</td>
<td>536</td>
<td>729</td>
<td>742</td>
<td>729</td>
<td>742</td>
<td>729</td>
<td>715</td>
<td>-1.9</td>
</tr>
<tr>
<td>Tainan County</td>
<td>354</td>
<td>374</td>
<td>434</td>
<td>468</td>
<td>570</td>
<td>715</td>
<td>-1.9</td>
<td></td>
</tr>
</tbody>
</table>


5. Administrators became more aware of the need to have the evaluation staff routinely gather information on mass media and public information channels. Prior to the Kaohsiung Survey, the KAP surveys had largely ignored their potential use in gaining information on the composition of the mass media audience. This lack of action partially reflected the heavy emphasis on fertility rather than the knowledge or attitude components in the surveys. A series of questions based on and expanded from the Kaohsiung surveys was added to subsequent KAP studies. Greater attention began to be paid to evaluation of the mass communication
component of the program, particularly use of media. Analysis of media findings became routine with brief interim reports prepared for circulation to key concerned staff.

6. The results of the study helped get funding to broaden mass media use, first from the Population Council and then from the government. This funding accounted for about 10 percent of the program budget in 1972.

COMMENTS

In summary, the Kaohsiung Study illustrates the value of:

1. Action-oriented, evaluative communication research carried out within one agency so that action can be taken based upon results. (Imagine how much less likely it would have been for results to have been applied on such a large scale had an outside agency carried out this project!)

2. Quick feedback of results into the program, particularly geared to administrators in their own frames of references (see the figures and tables).

3. Integration of mass media audience assessment into future surveys in order to continue collecting data which permit comparison. Without this integration into the national KAP surveys, the later national shift in audience attention from radio to TV might have been less noticeable or not observed so soon.

4. The cooperative effort of program and evaluation staff: program action staff implementing the project based upon their years of field experience and the evaluation staff assisting in selecting a random sample for survey, and helping draft pre- and post-program questionnaires.

NOTES


SECTION ONE: RESEARCH UTILIZATION AS A COMMUNICATION PROCESS

"The manager must further develop his own skills in identifying the types of information he requires [and] in collaborating with the professionals responsible for providing it . . ."

David C. Korten
School of Business Administration,
Harvard

Generally discussions about conducting research focus on technical matters such as questionnaire design, sampling, training interviewers, coding, statistical analysis, and the like. Much less often do textbooks on research talk about the dynamic interpersonal aspects of carrying out research, about such things as the role of the potential user of research in the formulation of the basic research problem, about the conflicting values of researchers and practitioners, about the multiple audiences for research reports. It is, in other words, the human interactional dimension of research that is often neglected in research courses. Yet it is this very aspect of research that has profound implications for research utilization.

We keep seeing evidence that human beings are influenced by other people with whom they interact. Researchers and program administrators are human beings. Therefore, according to simple logic, researchers and program administrators are influenced by other people with whom they interact. The starting point in understanding why research is frequently underutilized rests right here. Researchers are trained with other researchers and generally continue to work in settings where they constantly encounter researchers. Naturally they want to do the kinds of things that win the approval of the people who are important in their careers, namely other researchers. Simply stated, the communication network of researchers consists of other researchers.

Since researchers normally are not simultaneously the administrators of action programs, there is automatically a communication gap between researchers and program administrators, who have their own separate communication networks. Much of the task of research utilization rests in bridging this gap. Many ways for doing this have been proposed and tested. Much of the rest of this unit will be devoted to an examination of these ideas, but it would be helpful if we look first at the basic idea of research utilization within a communication framework.
A very basic communication concept, of course, is that of audience. Typically the primary audience for research is other researchers; the secondary audience is often the funding agency that supported the research. Normally little thought is devoted to policy-makers, program administrators, or practitioners as audiences. Yet they, as the likely implementers of the actions implied by research, must, if research is going to be used, be the primary audience. An important step in getting research used, then, is to get program managers accepted as a primary audience for research.

Related to the concept of audience is another fundamental notion in communication theory, the idea of two-way communication. Effective research utilization, like effective communication, involves the two-way flow of information. This back and forth process tends to lead to growing agreement or understanding among the parties involved. The information that is transmitted is not, by any means, just the findings of the research and questions about it. A very important element of this two-way communication is a statement of the administrator's needs for research information. Often the administrator will not initially be able to articulate his information needs fully. The interaction with the researcher will facilitate this process of clarifying the administrator's information needs.

Communication theory also has a lot to say about the content of communication or the message. One consideration in determining the appropriate content of a message is the nature of the intended audience. Messages that are appropriate for other researchers, for instance, would typically be inappropriate for administrators. It is not, of course, simply a matter of the technical vocabulary that researchers use in communicating with other researchers. It is more profound than that and involves the very nature of the variables that are analyzed in the research. Social class, for instance, is a very useful concept in sociological analysis, but it is of little assistance to tell the program administrator who wants to improve his faltering program that social class explains much of the variation in response to his or her program. The administrator cannot change the social class backgrounds of clients!

Finally, another major communication concept, medium or channel, is also useful in any discussion of research utilization. One needs to select a medium or channel of communication that can convey the desired message effectively to the appropriate audience. This notion is just as appropriate in communicating research findings to a busy administrator as it is in communicating information about contraception to a young woman. Typically research findings are conveyed through written articles in academic journals and spoken presentations at the meetings of professional associations. Neither one seems to be very effective in reaching the administrator or practitioner.
The discussion thus far has been rather theoretical. It has been argued that research utilization is essentially just a special case of the application of sound communication principles. Let us now look at the results of a study that compares research projects that were more readily utilized with those that were less readily utilized.

THE HIRI STUDY OF FACTORS INFLUENCING THE SUCCESS OF APPLIED RESEARCH

In 1969 the Human Interaction Research Institute (HIRI) in Los Angeles completed a study for the U.S. National Institute of Mental Health.* The purpose of the study was to determine what characteristics distinguished five applied research projects judged to have resulted in successful utilization from five other projects that were judged to have resulted in unsatisfactory utilization.

For purposes of analysis, each of the ten studies was divided into six stages: formulation of the idea, design, funding, research, dissemination, and utilization itself. Intensive interviews were conducted with the researchers involved in each project, with the administrators of the agencies in which the research was conducted, and with practitioners working in those agencies.

Although neither of the researchers studying the ten projects is a communication expert, many of the features that distinguish the two sets of projects relate to communication. All the research projects with successful utilization showed more two-way communication than any of the less successful projects (1) within the project team itself, (2) with the host or cooperating institutions, and (3) with outside professionals and groups who were potential users of the results. The practitioners within host organizations were more likely to use the results if they had been involved actively in the development of the idea and the design of the project, if they had good rapport with the research team, and if their views and reactions to the preliminary results had been taken into account. It sounds simple, basically a matter of good sense and common courtesy, and yet some extremely capable researchers were involved in the projects that did not do these things and that, as a result, did not lead to successful implementation.

Perhaps the best way to get a good, unbiased taste of the results of the HIRI study is to read the composite profiles of the two types of projects, those

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with more successful utilization and those with less successful utilization. As you read these, recall the point made above that research utilization is basically a communication process. See to what extent you agree or disagree with this notion as you read these two profiles. (All of the underlining here appeared in the original text of the report.)

1. The Successful Project

The project was characterized by high communication, awareness and involvement with persons and groups within and outside the immediate environment from its earliest moments. The project staff made efforts to induce interest and cooperation from a wide group of supporters and potential users. Interaction and communication proceeded at a high rate through both formal and informal channels. Potential obstacles were shared concerns. The resolution processes often provided unanticipated benefit and strengthened the project. The development and maintenance of a network of communication took time and effort, but observable rewards justified the expenditure.

The research was designed by the principal investigator, who devoted full time to the project. The host agency indicated its commitment by contributions of services and supplementary funds. The focus of the research was aimed at a felt need which enjoyed a shared interest from other people. Ipso facto, therefore, the product was readily marketable. Potential consumers were involved and informed. They encouraged early efforts at dissemination of findings, and were ready to consider implications for utilization.

Throughout the life of the project there was ample evidence of adequate project structure (i.e., committees, liaison, linkage). There was leadership capability, with a consensus among those involved regarding priority of goals. Dissemination was planned for, and a higher level of utilization was achieved. The communication component paid off again and again: when severe problems were encountered by successful projects, their base of involved supporters was sufficient to cope with the problems.

2. The Less Successful Project

While there was some interaction and internal communication, there was little sustained effort to open up the process to others. Communication was sporadic and involvement was limited to a small nucleus. The problem to be investigated may well have appealed to a constituency of interactors, but involvement was not welcomed. In fact, there was a pervasive and discernible quality of insularity. Administrators and practitioners resented being excluded.
Characterized by calm during the idea, design and funding stages (in contrast to the successful projects which were dynamic and laden with conflict), these projects erupted soon after the research stage began. Problems developed suddenly and often were unanticipated. Coping efforts were hindered by the fact that part-time principal investigators did not have the time to devote to resolution efforts. Nor did they have an invested group of supporters to help and share responsibility. Each problem reverberated throughout the project, causing extensive shock. Plans were delayed or abandoned enroute. Despite the problems, there were successful findings worth reporting, but there was insufficient time for reports and little "push" comparable to the encouragement received by successful projects.*

SECTION TWO: INTERACTION BETWEEN THE CONSUMERS AND PRODUCERS OF RESEARCH

"Utilizable research must begin with practitioners, not with researchers."

Gloria Feliciano, Dean
Institute of Mass Communication
University of the Philippines

We have found that research utilization is basically a communication process. As with other communication analyses, it is helpful to start our intensive analysis of the research utilization process with the audience, who in this case are the consumers of research findings. Most of our attention will be devoted to one segment of the audience, which in the case of applied research, is extremely important, namely, program administrators and practitioners. There are, of course, other audiences for research results. There are academic audiences such as university professors and other researchers. Foundations and various international agencies constitute important consumers of research findings. Larger newspapers have science writers since the educated public also is, under certain circumstances, an audience for research findings.

Obviously researchers pay more attention to the needs and interests of those "audiences" that have the most influence on them. In practice this means that the sources of professional prestige, such as other researchers, and the sources of funding both play a very important role in determining what kind of research is carried out. In addition, since one communicates most readily with

*Ibid., pp. iii-v.
those who share similar beliefs and values, the researcher, even if he wishes to do so, finds it difficult to communicate with certain audiences such as program administrators. In other words, researchers receive positive rewards for being responsive to one set of audiences, which includes other researchers, and at the same time face certain barriers in communicating with other important audiences. Hence even those researchers who are interested in applied research typically spend very little time interacting with those who are supposedly the primary consumers of their research results.

ROLE OF THE ADMINISTRATOR/PRACTITIONER IN MAKING RESEARCH MORE USEFUL

Without denying the importance of other types of research consumers, we shall emphasize in this discussion the administrators, managers, and operators of social action programs. There is without doubt much potential for conflict between these action-oriented practitioners and typical academic-oriented researchers. Their basic values are different. The former are concerned with using knowledge, the latter, with increasing it. They have different time frames. Researchers typically have a much longer range time orientation than practitioners. Researchers, as scientists, are interested in identifying patterns, whereas practitioners are usually more interested in specific, concrete cases. Researchers are committed to the notion that scientific knowledge is never final, but administrators and practitioners have to make decisions and cannot afford to wait for "all the evidence to be in." Finally, as noted earlier in this unit, researchers and practitioners have, largely as a result of these differences, very different communication networks.

Both the researcher and the administrator/practitioner must make conscious efforts to bridge these gaps if there is going to be constructive communication between them. We are talking about two-way, interactive communication involving both parties. The HIRI study described above found, for instance, that it did not matter much for the ultimate success of the project whether the original source of the research idea was the researcher, an administrator, or even field staff. What did matter was the extent to which it was relevant to the problems being faced by practitioners and action programs associated with the research. For the researcher to design a research project that is responsive to such problems, he or she must engage in an intensive dialogue with program administrators and practitioners from the very beginning. The HIRI study went on to discover that although it did not matter who originated the idea, the successful research projects were those where consistently more energetic effort went into obtaining the reactions and contributions of administrators and practitioners in the early idea stage and throughout the life cycles of the projects. In other words, a very important part of the role of the administrator/practitioner in making research more useful is to interact with and respond to the researcher's ideas and suggestions. The researcher, in turn, must actively solicit these inputs.
It appears, then, that the important distinction is not between research that is generated at the request of the administrator and research that is initiated by the researcher or an outside funding agency. The important difference, as far as successful research utilization is concerned, is between research that involves a constant dialogue between the consumer of the research and the researcher and research that does not involve this dialogue. The constant interaction between the researcher and the administrator/practitioner has a number of positive effects. First, it results in modifications being introduced early in the life cycle of the research project while it is still relatively easy for all parties to make adjustments. Second, it means that the administrator will see more clearly the relationship between the original problem and the final results of the research. Third, the administrator will have an emotional investment in the research and will naturally be more willing to consider the implications of the final results for the program. Fourth, there will be more opportunity to share gradually with the administrator and other staff the implications of research, especially when it may represent "bad news" to somebody. Research will frequently produce results that are threatening in some way or another by virtue of its challenging the way things are being done currently. Fifth, typically the more individuals interact the more they like each other and the more they trust each other. This is helpful in getting the administrator to accept the results of a research project that may not be fully understood in spite of the interaction that has taken place during the life of the project. In this situation the administrator is likely to accept the results because the source—the researcher—has become a liked and trusted person. It is simply a question of credibility, to use another communication concept.

RESEARCHERS' COMPLAINTS ABOUT ADMINISTRATORS

Typically discussions about the lack of effective research utilization put most of the blame on researchers. It is easy to do so since many of the charges are justified. Researchers are not the only ones at fault, however. Even when researchers endeavor to work closely with busy administrators and practitioners, they are sometimes rebuffed. They often find it difficult to get access to the decision-making process itself and hence are less effective in formulating research ideas that are responsive to the most crucial or core problems being faced by a program.

The basic message of this section, then, is that there is a direct relationship between the degree of involvement of the consumers throughout the research process and the extent to which they will make use of the results after the research is completed. Both administrators and researchers need to take conscious steps to assure that this happens. Those who plan or fund research have to make allowances for the extra investment in time that this interaction requires.
SECTION THREE: THE ROLE OF THOSE WHO CONDUCT RESEARCH

Thus far we have always referred to "the researcher" as if there were basically only one kind. In this section we shall briefly review three different types of researchers and the implications that their different skills and interests have for research utilization. Frequently those who want to commission or encourage a certain research project have a choice among different types of researchers. The three basic types of researchers to be considered here are (1) the in-house program researcher/evaluator, (2) the market researcher, and (3) the academic researcher. While there are certain features or characteristics common to the research typically carried out by all three types, they do have unique contributions to make. The focus of this section, then, is on the different types of researchers and the relationship between their basic characteristics and research utilization.

THE IN-HOUSE RESEARCHER/EVALUATOR

The in-house researcher/evaluator is an employee of the social action agency itself and by virtue of this fact some--but not all--of the communication problems between the administrator and the researcher are removed. Since in this case the researcher's salary and career are controlled by the program, the reward system tends to push the researcher toward applied, usable research. The interaction between researcher and administrator/practitioner discussed in the previous section is facilitated when both are employed by the same organization. It is also easier for the researcher who works for the social action agency to act as a consultant or advisor in relation to the utilization of specific research findings and of general social scientific principles and knowledge as well.

The experience in Taiwan, where the family planning program has had considerable success with research utilization, confirms this view. Those who have analyzed the situation in Taiwan find that there has been much benefit in having one centralized agency, under one roof, with a single director responsible for both program administration and research. Nonetheless they discovered that steps had to be taken to overcome some of the values instilled in the advanced university training that the research staff had undergone.

In general in-house researchers seem to need additional training in the importance of practical application so that their values are more in accord with those of the program staff. Since advanced university training offers very little experience in communicating with administrators and practitioners, in-house researchers and evaluators have a tendency to prepare their research or evaluation reports using technical terminology and other features found in academic research reporting. Special additional training is undoubtedly required before the
university-trained, in-house researcher/evaluator is able to contribute fully to the research utilization process.

There are, of course, instances when the development or use of in-house research competence is not particularly desirable or practical. In some cases, for instance, an external research agency may already have access to relevant data. For some studies, knowledge of the sponsorship of the study may bias what respondents say to interviewers, and, hence, it is preferable to have an outside agency conduct the study. In some countries the number of people with research skills is still rather limited, and, in these cases, it may be much easier to buy part of a good external researcher's time than to recruit an equally or even less well-qualified person for a full-time position. Internal conflict may require that an "objective outsider" be recruited to carry out research or evaluation. Even if a research and evaluation unit already exists, it may be too busy to conduct a project, the results of which are needed quickly. Often the heads of such sections as the communication unit are of equal rank in the organizational structure as the head of the research and evaluation unit and may consequently sometimes have difficulties in getting certain pieces of research done on their own terms.

THE MARKET RESEARCHER

One way to increase the likelihood that research will be usable is to establish detailed terms of reference and to contract for the study. In this connection one often thinks of commercial research firms, such as market research agencies. In addition to the advantages of a contractual arrangement, which, after all, could be set up with an academic researcher, there are a number of other sound reasons for turning to market research, especially in relation to applied communication studies. Market research firms typically have competence in areas such as consumer surveys, attitudes studies, motivational research, media habits studies, product and packaging testing, and pretesting of media materials.

In addition to the competence of market research agencies in areas of practical relevance to the service and communication components of programs, there are other features of market research that have important ramifications for research utilization. In the first place, the fundamental purpose of market research is to collect, analyze, and present data as an aid to executive decision-making. In other words, market research does not subscribe to the academic research goal of discovering new knowledge as an end in itself. Market research involves the diagnosis of the information needs of an administrator or manager, the conduct of appropriate research using the tools of contemporary social science research, the communication of the findings to the client, and assistance in their interpretation and utilization. If the program administrator needs to know exactly
who is listening to what radio station when, this type of very detailed media habits information can be readily learned by a market researcher. The academic researcher, on the other hand, is interested in much broader matters and would typically ask no more than whether or not a given respondent listens to radio and perhaps how long each day.

In addition, market research tends to be less expensive than more or less comparable research conducted by an academic researcher. The existence in most places of competing market research agencies means that they must keep costs low by using efficient, business-like methods. Since the market researcher is oriented to providing quick results to business clients and has no competing demands on his time, the results of a market research study are likely to be available much sooner than they would be if comparable research were conducted by an academic researcher, whose time is normally divided up among teaching, community service, and research obligations.

Unfortunately, program managers in the social welfare area, such as health and family planning, often feel very uncomfortable in dealing with the world of business, of which market research is a part. This has undoubtedly resulted in some hesitancy to use market research. Another difficulty for the program manager is having to choose a market research agency from among the large number that one is likely to find in most large cities around the world. Guidelines for the selection of a market research agency have been drawn up. Perhaps it would be useful to examine these quickly. Many of these criteria are also applicable in evaluating other external sources of research expertise, such as university-based social science research centers.

GUIDELINES FOR THE SELECTION OF A MARKET RESEARCH AGENCY*

1. Reputation for Integrity
   a. General reputation in market research field
   b. Reputation among former and current clients
   c. Reputation for intellectual honesty and courage of convictions
   d. Reports from organizations such as trade associations, Chambers of Commerce, and Better Business Bureaus
   e. Adherence to the professional codes of organizations such as the Market Research Council

2. Indications of Ability
   a. Education and experience of key staff members
   b. Recommendations and expressions of satisfaction from clients
   c. Amount of repeat business and long standing relationships with clients (for instance, retainers)
   d. Documented cases of clients benefiting from the agency's services
   e. Recognition and rewards from professional organizations
   f. Growth in the agency's staff and volume of business

3. Experience of the Agency
   a. Length of time the agency has been operating
   b. Length of service of key staff members
   c. Number of different clients served
   d. Nature and scope of market research projects conducted previously

4. Ability to Cope with Project under Consideration
   a. Experience with projects of similar nature and scope
   b. Degree of specialization in relevant fields or research techniques
   c. Experience and interest of staff members who would be assigned to the project

5. Adequacy and Convenience of Facilities
   a. Size of staff
   b. Location of offices
   c. Availability of special equipment (for example, for data processing)
   d. Access to outside services that might be required

6. Financial Responsibility
   a. Adequacy of capital (from bank references)
   b. Insurance coverage

7. Business Methods
   a. Degree of pressure in soliciting new business
   b. Clarity and detail of specifications and cost estimates in proposals
   c. Billing terms

THE ACADEMIC RESEARCHER

"... if one sits down in an arm chair with no contact with the outside world and starts research to find solutions to problems that may or may not exist, then there will be difficulties in making people understand the research results."

Lee Kum Tatt, Chairman
Singapore Science Council
This statement by the head of the Singapore Science Council undoubtedly comes close to the image that you probably now have of the typical university or academic researcher. It is certainly true that a number of things have been said thus far in this unit that would suggest that academic researchers on the whole are not carrying out research in a fashion that leads to ready utilization by program administrators. Without doubt academic researchers are less likely than their counterparts in market research agencies or in program research and evaluation units to engage in continuing interaction with program administrators during the course of carrying out their research. In addition, the reward systems in universities are generally administered by their colleagues so naturally academic researchers tend to conform to the values and expectations of their fellow researchers. Research topics and techniques are chosen, in part, on the basis of what is currently fashionable and what is likely to be published by prestigious journals. Since in the case of developing countries these journals are often published in developed countries, the research that is likely to be acceptable for publication is even less likely to be applicable to local problems.

We must, however, examine the other side of the coin, for there are very worthwhile contributions to program management that can come from the academic research community. In the first place, it would be presumptuous to assume that the starting point of all useful research must be the administrator's "felt need." Being free of various bureaucratic constraints and considerations, the academic researcher, who after all is normally a very intelligent person, may from time to time see problems and develop innovative solutions for testing that would have never been uncovered by the busy program administrator.

In addition, there is a great deal of general social science research that can reveal to the administrator much useful information about the program's clients—their values, social networks, basic beliefs, political philosophy, everyday routines, and so on and so forth. Frequently this research will not solve a particular program problem, but it will enable the program administrators to orient their services to the cultural patterns and practices of their clients. Much of this research already exists, but special steps must be taken to tap it. To the extent that the results are available in documented form, this has been the subject of previous units. At other times the data exist, but must be sifted and collated for the new purpose. This type of "desk research" will be discussed in the next section.

To get the flavor of the kinds of contributions that one could expect from descriptive social science research studies, let us look at a "synthetic" project in Southeast Asia that has been constructed from several actual projects. A feature common to these projects was their insufficient awareness of certain crucial aspects of their clients' beliefs and practices that would have been revealed by social science research.
THINGS PROGRAM PLANNERS/ADMINISTRATORS MIGHT HAVE LEARNED FROM SOCIAL SCIENCE RESEARCH: A MODEL FAILURE*

Our model failure is a model farm, established in order to introduce the practice of irrigation into the project area, thus enabling the farming population to produce crops such as soy beans and maize (corn) in the dry season. Standard feasibility studies were conducted in regard to the construction of the dam and the irrigation system. It was shown through extensive and thorough experimentation that the new strains of rice and the other crops will grow satisfactorily under the soil and climatic conditions that prevail in the project area. It was proposed that one extension officer should serve two hundred farm families.

What were some of the other preconditions for the success of this project that did not receive adequate attention by those planning it? Through experience it was found that the following crucial factors, all of which would probably have been revealed by social science research before the project was launched, contributed to its failure.

1. The operation of the irrigation system required a complex system of cooperative labor. In this area there is no indigenous tradition of cooperative organization for agricultural or other purposes on any long-term basis. The individual family household is the basic unit of production and of consumption.

2. The possibility of continuing cooperative labor is further decreased by the absence of real community bonds among the farm families, who were forced into physical proximity by the common misfortune of having their former land flooded by the creation of the reservoir. Over a dozen villages had been flooded in this process, and a few families from each were resettled in the model farm area. Socially their backgrounds differ considerably.

3. The project community did not eat the new crops that were introduced, and hence there was no local market for this produce.

4. The crops were not produced in sufficient quantity for export, but even if they had been the mechanisms for processing, transporting, and marketing them did not exist.

5. The production of these new crops required different manual skills and new and more sophisticated machinery from what is required by the crops raised traditionally. The original plan did not include sufficient extension personnel to teach these skills nor did it provide for training in the use and maintenance of the new equipment.

6. A primary assumption behind the project was that farmers have simply been killing time during the dry season. However, over the centuries the rural population has developed a variety of non-agricultural pursuits for the dry season. Many farmers take jobs in town on construction sites or as pedi-cab operators, thereby obtaining cash for the performance of certain critical rituals such as cremating a long-embalmed parent or providing the dowry for a daughter. In addition, working in the town provides welcome recreation and relief from farm labor.

From this information alone it is quite clear that even if the project had a much stronger extension capability, it would not have been easy to make these innovations appealing and workable to the farmers on the model farm. It might have been possible to sustain these changes artificially during the life of the project through the infusion of massive inputs of funds and expertise, but this could neither be continued in the long run nor could it be done on a larger scale beyond the model farm itself.
Section Three has focused on "The Role of Those Who Conduct Research." Let us now see what some of the practical implications of this section are by doing the following exercise. In the first column are listed twenty items of information that a family planning program administrator might conceivably want to know. Some represent very modest research efforts (indeed in practice they would normally be part of a larger research study) and others might entail substantial research efforts. The next three columns represent the three types of researchers that we have discussed in this section: the in-house researcher/evaluator, the market researcher, and the academic researcher. From the discussion in this section and your own experience, indicate with an "X" in the appropriate column the researcher that you would go to first for that kind of information. If you feel that there is no good reason for distinguishing between two (or even all three) types of researchers, then place "Xs" in two (or all three) columns. In the final column indicate in a few words why you made the choice you did. To help you get started, we have done the first item. At the end of the unit, we give you the answers that we came up with. While some answers are undoubtedly better than others, there are, of course, no absolutely correct answers to this exercise.
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<tr>
<th>Item of Information Needed by the Administrator</th>
<th>Most Appropriate Type of Researcher to Provide This Item of Information</th>
<th>Why the Administrator Should Go to This Type of Researcher</th>
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<tbody>
<tr>
<td>1. The most widely read newspaper in the rural areas.</td>
<td>In-House Researcher</td>
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<tr>
<td>2. The relationship between family size and the nutritional condition of the children.</td>
<td>Market Researcher</td>
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<td>3. The type of condoms most frequently purchased by lower income males.</td>
<td>Academic Researcher</td>
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<td>4. The nature of possible religious objections to family planning in a Muslim area of the country where family planning has not been previously introduced.</td>
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<td>5. The attitudes of clients toward the program.</td>
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<td>6. The time of day when young couples listen to the radio together.</td>
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<td>7. The reasons why people in an isolated rural area have turned against family planning.</td>
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<td>8. The usual source doctors and pharmacists have for information about contraception.</td>
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<td>9. The traditional beliefs about family planning in the rural areas.</td>
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<td>10. The degree to which the program is reaching younger married women.</td>
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<td>11. The reasons why people purchase pills from drug stores when the program offers them free of cost.</td>
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<td>12. The degree of support for the goals of the program among political leaders.</td>
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<td>13. The concepts people have regarding the level of infant mortality in their area.</td>
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<td>14. The attitudes of the program's field staff toward family planning.</td>
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<td>15. The most widely understood popular term to use for the concept &quot;sterilization.&quot;</td>
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<td>Market Researcher</td>
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<td>16. The social, psychological, and economic value of children to their parents.</td>
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<tr>
<td>17. The number of married couples attending the cinema each day in the capital city.</td>
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<tr>
<td>18. The average number of living children in the families of new family planning acceptors.</td>
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<tr>
<td>19. The extent to which a new poster on vasectomy is understood.</td>
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<tr>
<td>20. The favorite movie star among teenage girls.</td>
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SECTION FOUR: THE CONTENT AND CONDUCT OF USEFUL RESEARCH

We have just been looking at three basic types of researchers and how their different interests, commitments, and skills relate to the process of research utilization. Now it is time to turn our attention more directly to the research process itself to see if we can pinpoint several characteristics of the content of research and the way it is carried out that also influence utilization. We want to start, however, by discussing very briefly the way in which the information resource person (IRP) can contribute to the research process itself.

"DESK RESEARCH": GENERATING NEW INFORMATION FROM EXISTING MATERIALS AND DATA

In previous units we have placed considerable stress on the role of the IRP in identifying, processing, and making available existing information. This includes, of course, the results of existing research studies, in the form either of written reports or, in some cases, of actual data themselves. This type of information is useful in various ways to the researcher who must carry out additional research.

In the first place, the researcher can often get helpful ideas about appropriate research methods for carrying out certain types of research by examining the way other researchers in other places have conducted similar research. Social science research methods are culturally specific to some extent. For example, social surveys with elaborate questionnaires asking for specific factual data about past events have severe limitations among certain peasant groups, who are not oriented to keeping track of dates, etc. Nonetheless, there are a number of features of research methods that are valid cross-nationally, and often one of the most important aspects of research reports from other countries is not the specific results of the study but information about the experience the researcher had in obtaining those results. The identification and procurement of such relevant research reports can be a very important contribution to the research effort on the part of the IRP. In some cases the IRP will be experienced enough to be able to review research reports and extract relevant information about the research methodologies used. In other cases, the researcher (or a junior member of the research staff with research training) will have to do such a review.

The other important contribution that the IRP can make to the research process is the gathering and processing of data for secondary analysis by the researcher. Basically secondary analysis involves taking data that were originally gathered for some other purpose and re-analyzing them to shed light on a different problem. A variation on this is the type of research that synthesizes existing research findings so that new patterns and insights begin to appear from
the combined data. A good example of such a synthesis is a study that was carried out in East Africa by Angela Molnos. Below is an excerpt from the description of the project written while it was still underway. You should pay particular attention to the way the project was designed to use existing social anthropological materials—both published documents and, by going directly to social anthropologists themselves, their field notes from previous studies of various East African ethnic groups.

A BRIEF DESCRIPTION OF THE SURVEY ON TRADITIONAL ATTITUDES, BELIEFS, AND PRACTICES RELEVANT TO FAMILY PLANNING IN EAST AFRICA*

The objectives of the survey are twofold, both of which are essentially practical. One aim is to find out whether there are traditional attitudes, beliefs, and practices of East African peoples on which modern family planning communication can be based. If so, an attempt will be made to reformulate arguments and create a new African image of family planning as having at least some genuine roots in cultural traditions instead of being an utterly alien, "imported" practice.

The other aim is to process and present the various findings in a multi-purpose, cross-indexed, annotated source book to be used by all those who seek first-hand information for use in family planning communication in East Africa and especially for compiling training and teaching materials in this field. This source book will contain social anthropological material as well as information received from successful family planning field workers as to the socio-cultural problems they face and how they bring the idea of family planning to people.

The approach consists in chronologically successive phases during which different methods will be used to collate information. Part of the information collated will be fed back to the survey itself. The formulation of the definite research questions, for instance, will be based on the analysis of the available attitude surveys and on a preliminary inquiry among family planning field workers. The provisional scheme of the successive phases and respective methods is as follows:

1. Comparative analysis of available results of surveys and attitude studies as to peoples' current ideas about family planning and related

matters in different cultural areas of East Africa. Summarizing particular attitudes rooted in the cultural background. Formulating pertinent research questions.

2. Preliminary inquiry among family planning field workers and completion of a provisional list of research questions.

3. Selection of those ethnic groups on which the social anthropological part of the survey will concentrate. Compilation of a comprehensive bibliography on the traditional attitudes, beliefs and practices of the selected ethnic groups relevant to family planning (values attached to children, fertility, the nature of contraceptive practices, etc.). Preparation of annotated address list of social anthropologists who have first-hand knowledge of the selected ethnic groups.

4. Survey among family planning field workers about their experiences with patients, potential users of family planning, drop-outs, opponents, etc. The active cooperation of those field workers in the compilation of the source book will be sought. Their need for information on the cultural background of their clients will be assessed.

5. Evaluation of the survey among family planning field workers. Final formulation of the research questions. Preparation of the successive phases.

6. Extracting from social anthropological literature all available answers to the research questions.

7. Survey among social anthropological experts with first-hand knowledge of the selected ethnic groups. Emphasis will be put on those research questions to which no satisfactory answer could be found in the social anthropological literature. The active cooperation of the experts in the compilation of the source book will be sought.

8. Evaluation of the survey among social anthropological experts. Since the statements sought from the experts will not differ in substance from the published materials, the same evaluation system will be applied to this survey as to the social anthropological literature.

9. Preparation of a three-four day workshop. Participants: family planning field workers and social anthropologists who have cooperated in the project. The results of the project will be presented to them for constructive criticism and discussion. The workshop should help to correct any major bias in the interpretation of the results and to initiate a fruitful dialogue between practitioners in family planning and
experts in the cultural background of people who are expected to adopt family planning methods.

10. Revision of the image of family planning in East Africa. Reformulation of the existing arguments in favour of it. Compilation of the cross-indexed, annotated source book. Suggestions as to other possible applications of the findings and the lessons from the methodological experience. Formulation of a detailed programme of suggested research and research-cum-action projects aimed at understanding the cultural and social-psychological obstacles to the widespread practice of family planning and at finding effective ways of overcoming such obstacles.

CHOOSING MUTABLE OR MALLEABLE VARIABLES

"... research, if it is to have utility for ... policy makers, must focus on those variables which are relatively malleable ... rather than on those which are difficult or virtually impossible to change, such as sex, age, educational status, or ethnicity."

Ozzie G. Simmons & Lyle Saunders
The Ford Foundation

One of the greatest difficulties in applying social science research to the solution of policy and program problems has been the nature of the variables used in research. There is, of course, descriptive research that does not focus on the relationship among variables. In Section Two we suggested that this type of research, which describes the salient social and cultural features of a program's audience or client population, is a very useful kind of contribution from the academic researcher. Most social scientists, however, are not satisfied with doing descriptive studies. They want to construct social science theories, and this requires that they understand the relationship among variables. Often, however, the variables used in this kind of study are not very relevant to policy-making and program management.

Before going on, we may need to explain a few basic terms. When we use the term "variable," we mean some characteristic of people or of groups or of social interaction itself that is not uniform in all instances. In other words, it is something that varies--across people, across groups, and so on. Sex is a simple variable; people are either male or female. It is easy to see that age is a variable, too. Likewise one can think of religion or the number of times
people have gone to a family planning clinic or the number of hours people listen to the radio as variables. Groups or categories of people can also be characterized by variables such as the average income of people in different social classes, the average number of children born to people with different levels of education, and so on.

The simplest type of scientific analysis examines the relationship between two variables while other things are held constant. Examination of the relationship between education and number of children is typical of this kind of analysis. One could also study the relationship between the number of eggs a man eats and how well his children do in the study of foreign languages in school, but we all immediately recognize that the existence of such a relationship is very unlikely. The reason for this reaction is that we all have explicit or implicit theories about the way the world around us works. (How valid these theories are is another matter, of course, and there might indeed be some obscure relationship between eating eggs and language ability on the part of one's offspring.) The social scientist likewise has his theories of social life that suggest that certain variables ought to be related. If the researcher finds that in reality they are related, then he can have a bit more confidence in the validity of his theory. His research has helped to confirm the theory.

A slightly more complex type of analysis involves a model of the relationship between two variables where one of the variables is conceptualized as somehow causing the other. We find that women on the average have less formal education than men. We then state, using a causal model, that there is some feature about sex that "causes" a difference in the amount of education that one gets. What that feature might be is another matter altogether. The problem of interpreting such relationships is very difficult, and it usually leads the researcher to do yet more research. In this case, for instance, is it a matter of a difference between males and females in intelligence, in access to formal education, or in some other way?

For the sake of convenience, researchers call the variable that they think "causes" something else the "causal variable" or the "independent variable." In social science research one finds that typically the causal or independent variables used are the social and demographic characteristics that one finds in most social groups around the world: sex, age, religion, ethnicity, education, place of residence, social class, occupation, and the like. In other words, the models that are very frequently used in social science research conceive of these various demographic and social characteristics of people and of groups "causing" some behavior or another.

Now look back at the list of frequently used causal variables in the previous paragraph. Can you see some important common feature about all of them? The quotation by Simmons and Saunders that you read a few minutes ago will help answer this question.
Yes, that's right. All of these typical causal variables are fixed for life or are very difficult to change, and certainly they are almost all impossible to change by the typical development or social welfare program. For instance, what would you, as head of a family planning program, do if a researcher says to you: "More highly educated women are more receptive to family planning." Basically he or she is saying, if you stop to think about it, "Education causes women to be more willing to adopt family planning." The logical action implication of this statement would seem to be: "Increase the level of education of women and they will be more likely to accept family planning." That's not very helpful is it? You probably do not even have enough money in your budget to provide one percent of the women in your country with advanced levels of education and you certainly will not be permitted by senior policy-makers to stop everything else for 10 to 15 years while you do it.

One implication of all this, then, is that research studies that are to be maximally useful to administrators or policy-makers need to use models in which the causal variable is under the control of or can be influenced significantly by the program administrator or policy-maker. That is not to say that other kinds of findings are totally useless. In the case of the example in the previous paragraph, because program administrators now know that better educated women are more receptive to family planning, they might decide to focus attention initially on educated women to get fast results during the initial stages of the program. This, in turn, might help convince hesitant political leaders that the program can work or it might increase staff morale during a crucial stage in the evolution of the program.

A further implication of the principle that variables in readily utilizable research need to be under the control of the consumer or user of research is that the researcher must be familiar with the decision-making process. In order for the researcher to know what variables are under the control of or can be influenced by the user of his research, he must understand the nature both of that user's program and the user's authority within the program. Such understanding will normally best be obtained through dialogue and interaction between the researcher and the administrator or policy-maker.

This brings us back, then, to the notion that research utilization is a communication process. There should be close interaction from the beginning of a research project between the researcher and the administrator not only so that the researcher can learn the topics of needed research but also so that he can learn what variables should be studied.

GATHERING FOCUSED DATA

We have discussed earlier the idea that certain kinds of descriptive research can be useful to the program administrator or practitioner. The
major reference in that discussion was to research that describes various prac-
tices and beliefs of one's clients that are related to the nature of the change that
the program is attempting to induce. Everyone would agree that information on
crops currently being grown by a particular group is very relevant to an agri-
cultural program, but probably not to a family planning program. Another as-
pect of descriptive research—besides the obvious one of topic—that is related to
utilization is the degree of specificity of the findings. As was noted earlier,
scientists are typically looking for patterns or generalizations whereas program
operators are usually interested in specific cases. Hence in media research, a
social scientist may be content to learn which groups are more exposed to radio
than others, but the administrator of a communication program does not simply
choose between radio and something else. Decisions must be made about such
things as which radio station is most popular, when target audiences are most
likely to be listening, etc.

The issue here, then, is basically one of the operational relevance of the
data being gathered in a study. The nature of the decisions that are to be taken
will determine how specific the data should be. As a general rule, social science
researchers gather data that is less specific than what the administrator needs.
At times the reverse is true, however. The researcher may, for instance,
categorize respondents in a study into five-year age groups (i.e., those age 15
through 19, 20 through 24, 25 through 30, and so on) whereas such refinement
has little value to the administrator since his program does not interact with
people on the basis of such refined age distinctions. On the other hand, since
the Maternal and Child Health program reaches many women six weeks after the
delivery of their babies through postnatal check-ups, data about the attitudes to-
ward family planning of women at this specific period might be very useful.
EXERCISE VI-2: MUTABLE VARIABLES, FOCUSED DATA, AND UTILIZATION

So far in this section we have discussed the value for utilization of studying causal variables that are under the program administrator's control and of gathering data that is focused on the operational level at which the administrator can function. Let us now look at various research findings—both descriptive and in the form of causal statements—and see how useful we think they might be to the typical family planning program administrator. In Exercise VI-2 we have listed in the first column twenty typical findings from research or evaluation studies. On the basis of your own experience and of the discussion so far in Section Four, categorize each of these findings in terms of the degree to which you think it would be helpful to a program administrator or a policy-maker. We have given three choices: "not very helpful," "somewhat helpful but imagination needed to apply," "very likely to be helpful." Indicate your choice with an "X" in the appropriate column. In the last column we would like you to indicate briefly why you made that choice and how you could see the finding being used. To help you get started, we have done the first item. As with the previous exercise, there are no "correct" answers here, but at the end of the unit we have included the best answers that we could come up with. You may be interested in comparing your ideas with ours. Perhaps yours are better!
<table>
<thead>
<tr>
<th>Finding</th>
<th>Degree of Helpfulness to Policy-Maker or Program Administrator</th>
<th>Why Did You Make This Choice? How Might This Finding Be Used?</th>
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</thead>
<tbody>
<tr>
<td>1. Women who have to walk more than 2 kilometers for re-supplies of pills have very high dropout rates.</td>
<td>Not Very Helpful</td>
<td>Somewhat Helpful But Imagination Needed to Apply</td>
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<td>2. The higher the level of infant mortality in an area, the less interested people are in family planning.</td>
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<td>3. More women in urban areas complain about bleeding from the IUD than women in rural areas.</td>
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<td>4. People who had population education in school have smaller families.</td>
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<td>5. Women who breastfeed their babies do not get pregnant again as quickly as those who do not.</td>
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<td></td>
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<tr>
<td>Finding</td>
<td>Degree of Helpfulness to Policy-Maker or Program Administrator</td>
<td>Why Did You Make This Choice? How Might This Finding Be Used?</td>
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<td>------------------------------------------------------------------------</td>
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<td>---------------------------------------------------------------</td>
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<tr>
<td>6. Participants in the government social security program want fewer children than do those who are not participants.</td>
<td>Not Very Helpful</td>
<td>Somewhat Helpful But Imagination Needed to Apply</td>
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<tr>
<td>7. Pamphlets with green covers are more frequently taken from racks in health centers than are those with red covers.</td>
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<td>8. Young women (ages 18-25) prefer pills to IUDs.</td>
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<td>9. Clinics staffed by male doctors have lower IUD acceptance rates than those with female doctors.</td>
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<td>10. More people listen to radio than watch television throughout the country.</td>
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<tr>
<td>Finding</td>
<td>Degree of Helpfulness to Policy-Maker or Program Administrator</td>
<td>Why Did You Make This Choice? How Might This Finding Be Used?</td>
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<tr>
<td>11. Fieldworkers who speak the local dialect in the area where they are assigned generate more acceptors than do those who do not speak the dialect or who speak it poorly.</td>
<td>Not Very Helpful</td>
<td>Somewhat Helpful But Imagination Needed to Apply</td>
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<tr>
<td>12. People who know less about family planning listen to radio more and read newspapers less than do those who are more knowledgeable about it.</td>
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<td>13. Hindus are more receptive to family planning than Muslims.</td>
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<tr>
<td>14. Men who are told about vasectomy by a fellow worker who has been vasectomized are more likely to get one themselves than if they hear about vasectomy from a program fieldworker.</td>
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<tr>
<td>15. Upper income people tend to get family planning services from the private sector (drug stores, private physicians, etc.)</td>
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<tr>
<td>Finding</td>
<td>Degree of Helpfulness to Policy-Maker or Program Administrator</td>
<td>Why Did You Make This Choice? How Might This Finding Be Used?</td>
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<td>------------------------------------------------------------------------</td>
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<tr>
<td>16. Letting field midwives distribute contraceptives door-to-door greatly increases the continuation rate.</td>
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<tr>
<td>17. Attendance rates are much higher in areas where clinic hours and locations are routinely advertised in the local press.</td>
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<td>18. School teachers who have undergone a 2-day family planning course are nearly as likely to support family planning as are those who have undergone a 1-week course.</td>
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<td><img src="Image" alt="Table Cell" /></td>
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<tr>
<td>19. Twice as many housewives listen to the radio between 9 and 10 a.m. than at any other hour of the day.</td>
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<tr>
<td>20. The average age throughout the country at which women have their first baby is 17.8 years.</td>
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PILOT PROJECTS AND FIELD EXPERIMENTS

Thus far our discussion has largely avoided the issue of what types of research are most applicable or useful for given situations. This is a complex question and to answer it comprehensively would take us much too far away from the main focus of this unit. A few comments deserve to be made, however, with special reference to pilot projects and field experiments.

In general it can be said that social science research is more frequently used for describing or analyzing problems than it is for specifying solutions. For instance, the standard KAP study (a widespread survey of family planning Knowledge, Attitudes, and Practice) and provide a picture of what different categories of people do or do not know about a given topic, for example, vasectomy, but a KAP survey is not able to shed much light on what to do about the low level of knowledge that it might identify.

Extremely useful to the program manager is a type of research that is thoughtfully linked to the complex realities in which the program is functioning, that is, research that takes into account as many administrative, financial, policy, and cultural constraints as can be identified. The field experiment or pilot project can do this more effectively than survey research. Pilot projects must, of course, be carried out in a representative environment. In effect, pilot projects or field experiments are "pretests" of potential program innovations.

If not designed properly, however, pilot projects and field experiments encounter many of the same pitfalls as other types of research when it comes to effective utilization. Often they fail to realize their potential for giving the program manager guidelines for new administrative arrangements, new ways of delivering services, new ways of reaching people. Pilot projects, as well as other research, unfortunately often are designed without significant involvement on the part of the ultimate user of the results. Utilization of the results of pilot studies boils down essentially to the degree to which their lessons can be applied on a wider basis or in another place. These issues were examined in some detail by a "synthesis group" on repeatability during the East-West Communication Institute's 1974 International Conference on Integrated Communication for Development. An extract of their report, as edited for publication, appears below.

UTILIZATION OF PILOT PROJECT RESULTS: THE ISSUE OF REPLICATION*

The basic question is the extent to which a pilot program or program

* Taken from R. Lyle Webster, ed., Integrated Communication: Bringing People and Rural Development Together (Honolulu: East-West Communication Institute, 1975). Members of the group were Shawki M. Barghouti, Convenor; David Radel, Rapporteur; Heliodoro Díaz; Juan Flavier; and Tang Teng-Lai.
elements can be repeated on a wider scale. In other words, will what works well on a pilot scale in another area or country, work as well on a larger and integrated scale in a new location?

**THE WIDE RANGE OF REPEATABILITY**

There is a wide range in which repeatability may take place. There is first, theoretical complete replication which in practice is likely to be impossible. At the other extreme, there may be the repetition in a new setting of just one feature or lesson. (For example, in India it was found that the linking of mass media messages about rice with the messages being delivered by fieldworkers greatly increased the adoption of a new rice variety.) Repeatability is concerned essentially with repetition of core features of a project. For example, in the case of FELDA [Federal Land Development Authority, Malaysia], oil palm and rubber culture does not represent a core feature whereas the arrangement to enable settlers to purchase their own land would be considered a core feature.

Repeatability increases in difficulty and declines in likelihood as an integrated project becomes more comprehensive because more inputs, institutions, and cultural patterns are involved thus creating a unique or nearly unique "mix."

**CROSS-CULTURAL BARRIERS TO REPEATABILITY**

Repeatability of integrated projects is difficult within the country of origin and almost impossible across national boundaries. In other words, the greater the differences between two areas in values, felt needs, administrative skills and styles, knowledge, infrastructure, and agricultural practices the more difficult replication becomes. Of course, certain features or ideas can obviously be transferred and adopted or adapted.

In considering repeatability it is helpful to distinguish between specific activities and general ideas. For example, the general idea of FELDA could work in almost any setting provided the political commitment to its implementation was there. The general idea in this case is that the resettlement of landless people can be organized by a public corporation that (1) obtains land and prepares it for use in accordance with the ecology of the area, the marketing capacity of the country, and the skills of the settlers; and (2) assures that public services such as education and health care are available to the settlers from one source or another.

Here are some other generalizations regarding the process of project or program repeatability.

**COMMUNICATION IN THE PILOT PROGRAM**

An administrator undertaking a pilot program which is planned to be repeated or expanded later needs to communicate continuously to selected and segmented audiences. Repeatability cannot occur without communication of information about the project and its results to a variety of audiences that have a say
in deciding about future replication. These include political leaders, professionals, and key officials in relevant organizations.

TOP POLITICAL COMMITMENT

Closely related to communicating to key audiences is the continuing involvement and commitment of leaders to a pilot program. Pilot projects can increase the likelihood of their being repeated to the extent that those who can make the decision to repeat them are involved throughout the period of the project in helping to decide about goals, implementation procedures, and related aspects. This assures that the project is responsive to what they perceive to be the political and administrative constraints on them and that their questions and concerns are answered and documented.

PROSPECT FOR REPEATABILITY DEPENDS UPON IMPACT

The administrator planning for a later expansion of a pilot project has to strive for impact in the pilot. Success of a pilot project is an important consideration in the eyes of those who will make decisions regarding its replication. In general, impact of a program is registered by an enthusiastic reception by participants or by substantial gains in production or income. Or it may be tangible evidence such as new roads, irrigation channels, or even new roofs on homes as in the Korean village movement.

REPEATABILITY MUST APPEAR FEASIBLE

An administrator of a pilot project, while striving for success, must keep in mind the costs of repeatability. Success often can be assured if excessive amounts of resources are used but to be considered repeatable a pilot project should be so operated that those who will decide about replication will perceive it as feasible in terms of the political structure, finances, and personnel available, and similar factors.

SOME MODIFICATION ALWAYS REQUIRED

To those applying pilot programs procedures to a larger undertaking it should be recognized that some modification will always be required since pilot projects are, by definition, not routine functions of the governmental apparatus. In other words, moving from pilot status to a regional or national program requires fitting the pilot experience into the larger structure.

PROJECTS USUALLY NEED A DIFFERENT TYPE OF PERSONNEL

A pilot project usually has a unique history—from its initiation by people with vision and conviction through the process of struggling to solve problems and the resultant learning by all participants through trial and error. Repeating or expanding the project does not entail this evolutionary experience. This has several important implications: (a) to the extent the success of the project depends upon personal commitment it will be difficult to replicate with new personnel; (b) mechanisms must be developed to assure commitment on the part of staff of the expanded program but the pilot project offers little experience in
consciously generating such commitment; (c) the style of leadership needed to consolidate a project and create a bureaucratic structure is not necessarily the same as that required to initiate a project so leadership often must be changed in order to institutionalize a project on a regular or routine basis.

**REPEATABILITY WORKS BEST WHEN TECHNOLOGICAL CHANGE IS LIMITED**

Replication is more likely when the project involves only small changes in the current level of technology and knowledge and requires only modest changes in administrative arrangements. On the other hand, to the extent that the project involves little change, it may not be able to make a significant impact.

**THE IMPORTANCE OF THE RIGHT LOCATION**

The location of a pilot project has important implications for replication. The prestige of an area, state, province, or country in which the pilot project is carried out is an important factor in its acceptance. Similarities between the areas of the pilot program and the place of replication, as perceived by those making the decision to replicate, are important in determining whether or not the project will be acceptable.

**IMPORTANCE OF RAPID AND INTERIM RESULTS**

"... this country cannot wait until the results of research... have been checked, counter-checked, researched on, and tested in a pilot project which has then to be evaluated, monitored, and appraised."

N. Nganga  
Deputy Permanent Secretary  
Ministry of Finance and Planning, Kenya

One of the conflicts between the scholarly research approach and the demands of ongoing action programs involves the amount of time required to produce research results. The scholarly approach stresses accuracy and requires sufficient time for reflection and careful consideration of the results, whereas the administrators of action programs are under constant pressure to make decisions and move on to the next thing. Indeed, a frequent complaint from administrators is that research results are not available when they are needed. On more than one occasion administrators have been unable to wait for the results of
research. This is unfortunate. Clearly it is better to have partial results when a decision must be made than to have complete results after the fact.

The HIRI study discovered that projects with successful utilization of the results started making the findings available in an interim form much sooner than did the less successful projects. Frequently the interim results were reported orally through seminars and other forums with administrators and other program staff.

To facilitate the utilization of research results, researchers generally need to become more flexible regarding the provision and discussion of tentative research findings with those who are able and willing to apply them. In addition, when researchers are taking on research assignments and are designing research they need to take the users' time constraints into consideration. For example, if a discussion with key users indicates that the results will be needed before the beginning of the next fiscal year, there is no point in designing research that will take 18 months to carry out. In effect, we are suggesting that to provide results when they are needed, researchers must be aware of their users' deadlines for decisions and be willing to compromise with the research ideal of unhurried scholarly design, execution, analysis, and dissemination.

SECTION FIVE: THE COMMUNICATION OF RESEARCH RESULTS

We have already raised the issue of the communication of research results in the discussion above on the provision of interim results to key users. Since the communication of research findings is an extremely important topic in the context of research utilization, it requires a separate section in order for us to explore adequately the many ramifications of this final step in the overt research utilization chain. (What happens thereafter, when the research findings are processed in the brains of those who are applying them to decision-making, is a complex and unclear, but important, process that we are unable to focus on directly in this module).

We shall stress in the discussion that follows two major stages in the communication of research results: (1) the preparation of some kind of report on the results and their implications and (2) the dissemination of that report via some medium or channel of communication. In practice these two things are closely interrelated. The first represents the content of the messages; the second, the medium for transmitting that message. For effective utilization, both must constantly relate back to that key point of reference in the communication process: the audience. It is the nature of your audiences and their needs that will determine both the content of the research report prepared for them and how that content will be "delivered" to them.
REPORTING THE RESULTS OF RESEARCH

"I flip to the end of [a journal article] and see if there's anything practical in the article . . . if I have time."

A Busy Administrator

In Unit V we discussed the concept of information transformation. In that case we were referring to the process whereby the IRP takes existing materials and prepares new versions of them for different audiences to meet their special needs. A very similar process should, ideally, take place when the researcher gets near to the end of a project. The researcher, who should have already identified the audiences for his results long before, should then begin the process of preparing different versions of the research results for these different audiences. Typically, as we have noted before, first priority is placed on reaching the researcher's academic colleagues, and second priority, on reporting to the organization that funded the research. For successful research utilization to occur, however, neither of these versions (if they really are different) is normally very useful to the administrator. In preparing a report for administrators or policy-makers, the researcher needs to take their special needs into account every bit as much as when the original research design was developed. Indeed, the ideal situation is for different reports to be prepared that are oriented to various areas of program administration. That means, for instance, that one version might need to be prepared for the IEC division, another version for the clinical services division, and yet another version for, say, the minister under whose jurisdiction the program falls. In practice, of course, pressures of time often prevent the researcher from spending sufficient time on reporting research results. In part this results from insufficient value being placed on this important function. Otherwise research time tables and budgets would allow sufficient time and funds to prepare appropriate reports for different categories of users.

In the HIRI study, it was found that the constant interaction between researcher and administrators and practitioners, which was, as you will recall, a characteristic of projects with successful records of utilization, had an important impact on reporting. This very process of interaction aroused the interest on the part of eventual users of the research to such an extent that near the end of the project they began to demand the results. In other words, one of the benefits of the close involvement of eventual users in the research process is that they are already very interested in the results and probably even psychologically predisposed to use them. In effect then, researchers who are in close interaction with users may find themselves pressured into appropriate reporting. For
those that have had little or no interaction with eventual users, no such pressure
exists. This, combined with their lack of understanding of the users' needs,
results in little incentive to go out of their way to prepare specialized reports.

The HIRI study, as well as practical experience, shows that the most
satisfactory form of research reporting to users involves two steps. Initial
preparation of the audience is important, especially if the implications of the
results include changes that might be distasteful or threatening to somebody's
position. This initial audience preparation, involving early, informal (often
oral) reporting of findings and potential findings to users, provides opportunity
for administrators and members of their staffs and researchers to discuss the
findings and their implications. Administrators and practitioners must accept
the findings both intellectually and emotionally if they are going to make changes,
especially if those changes are unpleasant in some way. In sum, the human
element must be considered in the preparation of research reports.

The researcher's basic value commitment is to objective scientific in-
quiry and to the "truth," but sometimes the truth hurts and the more it hurts,
the more likely it is that it will fall on deaf ears. The researcher, in other
words, needs to take the sensitivities of his audience into mind if he is seriously
interested in seeing his findings utilized. His presentations, while not avoiding
the truth, should endeavor to protect people from losing face or from feeling
unduly threatened.

Another aspect of scientific report writing that tends to work against
utilization is the resistance of researchers to "go beyond the data," that is,
their hesitancy to make action recommendations based on the data and the
research experience. It is often argued that for researchers to "go beyond their
data" in this fashion is unprofessional and that it can even interfere with their
scientific objectivity. On the other hand, nobody else is likely to be as thorough-
ly familiar with all of the ramifications of the study as the researcher. Hence,
its seems wasteful for the researcher to refrain from commenting on its implica-
tions. Naturally it is important that the research report distinguish carefully
between the results of the research, which the writer presents as "researcher,"
and the implications of the research, which the writer presents as "management
consultant" or "advisor."

Program people often complain that the greatest deficiency in the research
reports that reach their desks is this last mentioned area. Research reports,
they say, generally fail to contain specific enough recommendations regarding
concrete actions and changes that the research implies are required. Many
reports just offer broad generalizations about why the program is not succeeding
with little or no indication of what should be done to overcome the problem. In
the HIRI study, which interviewed the users of specific research results, practi-
tioners cited the following to be among the most useful features of research re-
porting: (1) clarification of the practical implications of the research, (2) linkage

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between the findings and current practices with the differences and similarities between the former and the latter spelled out clearly, (3) methods of reporting that permitted interaction between the user and producer of the research, (4) written materials that highlighted the findings that had already been discussed, and (5) predictions of what the outcome would be if the finding were implemented.

So far we have not mentioned some of the very concrete stylistic matters that also appear to have a significant impact on utilization. Among the problems that program people often cite are the following: (1) research reports are too long and complex for a busy administrator or practitioner to study, (2) there are excessive statistics, often presented in tables, which require a great deal of study, rather than in charts or graphs, (3) reports are frequently written in the researcher's technical or academic jargon, which is not well understood by program people who have normally undergone very different types of training, and (4) the style is very tedious or too weighty. A good example of the fourth item mentioned here is the standard way research data in tables are described. The typical table title might read: "Percentage of Respondents Who State They Listen to Radio, By Five-Year Age Groups and Sex." The same table could be labeled: "At What Age Do Men and Women Most Frequently Listen to the Radio?" (Which of these two do you prefer?) In sum, administrators and practitioners say they want short and concise statements regarding the problem that was studied, why it is important, the findings, and the recommended course of action.

We have put almost exclusive stress so far on reporting research findings to policy-makers, to program administrators, and to practitioners. Due to the scarcity of high level, independent public commentators on development issues and the like, researchers in many developing countries also need to assume some responsibility for reporting the results of their research to the general public. This function can often be linked to a program's IEC strategy. Research that indicates a widespread misunderstanding of the program's objectives, for instance, could be used as the starting point in a feature newspaper article or a documentary radio or TV program, which would then go on to present corrective information.

We have stressed the notion that there are different audiences for research results and that their needs are somewhat different. So that you can think more concretely about such differences and their practical implications for reporting the results of research, we will now do an exercise that involves taking the results of a KAP study and preparing brief reports for different audiences.
EXERCISE VI-3: WRITING UP RESEARCH RESULTS FOR DIFFERENT AUDIENCES

On the Exercise Sheets that follow, you should write for the audiences given there a brief report on a KAP study conducted in the Roothana Block of Limat. The data appear in tabular form in the Appendix of the country case study of Limat (tables 22 through 33). The four audiences for whom reports on the Roothana KAP study are to be written are (1) the Cabinet Committee for Family Planning, which is the key policy-making body for the Limat national program, (2) the head of the Education and Information Division for the program in Madera State, which is where Roothana Block is located, (3) family planning extension educators in Madera State, in the form of an article in the newsletter that they receive quarterly, and (4) the national "elites," in the form of an article in the major daily newspaper in Limat City. For each report you may need to make certain statements about the study methodology for which no information is given. In this case, simply use your imagination. You will also, of course, have to make some assumptions about your audiences. Since time is short, you will probably want to make the report even shorter than you would in reality, but bear in mind that most, if not all, of these audiences undoubtedly would not read a long report anyway. If it turns out that you do not have enough time to write all four reports, choose just three (or even two) audiences and write for them. Be prepared later, when the entire group discusses this unit, to show your reports to somebody else for his or her reaction.
AUDIENCE: HEAD OF EDUCATION AND INFORMATION,
MADERA STATE FAMILY PLANNING BUREAU
AUDIENCE: NATIONAL ELITES
(via the major daily paper in Limat City)
DISSEMINATING THE RESULTS OF RESEARCH: 
SOME NONCONVENTIONAL MEDIA AND CHANNELS

Many of the things that were said above focused on the traditional method or medium for disseminating the results of research findings—the written report. In Exercise VI-3 we began to see, however, that there is considerable variety in the ways that you can disseminate written reports, depending upon your audience. In addition, many things that were said in Unit V about the transformation of information relates to this discussion on the dissemination of research results. Since you are already relatively well acquainted with various types of print media for disseminating research findings, we shall limit this discussion to several innovative methods for disseminating research that make use of other media.

Much of the information that we receive during the course of our lifetimes is oral, that is, other people tell it to us. Normally, however, we tend not to think of verbal presentations when we think of disseminating research results. The HIRI study, however, showed that one of the most effective ways to present research is in a seminar or workshop setting which permits potential users to ask the researcher very specific questions about the results and their implications. Not only did the administrators and practitioners questioned prefer this medium for learning about research findings, but because there was an opportunity to get answers to their specific questions, they were also more likely to make use of what they learned through such seminars and workshops. The main problem, of course, occurs when one or more of your audiences is widely scattered. Then it becomes rather expensive to bring people together to discuss your results. In time new technology will begin to reduce these costs, however, by enabling people to participate in workshops from their own offices. In the U.S., for example, "teleconferencing" is already becoming practical, and it is now largely just a matter of time until the costs of telephone connections via satellite will come down drastically. When this happens, it will become increasingly possible to hold conferences by telephone whereby potential users of research can talk with each other from widely separated locations. This would have application both for large, spread out countries like Indonesia and for regional and international dissemination of information.

We also, of course, receive a tremendous amount of information through sight, by which we do not just mean reading, of course. Various visual presentations of research can facilitate the understanding of its implications. Charts and other materials that present the results of research graphically are normally far superior for giving an administrator or policy-maker an overview of the results than are tables. The chart from a recent annual report of the Family Planning Association of Hong Kong, * which we have reproduced here as Sample VI-1,

Comparison of the Average Age of New Patients Accepting I.U.D., Oral Pill, Injection & Traditional Methods by Year

This chart illustrates:

a) The relationship between age of clients and methods chosen
b) Declining and fluctuating trends in the average age of acceptors of different methods.
indicates how simple, but well thought-out graphics can be used to illustrate comparisons and trends. Compare this for effectiveness in communicating essential information to a busy administrator with the tables of numerical data that appear in the Appendix to the case study. Also note how the basic "facts" shown by the chart are given in the two simple statements at the very bottom of the chart.

Often research reports are very staid and formalistic. This feature discourages a busy administrator from paying much attention to them. Occasionally a research report appears that is very notable simply because it violates the conservative norms of research reporting—in a word, it's interesting. A nutrition communication program carried out by CARE-India has prepared a series of reports on pre-project research and on the results of the project. These reports illustrate the use of research in the design of the project itself, but more importantly, for our purposes here, they show how research reports can be prepared so that they attract and hold the reader's attention. In Samples VI-2, VI-3, and VI-4, you can see selected pages from these reports.* The first sample shows how the results of the pre-project survey are summarized in less than half a page. Sample VI-3 shows one of the results from the campaign itself, which tested the differential impact of positive and negative messages. At a glance you can see that the negative messages generally had more impact than the positive messages. Sample VI-4 shows graphically which media were more effective in reaching the audience of the campaign. Incidentally, both the campaign and the booklets reporting on it took advantage of the technical competence that exists in the commercial world. Both were designed by an advertising agency, although the text of the booklets was written by members of the project staff.

Going even further, in terms of exploiting different media, are audiovisual research reports. In some cases relatively simple or "small" media have been used, such as cassette tapes combined with sets of slides or with filmstrips. Since many people can be induced to sit down and watch an audiovisual presentation who would not think of taking an equal amount of time to read a traditional research report, this method of disseminating research results has considerable promise. For instance, Everett Rogers and Douglas Solomon, who conducted a study for the East-West Communication Institute on traditional midwives as family planning communicators in Asia, have prepared, in addition to a rather scholarly 143-page research monograph, a short slide/tape presentation of the main results. This audiovisual presentation is aimed at family planning policy-makers and senior administrators in other countries to encourage them to consider the possibility of using traditional midwives as communicators in their own programs.

*Taken from Ronald Parlato, Breaking the Communications Barrier, CARE-India, New Delhi, 1972; and Margaret Burns Parlato, Breaking the Communications Barrier: A Report of Results, CARE-India, New Delhi, 1973. Both were supported by funds from USAID.
KEY FINDINGS

Nutrition
Iron deficiency anaemia is responsible for over 50% of maternal deaths in India. It is caused by a simple dietary deficiency—lack of green leafy vegetables. These vegetables are amongst the cheapest and most readily available... and have no strong taboos attached to them. Only ignorance keeps them from being consumed. Delayed and improper weaning is the most outstanding cause for protein/calorie malnutrition amongst infants. Contrary to popular belief, this is not an economic problem. Assuming there are at least three adults in every rural family, only 35 grams of cereals and pulses plus a little oil, need be reallocated daily to the weaning infant to fully meet his nutritional requirements. Only ignorance of the importance of proper weaning prevents the introduction of solid food.

Target Group
Male heads of households are the most important targets for a nutrition campaign. Although women prepare the food, husbands have the final say as to what is eaten; in fact, they frequently do the shopping.

Theme
Village organizations are simple and direct. The best “payoff” for a father would be to promise him an educated son.

Media
Although literacy in the village is low, the percentage of influential reached by print media, like newspapers, is surprisingly high. This fact, coupled with a relatively high rate of radio listenership and cinema going, indicates good potential for a mixed media campaign, using both two-step flow and mass media theories.
The Positive vs. The Negative Campaign

Interpretation Not only did the shock approach bring about a greater increase in awareness than the positive approach, but the negative campaign was the most memorable: 87% of those respondents in areas exposed to the negative campaign recalled having seen the publicity, compared to only 71% in the positive areas.
The Most Memorable Media

Interpretation In both campaign areas the visual, highly graphic and entertaining media worked better than the literate—printed media. The appeal of these media is high, and people who saw nothing else learned as much as those exposed to all the media. Even influentials who are mostly literate and accustomed to reading newspapers, responded best to the non-written media.

Visuals create a splash, focus attention, energize the village and convey the message in a form understandable even to illiterates. This leads to the tentative conclusion that future campaigns designed primarily for increasing awareness can be based solely on visual media.

Awareness Scores

<table>
<thead>
<tr>
<th></th>
<th>Pregnancy</th>
<th>Weaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saw all the media</td>
<td>77</td>
<td>78</td>
</tr>
<tr>
<td>Saw only visual—graphic media</td>
<td>71</td>
<td>74</td>
</tr>
</tbody>
</table>
In some cases, of course, the importance of the results of a research project might justify using even more expensive media, such as film, for disseminating the results. Since the difference in cost between producing a slide/tape presentation and a film is considerable, it would normally be very difficult to justify making the latter, however. For one thing, to be worth making into a film, the research results would have to have continuing validity for a number of years. In some cases, videotaping may represent a good compromise if motion seems to be required to get one's message across. Even then, of course, there are techniques using two or three slide projectors simultaneously that frequently can give a perfectly adequate illusion of motion.

Unhappily, the researcher who endeavors to use nonconventional media is faced with several obstacles. First, he is not very likely to receive much positive reinforcement from his fellow researchers and academics for using non-traditional means of dissemination. In addition, many research institutes are not equipped to produce research reports in any except the traditional mimeographed or printed form. Third, the agencies that fund research are not yet prepared in many instances to finance these alternative and nonconventional forms of research dissemination that are a great deal more costly than the traditional report with printed text and tables. Inasmuch as they are often willing to spend a small fortune on carrying out the research in the first place, this seems to be a rather unenlightened attitude on their part! Clearly, what is called for is some evaluation of the differential impact on utilization of research findings that are disseminated using conventional versus nonconventional media. Surely the large body of research that shows superior learning gains in school settings when audiovisual aids are used is not totally irrelevant to this situation.*

SECTION SIX: THE LINKER

As you are well aware, this module has been based on a model involving three roles and their interrelationships: the role of the administrator (which has included the policy-maker and the practitioner in some of our discussions), the role of the information resource person, and that of the researcher. During this present unit we have seen repeatedly, however, that the researcher frequently has difficulties in relating satisfactorily with the administrator. For example, researchers often consider it unprofessional to take the initiative in promoting

*If you are interested in reading more about the topics discussed in this section, particularly the more traditional methods of presenting research findings such as charts and graphs, you may wish to request a copy of the booklet prepared by Vimal Shah entitled Reporting Research. This 59-page booklet is available free of charge from the Asian Office of the Agricultural Development Council, Tanglin P.O. Box 84, Singapore 10.
the utilization of the results of their research. A number of other obstacles between researchers and administrators have also been identified in this unit.

To overcome this communication problem, some observers suggest that a new element is needed that links and facilitates two-way communication between administrators and researchers. To function properly this linking role should be performed by a new kind of professional, variously referred to as a linker, middleman (or, rather, middleperson), transducer, channeler, or policy analyst. Although there are some differences in what the originators of these different terms had in mind, basically they all involve the introduction of a new element into the process of translating program problems into research needs and research results into program and/or policy implications. Would the imposition of another kind of communicator assist the research utilization process or hinder it? Would three-way, rather than two-way communication, be more effective? What kind of person could bridge this gap? Would they be accepted by both administrators and researchers? How would they differ from IRPs? Would new institutional changes be required?

Although the problems that we have identified in the area of research utilization clearly show that drastic changes are needed in the way we are doing things, first consideration probably should be given to ways of improving the responsiveness of the present system. How can researchers and administrators, for instance, be brought to the point where they share more of each other's "cultures"? Would it help, for instance, if future administrators and future researchers were brought together for extended periods during their training?

This question of the linker is still very nebulous, but it is likely to receive growing attention in the coming years. Clearly no definitive answer is available yet. Perhaps the issue requires some research!

SUMMARY: OTHER PERSPECTIVES

Rather than simply repeating here the main points of the module, let us, instead, turn to several other statements that have been written about the utilization of research in the population field. The first of these readings is by Gloria Feliciano, Dean of the Institute for Mass Communication, University of the Philippines. In her statement, Dr. Feliciano analyzes the reasons why evaluation research in population communication is underutilized and then turns to the strategies that might be employed to overcome this problem. From this analysis you will see that most of the issues discussed so far in this unit about research utilization apply equally to the utilization—or lack of utilization—of program evaluation results.

The second reading, by George Cernada and T.H. Sun, represents the analysis by two observers of the Taiwan family planning scene of the factors that
have contributed over the years to the utilization of research in that country's family planning program. Many of these factors are generalizable to other programs and to other countries.

The final reading is a paper by David Radel that reviews the application of social science knowledge, including research findings, to population communication programs. It begins with an analysis of the ways in which scientific knowledge and research findings are brought to bear on the solution of problems in programs of social change. It concludes with a more thorough analysis of the linker role than that which appears above in Section Six.

After you complete these three readings, there is a final exercise followed by the "answers" to it and the two other exercises in this unit. You will then get together with other participants to discuss this unit in accordance with your module manager's instructions. Questions to stimulate discussion have been appended to this unit.
The main reason for conducting evaluation research is to improve family planning communication programme operations. Evaluation research is of no use in and of itself, until its results are put into use.

Research utilization is the process by which research is conducted on problems of relevance to practitioners, the research results are communicated to practitioners, and put into practice in programme operations. The utilization of evaluation research is similarly the process by which evaluation is conducted on problems of relevance to programme officials, these evaluation results are communicated to practitioners, and put into effect in programme operations.

All research is under-utilized. That is to say that research results in all fields are not adequately translated into actual practice. This problem of research under-utilization is especially serious in the case of evaluation research.

The present chapter deals (1) with reasons for the lack of utilization of family planning communication evaluation research, and (2) with some possible means to ameliorate this situation.

WHY IS EVALUATION RESEARCH NOT UTILIZED?

Following are some of the major reasons why evaluation research may not be utilized.

1. Lack of administrators' participation in the evaluation process.

An administrator's involvement to a great extent determines if evaluation findings and recommendations are utilized. The more he is involved in the earlier stages of the evaluation process, the more likely that he sees the significance of the findings. Often, administrators are not consulted in the planning of communication evaluation.


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2. **Conflicting interests of programme officials and evaluators.**

The effective feedback of research findings into programmes is a major impeding factor in utilization. For example, programme administrators do not always feel that they are in a position to wait for the reports of research projects because of the pressure of time and the need to meet performance expectations. For those engaged in scientific evaluation, accuracy and reliability of the data are predominant considerations. Hence, the need to meet the administrator's deadlines is a low priority for evaluation researchers.

3. **Evaluation research is irrelevant to programme needs.**

Often, evaluation results are not related to the problems and needs of the programme. This may be due to the lack of dialogue between evaluators and users. The absence of a built-in evaluation unit in the programme makes the job of an external evaluator very difficult, because he has little direct contact with programme officials.

Obviously, evaluation research, if it is to be utilized, must be conducted on problems recognized by programme officials. Thus the problem of under-utilization of evaluation research consists of re-orienting evaluation studies toward problems recognized as important by programme officials. Utilizable research must begin with practitioners, not with researchers.

4. **Lack of trained linkers.**

The role of a liaison person between the administrator and the evaluation researcher is essential. The liaison assists the communication evaluator in understanding the needs of programmes and their administrators, and in conveying evaluation research results to practitioners, and in translating these results into programme decisions.

5. **Lack of problem-oriented evaluation findings.**

Much of communication evaluation research provides accurate description of events and activities, but not solutions to problems. It is therefore natural for administrators to reject evaluation results in the belief that they are simply troublesome, rather than providing answers to pressing problems.

6. **Academic nature of evaluation reports.**

When reports reach administrators, they may not be read because of the form they take. Most evaluation reports are long and complex. Irrelevant statistics are reported, which have little administrative utility. The reports are filled with technical jargon that is foreign to the administrator. Evaluation findings may be inconclusive, as their reliability and validity are doubtful. Hence,
administrators are unable to decide whether or not to use them as a basis for programme planning strategies.

7. Evaluation reports are not widely circulated.

Evaluation reports do not reach all of the programme administrators. In some cases, the evaluator refrains from circulating the report widely if the contents touch on some sensitive issues. This practice is counter to the spirit of objective evaluation and is counterproductive. It reduces the likelihood that action will be taken on problems revealed by the evaluation.

8. Threat of evaluation research.

The results of evaluation research are more likely to improve family planning communication programmes if the results are negative. An evaluation that simply says "everything's fine" does not lead to improvements in the programme. . . . Naturally there is also a strong pressure against using such negative results; programme officials quite naturally react negatively to bad news. So the same factors that lead to negative evaluations also lead to the lack of utilization of evaluation research.


For the evaluation of family planning communication programmes to be utilized, the evaluation must be timely. Usually this means that the evaluation results should be completed just as soon as the programme administrator perceives a need for it. Naturally, especially in the case of more sophisticated types of evaluation research, this immediacy of feedback is impossible.

One reason that commercial evaluation research on family planning communication programmes is more highly utilized is due to the shorter time span in which it is completed. For example, a commercial market research company frequently expects to deliver the final written report from an evaluation study within three months of its inception. This is in contrast to university-based evaluators who may not complete their written report for a year or more, because their purpose in conducting the evaluation may be to gain scientific knowledge, rather than just to facilitate utilization of the evaluation research.

However, certain problems are also inherent in the rapid feedback of evaluation research. For instance, the short time span involved may necessitate primary focus on the short-range impact of a family planning communication programme. This orientation to the shorter range may orient the evaluation research toward such dependent variables as knowledge of, and attitudes toward family planning methods, rather than to adoption and continuation of family planning methods, or even to changes in fertility behavior. An illustration of this point comes from the evaluation of an air-drop of family planning
leaflets in Bangladesh. Clinic attendance increased in the area, but only for one day.

Much evaluation is under-utilized because prospective "consumers" do not know what data exist, or do not have these data easily available, cannot understand them, do not have confidence in them (or do not think their superiors or financial supporters would), do not think the evaluation data apply to their particular problems, or if they seem to, simply do not know what to do with them.

FACILITATING THE UTILIZATION OF EVALUATION RESEARCH

There are a number of strategies available to encourage the likelihood that evaluation research on family planning communication programmes will be utilized.

1. Build the evaluation research component into the organizational structure of the family planning programme.

   ... In most nations, there is a need for both insider and outsider evaluation, but we should not forget that an important advantage of evaluation research conducted by insiders is that it is much more likely to be utilized.

2. Reduce the perceived threat of evaluation.

   Previously ... we showed that the expected threat of evaluation research is one of the important reasons (1) why it is often not conducted at all, and (2) why the results of such evaluation are not used. How can evaluation research be made less threatening?

   First, programme officials should adopt an evaluative mental stance toward their programme operations. If programme officials were highly committed to improving their programmes, they would welcome evaluation as a means to this goal. We need "experimenting programmes" headed by "evaluation-minded officials."

   Further, evaluation would be perceived less threatening if evaluators re-oriented their procedures toward giving greater emphasis to providing positive feedback along with negative evaluation results. Often, evaluators do not bother to report the positive and satisfactory aspects of a programme that they evaluated.

   Lastly, it may be important to realize that evaluation research often is threatening, as a first step toward dealing with how to minimize such perceived threat.
3. **Evaluation should be timely.**

   The shorter the length of time between (1) a programme officials' realization of a problem on which evaluation is needed, and (2) providing him with evaluation results, the more likely utilization is to occur. Previously, we discussed the importance of timeliness in obtaining the utilization of evaluation research results. Unfortunately, most evaluation results are only available after the need for them has passed.

4. **Evaluation should focus on field experiments.**

   ... field experiments [are] recommended as an ideal standard for evaluation research because of their scientific precision in determining the causal relationships between communication programme inputs and their impact. However, field experiments have another important advantage for evaluation research purposes: Their results may often be more utilizable. There are two possible reasons for the relative utilizability of field experimental evaluation:

   1. "Hard" data about programme impact are more likely to result from field experiments, and programme officials feel more confident in implementing recommendations based upon such solid evaluation.

   2. Because the treatments in a field experiment are essentially mini-programmes, it is more facile for administrators to translate experimental results into action.

5. **Multiple evaluation research methods should be used to obtain more valid and reliable evaluation data.**

   Previously in this report, the advantage of using several evaluation methods has been discussed. Multiple evaluation, by providing sounder data, contributes to the utilization of evaluation results.

6. **Evaluation should interfere as little as possible with programme operations.**

   One of the relative disadvantages of field experiments for evaluation purposes, compared to other evaluation methods, is that they may interfere with the on-going conduct of family planning communication programmes. For instance, a field experiment usually necessitates the random assignment of treatments to respondents, and provision of a control group. Administrators may be reluctant to allow such arrangements to be made for evaluation research purposes.

   And when they do, they are likely to resent the intrusion of the evaluation into their regular operations, and be less likely to utilize the evaluation results.
7. Evaluation methods should be as simple as possible to facilitate their understanding by administrators.

Few programme officials are willing to implement the results of evaluation research unless they can understand the research methods that were used to obtain the results. Thus the simpler the evaluation research methods, the more likely the evaluation results are to be utilized.

8. ... 

9. Use multiple channels to communicate evaluation results to administrators.

A variety of methods should be used to convey evaluation results to programme officials in addition to the final written report: Oral briefings, short progress reports, and films. Statistical tables should be converted into figures for greater understandability. In short, the reporting of evaluation research should be receiver-oriented, and ideally should involve the active participation of programme officials.

10. Providing liaison individuals or linking institutions to translate needs into evaluation research, and research into practice.

The language of research is different from the language of practice, and so evaluation researchers and administrators often do not communicate efficiently unless intermediaries are provided. For example, the National Institute of Family Planning in New Delhi is officially responsible for accumulating evaluation research results in India, and for synthesizing them into a form useful for family planning programme officials. In addition, of course, the Institute conducts evaluation studies of family planning communication.
THE TAIWAN EXPERIENCE IN USING RESEARCH: AN ANALYSIS*

Research in the Taiwan program grew over the past decade from an early concentration on improving the effectiveness (social and cost) of contraceptive services to a later focus on expanding communication approaches—from only face-to-face home visiting, to the use of mass media, to ways of reaching the increasing numbers of younger women whose fertility rates were not dropping.

Research and program results showed that the needed population changes went far beyond family planning program activities, and efforts expanded to include trying to identify the economic, psychological, and societal values placed upon children; the obstacles to parents' understanding of the advantages of a two-child family; the nature of son preference; educational approaches to newlywed and newly engaged couples; and use of incentives. Perhaps the most significant outcome of this continuing research has been our growing awareness of the complexity of the issues we once tried to deal with so simplistically.

SUMMARY OF FACTORS RELATED TO RESEARCH USE

Favorable Factors

Factors we think were of importance in helping Taiwan utilize its research in its population and family planning program, and particularly in the communication components, are:

1. Adherence to the basic assumption that research is intended to improve the continuing program and to aid in planning future operations which will benefit the consumer.

2. Heavy emphasis on translating program needs into researchable projects, interpreting research findings into simple step-by-step action program changes, and using help from resident donor agency advisors in doing so.

3. Flexibility in research funding and research operations so that early stages in exploratory studies can be refocused to meet program needs.

4. The accumulation of continually evaluated experience over more than a decade and its cumulative effect on our growth of awareness of the complexity of this area of planned social change.

5. An unusually rich flow of vital data and program information, fed back and forth between the program headquarters and the field to help pinpoint research needs. The relatively small size of the island, the already existing

*This is the final chapter, with a slightly revised title, of Knowledge into Action: The Use of Research in Taiwan's Family Planning Program.
well-developed communications network and the exceptionally accurate vital data available have facilitated progress.

6. Centralized administrative arrangements. Both the research and evaluation and the action program implementation for the most part have been the responsibility of one agency under one directorship and under one roof. This organization has been flexible enough to change to meet consumer needs and program goals.

7. Training research staff to be sensitive not only to research methodology but to the need for practical application so that their value system is more in accord with that of program staff. (More still needs to be done.)

8. Theoretical and methodological approaches which fitted the action program problem, rather than the opposite. This has meant an awareness that most approaches and research models have far too many limitations to be applied consistently in the field.

9. Designing field experiments and pilot projects to demonstrate the means of breaking out of the bounds of current program practice. Field observation, service statistics, and results of large social surveys have helped pinpoint some of these demonstration needs.

10. Encouraging research and program staff to solve problems as a team and to be proud of their achievement—with incentives added, such as providing publication vehicles and salary supplements.

11. Recognition of mistakes and learning from them as well as from successes. Evaluators have continued to objectively evaluate their own research and to invite and listen to outside criticism.

Unfavorable Factors

Over the past decade, a number of factors have been identified which seem to have hindered research use in Taiwan's program. These include, but are not limited to, the following:

1. Changes called for by findings were interpreted to be in conflict with government regulations.
2. There were no available budgets to implement findings.
3. Time lag: by the time findings were available and translated for program use, the program was ahead of the study.
4. The research project began without sufficient involvement of the staff who would have to implement the findings.
5. Armchair research—not enough relationship to the situation in the field it was designed to solve.
6. The study methodology was questionable.
7. The study objectives were inadequately defined.
8. The findings were not conclusive enough to justify program change.
9. The island-wide social survey approach (stressed during the last half of the 1960's) should have been preceded by more exploratory work or followed up more in depth to pinpoint certain trends among groups.
10. The research was urged upon the unit by outside agencies and interest in results was mostly theirs.
11. The needed change might have thrown another aspect of the program out of balance.
12. Findings might have caused someone to lose face.
13. The manner in which the findings were presented to the program staff violated protocol or was threatening.

14. The research project represented only the researcher's interest.

AN ANALYSIS AND DETAILS OF FAVORABLE FACTORS

Determination of Research Needs

Partially because the evaluation and research function was integrated early into the overall action program, "research" needs were defined by potential applicability. Most of the more than one hundred formal studies carried out tried to answer questions posed by program problems. In addition, evaluation was built into continuing program activities—e.g., systematic collection of service statistics, measures of program input and output, supervisory observations in the field, and special projects carried out by the operational divisions of the Committee on Family Planning.

Some strengths include the following:

1. A series of crude birth rate and contraceptive acceptor goals had to be reached. Whenever program obstacles were encountered, the Research and Evaluation Unit was asked to help find out how to overcome these. This meant that research priorities focused largely on problems related to consumers of service, not just the interests of research (or action program) personnel.

2. Research project priority was based on potential for program implementation and on researchability. The choice for the most part rested with a director sensitive to both research and program activities. Resident advisors also played a vital role in helping to identify consumer needs and in translating program needs into applied research study designs.

3. There was a continuing two-way flow of communication between the field and headquarters: service statistics, input-output measures, regular headquarters meetings, regular field staff meetings, and meetings of field with headquarters staff. These have helped determine and better clarify research needs.

4. The continued difficulties of getting adequate funding (due to a lack of Government policy through 1968) meant greater attention to cost-effectiveness studies of all sorts: in mailings, in home visits vs. group meetings, and so on.

5. The multiple agencies which served as sources of local funding demanded early that the research unit show results by evaluating the effectiveness of the program or else lose its funding. This was a constant threat during the early years of the operation.

6. Most research has been applied but not all has been short-term. There was considerable emphasis on intermediate and long-term work (particularly experimental approaches—the educational savings plan, maximum contraceptive acceptance plan, spacing incentive approach) when it became apparent from research findings that goals could not be realized without influencing social change more dramatically than by offering only contraceptive-oriented service and education.
Organizational Arrangements

The Research Unit is located in the Committee on Family Planning of the Taiwan Provincial Health Department, which has total responsibility for promoting the family planning program in Taiwan Province. It evolved in 1969 from its predecessor unit, the former Taiwan Population Studies Center, which was started in 1961. Its strength in terms of research utilization lies in the following:

1. The organization evolved over more than a decade. The divisions of labor, staffing, and functions were adjusted continually to meet the program's evaluation needs. There has been one major organizational overhaul.

2. The family planning program agency contains both the evaluating and the implementing units at the central level. They are in the same building. This eliminates many jurisdictional squabbles and minimizes communication difficulties.

3. Excellent sample social survey facilities have been developed, including unusually good sampling framework (developed in close consultation with Michigan), strong interviewing team and field interviewing supervision, good coding personnel, efficient data processing unit and experienced, and capable research staff.

4. The Committee's director has had extensive experience and training in research and evaluation and works closely with these units.

5. Close relationship with other organizations such as the Joint Commission on Rural Reconstruction and the Council for International Economic Cooperation and Development (locally), and the Population Council and the University of Michigan Population Studies Center (in the United States) have increased the opportunity for outside inputs of ideas for new directions and critical reactions to projects being implemented.

6. The autonomy of the evaluation group is maintained by having separate sections which are able to be reasonably objective. These form three of the six units at headquarters and a third of the professional staff. One emphasizes intermediate and longer-term studies; the second focuses on analysis of input-output data; the third does the processing. Since the first two must keep close track of field programs, there is considerable feedback into and from the action units--education, supervision, and planning.

7. The field network stretches throughout the island. The field supervisory teams are able to locate problem areas as they arise, and also to transfer the findings for implementation.

Staffing

There are 16 professional evaluation and research staff, a trained corps of 56 part-time (piecework) interviewers scattered island-wide, and six experienced survey interview supervisors. Supporting them are ten coders and three clerical staff. Educational qualifications and experience are varied: one Ph.D., four M.A.'s, four B.A.'s; seven staff have more than eight years experience each. Both research and program staff must work together closely.

The following are strengths:

1. Program and research staff meetings are held weekly to review activities. Each division has a quarterly work plan (specifying weekly activities) distributed to all others. This helps develop a common value system in respect to sharing responsibility for a good overall job.
2. There is considerable teamwork and a problem-solving orientation developed on the strength of having overcome many obstacles through applied research efforts.

3. An education evaluation committee reviews communication needs. Both education and research staff discuss problems and how to solve them. The limitations of both program and evaluation units become clearer so that realistic demands are made. A single problem is approached by several staff from different viewpoints. Process as well as task receives emphasis so that staff can develop.

4. Reports on program progress and interim reports on research are circulated regularly so that each staff person is able to get an idea of what is going on in the program as a whole.

5. Senior research staff have received graduate training abroad, usually only after several years of working experience. By the time they go abroad they have a feeling of how research helps the program and are able to view coursework in terms of on-the-job applicability. Their overseas training emphasizes quantitative measurement but is basically in social sciences: major in sociology (Michigan), demography (University of Pennsylvania), for example. Senior program staff who work with them are trained abroad in health education and communication, also only after on-the-job experience.

6. Working assignments are arranged so that each person has responsibility for working on at least one study on his own. Studies are matched with staff interests, training, and experience, with individual growth in mind as well.

7. Co-authorship of papers is encouraged: in a mimeographed "Interim Reports" series, a "Working Paper" series (in conjunction with the University of Michigan Population Studies Center) and in local and foreign journals, depending on kind of paper and quality. These papers provide a sense of satisfaction and pride.

8. Fellowship support for graduate training abroad also is an incentive for recruiting staff as well as for maintaining them.

**Funding**

1. A large part of the research funding, particularly for more innovative projects which local sources would not support, has been available from external sources.

2. Because of a long-time association with one external assistance agency, needed funding for research has dovetailed nicely with other program funding sources.

3. Considerable flexibility in the use of outside funding for research projects has been possible and encouraged whenever interim findings indicate needed changes in research and evaluation projects.

4. Salary supplements have been available to recruit promising evaluation staff candidates and to maintain a nucleus of key experienced research staff.

**Use of Results**

1. Field experiments and pilot projects have been designed to clearly illustrate the value of breaking out of current program practice limits. The excellent survey facilities have been used to provide baselines for these pilot approaches. Many times these demonstration projects have been suggested by field observation and the results of larger social surveys.
2. An early warning system is used to build in self-evident feedback systems to increase the evaluative component so that failures, successes, and problems can be identified early (e.g., with mailing campaigns, the coupon system, free offers).

3. Field and program staff who need the research results are involved early. They have requested solutions to problems. They help plan the study to the extent of their research capabilities; they are kept informed of activities; they revise questionnaires. When results come in they participate in analysis where possible. Their skepticism of results keeps research staff alert.

4. Final decisionmaking based on whether to take on research and to apply findings has rested for the most part with a director who has been sensitive both to research and program activities.

5. Resident foreign advisors have been important in helping translate research findings into program implementation for the consumer's satisfaction and helping maintain continuing liaison between program and research staff. An important aspect has been capsulizing research results into simplified steps that are feasible in an action setting.

6. Early analysis reports are mimeographed and distributed for discussion and comment.

7. Field staff are briefed thoroughly about results affecting their work.

8. Linkage between research and program has been cumulative: program needs are met not only by new research projects but also by examining the bank of accumulated knowledge of many previous studies. Applied results of one study lead to feedback and re-examination of the newly acquired and older accumulated data. These may lead to a new study. Many action results were possible because they were supported by findings from more than one research project.

9. The continuing liaison between program and research staff is assisted by such groups as the education evaluation committee who plan the IEC program in terms of what the accumulated body of knowledge is, the program's goals, the staffing, limited funding, and limitations of various IEC approaches.

**Documentation and Dissemination**

The Taiwan program has been of special interest to the international community for more than a decade. Various aspects of its program have been incorporated into other national programs in Asia (Indonesia, the Philippines, Thailand, Korea, and Vietnam), e.g., the methods of selection, training, and types of home-visiting field workers, the use of targets, diffuser incentives, the coupon system to quickly get data on numbers and characteristics of recent contraceptive acceptors, regular sample follow-up surveys of acceptors, how to set up small pilot studies to get quick results.

This diffusion of Taiwan's experience seems to be due to a number of factors: the program was the earliest "successful" one in the area; the results were widely publicized as the program progressed; the quality of vital data was exceptional; and thousands of Asians visited the program to learn about specific aspects both before their countries began programs and while they were starting them. Moreover, both the Population Council and the University of Michigan Population Studies Center disseminated considerable publicity about the program among other countries and in the U.S. The Council and other population agencies provided funding to key leaders in programs (or potential programs) to visit
Taiwan. There was extensive documentation of program activities—particularly many well-documented "demonstration-type" studies. And both resident foreign advisory and program operation staff from Taiwan have gone to other assignments on population in Asia and other countries and carried over this experience.

Some strengths include:

1. The government has a policy of encouraging aid to other developing countries—e.g., study of the land reform and agricultural development—and therefore helps support activities of the Chinese Center for International Training in Family Planning. The Center draws on Committee programs and research staff on a part-time basis. This arrangement assures the several hundred visitors from Asian countries annually of up-to-date simplified summaries of research and program results. Many of these countries have adapted aspects of Taiwan's approaches to their programs: type and training of field workers and diffuser incentives.

2. Extensive documentation helps other local scholars and government planners get a firmer baseline before carrying out their own studies. Frequent visits have led to cooperative research efforts to get at problems such as son preference that may require methodological approaches in which Committee staff have less skill.

3. Selected mailing lists drawn from interested visitors allow related materials to be sent intermittently to key program and research staff, particularly in Asia.

4. Findings are frequently simplified and tailor-fitted to different audiences: local and national economic planners, field staff, other program staff, funding agencies, university students, and international visitors.

5. Important studies are quickly written up and sent to journals which get them to an interested and large audience quickly—e.g., Studies in Family Planning. United States university and local resident advisory staff have been helpful in expediting this process.

6. An annotated bibliography of some 300 key articles is available. A summary of more than 100 studies provides a brief description, findings and references. Simplified chartbooks provide graphic illustrations of the findings of key new studies and their relation to one another in terms of the population problem in Taiwan.

7. Collections of articles on specific topic areas are assembled—for example, 47 recent articles on IEC activities.

8. Interim reports, bimonthly, quarterly, semi-annual and annual reports on program and research progress and quarterly program plans help keep staff alert to developments and help maintain a production schedule. The several funding agencies also can keep abreast and apply pressures where needed.
SOCIAL SCIENCE RESEARCH AND
POPULATION COMMUNICATION PROGRAMS:
THE ISSUE OF RELEVANCE

David Radel
East-West Communication Institute
Honolulu, Hawaii
August 1972

There is growing recognition that population program administrators have not benefited as much from research as they ought to have. Everyone agrees that research findings and other technical information can contribute to the effective planning and management of such programs, and indeed, a frequent response to any difficult problem is "We need more research." Perhaps we do; but before initiating additional research, we must face the problem of how existing research findings are being used.

The head of a national family planning program states the seriousness of the problem very clearly:

Research already conducted in the field of family planning is either irrelevant to [local] needs or, even if the findings are relevant, they are not adequately communicated to the chief consumers—the programme administrators. . . . The urgency to base sound administrative decisions on factual information that can be provided by the social scientist means that the social scientist needs to be persuaded to relate his research activities to the needs of the action programme. This is particularly so in the developing countries, where we can ill afford the luxury of pure research projects that have no practical application to a country's problems (Armar, p. 45).

Accordingly, the main focus of this paper is on two processes that must be both improved in themselves and much more closely linked to each other than they have been in the past: (1) the process of enhancing the usefulness of research findings for population communication program decisions and (2) the process of identifying the real research needs in this field.

The focus is on processes: as will be argued below, decisions about specific research topics need to be made through the joint examination, by the administrator and the researcher, of a particular program's problems. Indeed a major reason why much research has been either irrelevant or inadequately
utilized is that the program administrator has not been thoroughly enough involved in defining problems for the researcher to investigate.

APPROACHES TO BETTER USE OF SCIENTIFIC KNOWLEDGE

Concern about increasing the usefulness of research findings to program planning and administration is not unique, of course, to the population field. In fact, the University of Michigan has established a special Center for Research on the Utilization of Scientific Knowledge. Some of the Center's conclusions about the different types of research utilization processes have clear relevance to our concern here about how to use population communication research findings more effectively.

The Center has found (Lippitt, p. 143-45) that there are at least six basic ways in which research findings and scientific knowledge are brought to bear on the solution of problems in programs of social change. Some of these involve bringing into the program information from outside and the others are ways of utilizing knowledge basically generated within the program.

Those processes identified by the Center that appear to be most relevant to population communication are as follows:

1. A researcher-consultant, in collaboration with a practitioner, identifies and defines a problem in the program after which the researcher-consultant uses this definition to retrieve research findings applicable to the solution of the problem.

   This approach requires no new research, but it will only be effective to the extent that there are mechanisms to store and retrieve the findings of previous research related to the area of population communication. Such facilities are not yet available to most programs.

2. Creative innovations by practitioners in similar systems elsewhere are documented and such information then transmitted to those who are able to decide on their relevance to local needs and whether or not to adopt or adapt them.

   Since the systems that we are talking about here are generally nationwide population programs, this process involves the international collection and dissemination of information about population communication successes and failures in various countries. No international organization is yet providing such a service although it is under consideration at several.

3. The program contracts with an outside team of researchers to collect data relevant to a particular problem, to analyze the data, and to feed the findings and their implications back to the program administrator.
An important characteristic of this approach is that the researchers are under contract to the program to provide answers directly to the program administrator on a problem of special relevance to his program. In other words, using this approach, the practitioner, not the researcher, defines the basic problem, whereas more typically at present the researcher, especially an independent academician, decides on what problems to research and how to present the findings (generally choosing publication in scholarly journals). Although university researchers in many countries are becoming increasingly willing to carry out contract research, the population communication program administrator should be alert to the existence in many countries of specialized commercial research organizations that may be equally, if not more, responsive to his needs. One type of commercial research organization, the market research firm, has skills of special relevance to the communication field. These will be described in some detail in a later section of this paper.

4. The practitioner himself gets training in how to be a more intelligent user of scientific resources.

The preceding approaches seem to imply that the ineffective utilization of research is basically the fault of the researcher. But the fourth suggestion developed by the Center is that the practitioner needs to learn--for instance, not only what research can do for him, but also what it cannot do. Currently most programs for training the population communicator unfortunately fail to include content which would help him to pose realistic, useful research questions.

THE CURRENT SITUATION

The previous section suggests that population communicators are not making effective use of research findings in their field simply because none of these four approaches to research utilization is being widely used, frequently since the appropriate mechanisms have not yet been developed. After reviewing the current situation in India, where many hundreds of studies potentially relevant to population communication have been conducted, Rogers reaches a similar conclusion: "Most family planning communication research is not utilized in family planning programs" (Rogers, p. 7).

This situation, which obviously characterizes population programs around the world, is, to put it bluntly, an intolerable waste of human and material resources. Clearly program research is only justified if its ultimate contribution to the program's success is greater than the effect of putting equivalent resources directly into program activities. In other words, we must begin to look at problem-oriented research through the same cost-effectiveness "glasses" that are being increasingly used these days to examine other program components.
Despite this situation social scientists concerned with population communication talk in terms of initiating ambitious research programs. About this, the position of this paper is unequivocal: Before communication researchers begin devoting their energies to developing bigger and better research programs, we first need to work out better ways to disseminate and utilize research findings already available. This very process will undoubtedly also help very much in guiding us to the most appropriate topics and approaches for future research.

RESEARCH UTILIZATION AS A COMMUNICATION PROCESS: THE PROBLEM OF "AUDIENCE"

The utilization of research for population communication programs is itself a communication process. Rogers, for instance, defines research utilization as "the process by which research results are produced in answer to practitioner needs, and communicated to practitioners for their use" (Rogers, p. 9).

The essential feature of this conceptualization is its emphasis on the practitioner, the primary consumer of research results, and its major stress on the identification of and response to his informational needs. It implies that research utilization is not a one-way flow of information from the researcher to the practitioner. It is, instead, a process that begins with the flow of information on the practitioner's needs to the producer of such information, i.e., to the researcher, who then provides the required information. As in the case of all effective communication, there must be the opportunity for this back and forth flow of information to take place continuously through time.

Research utilization, then, is a special type of communication process. By using this perspective we can learn much about why research, especially that conducted in academic institutions, is currently having such a negligible impact on the conduct of ongoing population communication programs. Essentially the problem boils down to the question of who the research community's main audience really is.

The academic reward system militates in several ways against gearing research to immediate application. "Publish or perish" has become a cliché, but continues to exert pressure nonetheless: It still influences the researcher's perceptions toward what is most likely to be published, rather than what applied problems need to be solved. For the researcher in a developing country, succumbing to these pressures may make his work even more remote from local problems simply because the journals and audiences for which he is writing are frequently overseas and hence relatively uninterested in his local problems.

The academic orientation toward communication of research creates an additional difficulty: Writing in technical jargon and publishing in scholarly journals is obviously not the best means of getting information to program
In discussing the needs of various users of technical and scientific information in the population field, Hilmar has summed up very ably the two points being stressed in this section:

The nature of the potential user ideally determines not only the kind of information he needs, but the form of the "packaging" of such information that will be the most helpful to him in carrying out his responsibilities (Hilmar, p. 321).

**HOW CAN THE USE OF RESEARCH BE IMPROVED?**

The suggestions above and additional ideas will be summarized here with the hope that those who are concerned about this problem will apply to their own programs those that are appropriate. The first three suggestions below represent changes that would have to be implemented largely by researchers themselves, albeit with the cooperation of practitioners. The fourth suggestion, which focuses on contract research, must, by definition, be put into practice by the administrator. The final suggestion, which urges the establishment of a continuing dialogue between researchers and administrators, obviously involves equal cooperation from both parties. The discussion of the need for a series of totally new services and institutional arrangements will be postponed until the final section of the paper.

1. **Conduct surveys of "consumer" needs.**

The research community can no longer afford to assume that it has sufficient insight into program problems to decide on its own what kinds of applied research should be undertaken. Researchers who are seeking new research opportunities must begin to canvass potential consumers systematically to determine their needs. As Hilmar notes,

Serving the user effectively requires that we listen carefully to his need for certain kinds of information. If the kind of knowledge he needs literally does not exist, we have identified a topic requiring further research (Hilmar, p. 323).
Although such surveys have been conducted in one or more countries to determine the total research needs of the population program, to my knowledge none has yet been done that focuses directly on the informational needs of the communication wing of the program.

2. **Focus research on variables that can be controlled by the administrator.**

Researchers who are genuinely interested in contributing to improved program management must learn more about the financial, political, and other constraints on the program and then adapt their research to these realities. For example, the administrator can do little with the finding that more highly educated villagers are more favorable to family planning, whereas there are clear action implications in the finding that most of the women with little knowledge about family planning patronize traditional midwives.

Although clearly the administrator can gain much useful information from research that describes the social, cultural and demographic characteristics of his target audience, he is basically interested in research findings only if he has some degree of control over the causal variable. The variables that are stressed, for instance, in KAP studies are all too often the social stratification variables—social class, age, amount of education, ethnicity, place of residence, religion, and so on—none of which can be altered by the communicator.

3. **Change the style and method of presenting and disseminating research reports.**

Even if the findings do have potential application, the researcher often leaves it entirely to the administrator to figure out how to apply them. Indeed, the reports from family planning research projects are rarely oriented to the supposed key consumers—administrators and policy-makers. They usually appear in academic journals or are presented at social science conferences. Sometimes administrators never even learn that a relevant study has been conducted. If a report is submitted to them, it generally has not been written to meet their needs for concise, focused statements about the main findings and their implications. It may contain dozens or even hundreds of tables and be so overwhelming that it is never consulted. Most such reports have few, if any, visual presentations of the findings through graphs and the like to facilitate rapid assimilation of the main conclusions. One program administrator offers a partial solution to this situation:

> The social scientist conducting the study feels that his responsibility stops at the interpretation of the data while the programme administrator tends to be overwhelmed by the mass of data: thus, the programme consequences of the findings are frequently ignored. The social scientist could make an
important contribution by "boiling down" his data and by suggesting programme implications (Armar, p. 50).

4. Use contract research.

The program administrator can have the most control over research that he directly commissions and pays for through a contract. Although the services of academic researchers can be "bought" through the contract mechanism, in this connection one automatically thinks first of commercial research firms. Perhaps those having the greatest relevance to the needs of the population communicator are the market research firms, which have competence in such areas as consumer surveys, attitude studies, motivational research, advertising and media research, and product and package testing. Some of the potential assets of commercial contract research are that it is (a) oriented to administrative needs, since its major goal is to collect, analyze, and present data as an aid to executive decision making; (b) relatively inexpensive in comparison with much academic research due to the existence of competition, which compels the commercial researcher to use efficient, business-like methods; (c) quick, since the commercial researcher has no other means of support and customarily does not receive the final payment until the written report is turned over to the client; and (d) sure, since legally binding contracts and the need to maintain a good reputation in order to generate new business both serve to assure that the commercial researcher will "deliver the goods."

5. Facilitate the dialogue between researcher and practitioner.

A continuous dialogue between researchers and practitioners is required, partly because the requirements of a dynamic program are themselves constantly in flux. In addition, certain needs only become apparent when other information has been applied—i.e., the solution of one problem often increases the visibility of another. Although by far the best way to carry out such a dialogue is through the day-to-day informal discussion of mutual interests, at times, a more formal mechanism may be useful. One possibility is a periodic seminar or workshop organized along the following lines: First, to set the stage, an articulate administrator/practitioner states the problems he thinks research can help solve; then the researchers react to the feasibility of this, after which a serious process of discussion and negotiation can occur leading to a better understanding by all parties of what is needed and what the practical response to those needs might be.

THE ROLE OF "LINKING INSTITUTIONS"

In spite of considerable good will on the part of both parties, the solutions suggested above will only partially bridge the researcher-practitioner gap. This suggests the need for a new role, that of the "linker," who would neither conduct
research himself nor administer a program, but would have a basic understanding of both and would bridge the gap between them. The "linker" would not exactly be a popularizer, but he would identify and pass along to the administrator, in a usable form, the findings of the researcher. He would also strive to identify and make clear to the researcher the administrator's problems and research needs. Many people have consciously or unconsciously performed this kind of communications role in the past, but much is still required to formalize and legitimize it as an acceptable professional pursuit.

I believe that a new kind of institution is required in the field of population communication which would provide a supportive environment for carrying out the "linker" role. It would develop mechanisms to gather and store research findings and other technical information of potential value to practitioners. It would provide "training" to communicators on the nature and potential contributions of research to problem solving and to researchers on the informational needs of population communication programs. It would digest and rewrite research findings and information from other programs in the form of what Rogers calls "synthetic publications," which he describes as documents that summarize

in understandable language a body of literature on a given family planning communication topic. Such syntheses should be condensations (to decrease the information overload problem), and translations (from the language of research to the language of practice) (Rogers, p. 8).

Probably many of the activities just sketched out could be carried out on a cross-national basis by one of the international agencies that are committed to facilitating the development of effective population communication programs. In addition, however, most larger programs ought to have one or more staff members in the communication section who are explicitly assigned responsibility to link research and practice.

In sum, the main functions of a new linking institution would be to (a) get research findings to users in a form that the user can understand and apply to his problems, (b) assist the practitioner in clarifying his research needs as they emerge, and (c) provide researchers with insights into the needs of action program administrators.

To the extent that this document itself contributes to bridging the researcher-practitioner gap, it too is part of the emerging linking process, which is destined to assume increasing importance as population communication programs grow and mature during the coming years.


WRAP-UP EXERCISE

EXERCISE VI-4: CHARACTERISTICS OF UTILIZED OR UNDERUTILIZED RESEARCH

Below and on the next page appear twenty statements that were found in the study by the Human Interaction Research Institute to characterize research projects the results of which either were highly utilized or were underutilized. On the basis of what was discussed in Unit VI, you are to indicate by placing an 'X' in the appropriate column whether you think each of these characteristics applies to highly utilized projects or to underutilized projects. In some cases the answer as such does not appear in the module text, but on the basis of the general principles about research utilization that were discussed in this unit, you should be able to get at least 90 percent (18) of these correct. The answers appear in the section that follows the exercise, which is entitled "Answers to Exercises VI-1, VI-2, and VI-4."

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Applies to Highly Utilized Projects</th>
<th>Applies to Underutilized Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Had a more wide-open atmosphere and sought more energetically the reactions and contributions of outsiders during the early idea stage.</td>
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</tr>
<tr>
<td>2. Tended to exclude practitioners from the early discussions about the basic research idea.</td>
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<td>3. Advisory groups tended to be active and involved.</td>
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<td>4. Project proposals written by the principal investigator himself or herself.</td>
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<tr>
<td>5. Research idea often introduced from outside of the host agency where the research was being conducted.</td>
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<tr>
<td>6. Inaccurate perceptions of the project widespread.</td>
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<td>7. Interaction dynamic and issue-laden, which often led to conflicts and the need for compromise.</td>
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<thead>
<tr>
<th>Characteristic</th>
<th>Applies to Highly Utilized Projects</th>
<th>Applies to Underutilized Projects</th>
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<tr>
<td>8. Had more problems of a more serious nature during early stages.</td>
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<td>9. Tended to emphasize linkage between the project and the interests and concerns around it.</td>
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<td>10. Sought supportive statements rather than assistance from outside groups.</td>
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<td>11. Modified substantially as the result of suggestions or contributions made by administrators or practitioners.</td>
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<tr>
<td>12. Solicited involvement from practitioners while the research data were being gathered.</td>
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<td>13. Reduced communication when problems developed.</td>
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<td>15. Tended to collect more and more data without analyzing what had already been collected.</td>
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<td>16. Produced a greater number of publications in journals and greater number of conference reports.</td>
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<td>17. Stressed publication of a book that would be based on unassailable evidence and have dramatic impact.</td>
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<tr>
<td>18. Purposefully planned ways to encourage utilization of results.</td>
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<td>19. Results presented in a wide variety of formats.</td>
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<tr>
<td>20. Engendered the feeling that the agency in which the research was being conducted was being exploited for the sake of obtaining important research data.</td>
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ANSWERS TO EXERCISES VI-1, VI-2, AND VI-4

EXERCISE VI-1: WHERE SHOULD ONE GO TO GET RESEARCH DONE?

As explained in the instructions to this exercise, there are no absolutely correct answers to the exercise. There are reasons, based on the text, to assume that in many instances one particular type of researcher would probably be the best choice. Our answers and the rationales for selecting these answers are given here. Your reasons for choosing a different type of researcher might, of course, be better than ours. (If you think your answer was better, please tell us so that we can change this "answer sheet" before we reprint the module!)

1. (Answer given in the exercise itself.)

2. First choice: academic researcher; second choice: in-house researcher. This study involves one variable (family size) that the program's own researcher would be well acquainted with, but the other variable, nutritional status, would require help from experts in nutrition. Because the immediate impact on the program of the results is not great (although the results might serve to strengthen general support for the program), it probably would not be desirable to tie up the time of the program's research unit on this project.

3. First choice: market researcher; second choice: in-house researcher. This is a typical problem for market research: consumer behavior. If the condoms are distributed by the program itself, then the in-house researcher might be involved.

4. First choice: academic researcher; second choice: in-house researcher. Although on the surface this looks like a "marketing" problem, it involves more in-depth issues (religious values) than market researchers typically deal with. An academic social scientist could probably do this research best because of his general background, but the program researcher might do it nearly as well.

5. First choice: market researcher; second choice: academic researcher. Initially it might seem most appropriate to have the program researcher do research on the views clients have of the program, but it is very difficult for an in-house researcher to do such research without bias or pressure from his colleagues to give the program "the benefit of the doubt." Hence, by default, we feel that the market researcher could best do a study of people's attitudes toward a particular service/product.

6. First choice: market researcher. There's no doubt here; this is the typical media research that market researchers are very well equipped to carry out.
7. First choice: academic researcher; second choice: market researcher. As in number 5, this could be a difficult problem for the in-house researcher to get unbiased data on. Market researchers are often not oriented to isolated rural areas, where buying power is generally very small, whereas certain academic researchers will have special interests in such areas (for example, anthropologists).

8. In-house researcher or market researcher. We see little grounds for choosing between them on this. While it is also a typical problem for market research, it also relates closely to the program's own area of competence, family planning, and at the same time is surely neutral enough not to be subject to bias if the in-house researcher takes it on.

9. First choice: academic researcher; second choice: in-house researcher. This probably would require a long-term project involving considerable background in the social and cultural features of rural peoples that is more typical of academic researchers than of market researchers.

10. First choice: in-house researcher; second choice: market researcher. If service statistics exist, this would be very simple for the in-house researcher to handle. If appropriate statistics do not exist, he might need to organize a survey although a market researcher could also carry out such a survey quite adequately.

11. First choice: market researcher; second choice: in-house researcher. This is a typical market research problem: why people choose one "product" over another. It also potentially entails results that will place the program in bad light, and hence it might be somewhat difficult for the in-house researcher to carry out an unbiased study.

12. First choice: academic researcher; second choice: in-house researcher. Again, this might be a sensitive problem for the program's own research staff to handle whereas it would probably be much less so for university-based researchers to tackle.

13. We cannot make up our minds about this one. Perhaps you can.

14. First choice: market researcher; second choice: academic researcher. Again the others come out ahead by default, for the in-house researcher would seem least satisfactory because of the great possibility here that he will receive biased responses from his colleagues on the program staff.

15. First choice: market researcher; second choice: in-house researcher. Although best suited to the talents of a market researcher, it would seem that because the subject matter falls within the area of the program's competence, the in-house researcher could also do it.
16. First choice: academic researcher; second choice: uncertain. This is an in-depth, potentially long-term study that requires a broad background in social science subjects and hence is most appropriately done by an academic researcher.

17. First choice: market researcher; second choice: in-house researcher. Again this is the detailed media exposure data that the market researcher is best prepared to collect.

18. First choice: in-house researcher; second choice: market researcher. This information should be available as part of the service statistics although some processing may be required to extract it. Hence the program's own researcher is most appropriate for this.

19. First choice: market researcher; second choice: in-house researcher. This type of pretesting is usually done well by market researchers, but the program's own researcher is a close second.

20. First choice: market researcher; second choice: in-house researcher. Such transitory information about fads, pop culture, etc. is clearly an area in which the market researcher specializes.

EXERCISE VI-2: MUTABLE VARIABLES, FOCUSED DATA, AND UTILIZATION

As indicated in the instructions to this exercise, there are no absolutely correct answers to the exercise. There are reasons, based on the text, to assume that some kinds of research would be intrinsically more useful than others. Our answers and the rationales for selecting these answers are given here. Your statements, especially regarding ways the research could be used, might, of course, be better than ours. (If you have an answer that you think is better than ours, please tell us so that we can change this "answer sheet" before we reprint the module!)

1. (Answer given in the exercise itself.)

2. Somewhat helpful. Although the family planning administrator is not likely to be able to bring about a reduction in infant mortality, he/she might use this information in deploying fieldworkers and other resources.

3. Not very helpful. The administrator cannot change the place where people live. The results are too vague to pinpoint the source of the problem. At best, it may indicate that there is a problem.

4. Very helpful. Clearly suggests that the program should push for more population education in the schools.
5. Somewhat helpful. Although not under the control of the family planning administrator, breastfeeding should be encouraged through nutrition education to meet simultaneously the goals of family planning and nutrition.

6. Somewhat helpful. Although again this causal variable is not under the administrator's direct control, the government might be persuaded to expand the coverage of the social security system.

7. Very helpful. This is a very focused research finding, and the action implications are obvious: Use green covers in the future.

8. Not very helpful. The action implications of this finding are not clear. It is basically a description of the preferences of part of the target audience. It would be more helpful to know why they prefer pills.

9. Very helpful to somewhat helpful. For practical reasons this may be difficult to implement, however.

10. Somewhat helpful. This finding suggests that to reach the general public, one should use the radio. It does not help with such decisions as which radio station or what time. It also does not indicate whether radio is also more attended to than television by certain special target audiences such as elites; one would expect not.

11. Very helpful. The action implications are clear-cut: Assign fieldworkers to those areas where they speak the local dialect well.

12. Very helpful. This very focused description of media habits correlated with level of family planning knowledge suggests that radio should be used to create more awareness.

13. Somewhat helpful. Since the administrator cannot change the religion of the program's clients, this finding has limited utility. It does indicate where one's efforts might be more quickly rewarded, however.

14. Very helpful. The action implications are very straightforward: Organize a system that encourages men who have had vasectomies to promote vasectomy among their fellow workers.

15. Not very helpful. This descriptive information on a segment of the population that does not seem to need the program's services in the first place would not appear to have any important action implications.

16. Very helpful. This variable is under the administrator's control—to the extent field midwives are available—and the results are focused on a clear-cut activity.

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17. Very helpful. The implications are clear and straightforward: Advertise clinic hours and locations routinely in the local newspapers.

18. Very helpful. Here important savings can be realized with very little diminution in effectiveness—a very practical piece of information indeed.

19. Very helpful. Tells you exactly when to beam radio broadcasts at housewives.

20. Somewhat useful. Although it does not pinpoint any regional variation that might exist, etc., this finding does suggest the age at which family planning information begins to be needed, thereby helping in the definition of one's target groups.

EXERCISE VI-4 (WRAP-UP EXERCISE)

According to the results of the HIRI study, the correct answers to this exercise are as follows:

Highly Utilized Projects: 1, 3, 4, 7, 8, 9, 11, 12, 16, 18, and 19.

Underutilized Projects: 2, 5, 6, 10, 13, 14, 15, 17, and 20.

Many of the answers should be obvious after completing this unit, but do not be disappointed if you missed several. If you are puzzled about any of the results of the HIRI study that appear here, we can discuss it during the discussion period set aside for this unit.
DISCUSSION QUESTIONS FOR UNIT VI

To stimulate group discussion of Unit VI, we have listed here several questions that those taking this module might want to discuss with each other. There are undoubtedly many other ideas and problems raised by this unit. If the group feels that any of these are more interesting or pertinent, then you should discuss them in preference to those listed here. In other words, the questions here are intended primarily to get discussion going.

1. Are you personally familiar with any instances when research was done to guide program decision-making, but was not used? Why was the research not used?

2. How important do you think it would be for your own organization to develop the role of linker as described here? Could the IRP perform this function adequately or would a new position be required?

3. Does the unit place too much stress on the researcher's carrying out dissemination functions that perhaps are more appropriately carried out by an IRP? What should be the relationship between these two roles in the dissemination of research findings?

4. Do you think that this unit was unfair to researchers? Why or why not?

5. In this unit research utilization was examined from a communication perspective or point of view. Can you think of other approaches that would have been as appropriate or even more appropriate?
INFORMATION UTILIZATION PROCESSES REVISITED

Your have read through the module, carried out various exercises, and studied the samples. It would be helpful now to your understanding of basic information utilization processes to go back and read the Introduction (Unit 1) to the module once more.
MODULE MANAGER'S GUIDE
We wish we could say that this module is a finished text that anyone can proceed to use at once. This is not so. It was prepared for use at the East-West Communication Institute's Program of Professional Development in Population and Family Planning. That is, it was prepared for a specific training situation—a week-long portion of a 12-week training program for mid-career professionals working in population information, education, and communication programs in the Asia-Pacific area.

Effective use of this module, then, will depend to a large extent on the ways in which users will adapt this module to their own training situation.

We realize that when this module is used elsewhere, it is likely to be used in a training program catering to people of only one country, probably employees of one single agency, and even possibly, personnel of about the same status. The training period may turn out to be longer or shorter than one week. It could be that the trainers (and trainees) may be more comfortable with different proportions of readings, discussions, and exercises from the proportion we have here.

Such changes in the training situation of course imply changes in the module we have prepared. We are, therefore, setting down in the pages that follow the objectives of the module, its organization, the constraints we worked under when we prepared this module, and the implications that we see for the adaptation of the module for other training situations.

OBJECTIVES OF THE MODULE

When we prepared this module on using information for problem solving, we wanted users of the module to learn about the use of information for problem solving as well as how to use information for problem solving.

We therefore tried to impart to the participants a greater sense and appreciation for the concepts of problem solving and information and the relation between these two concepts, that is, the role of information in problem solving.

Because we were dealing with problem solving in an organizational situation, we could not treat problem solving as something done by an individual but as something done by several individuals occupying roles within some organization. We therefore identified three basic information-handling roles in the problem-solving process—administrator, researcher, and information resource persons—and designed the module to help people perform these roles more effectively. And so, by implication, we could say that the ultimate objective of this module is to help people become more effective problem solvers by teaching
them to be more effective administrators, researchers, and information resource persons—at least with regard to the handling of information.

Let's be more specific.

1. **Key concepts.** There are two major concepts here—problem solving and information.

   a. Problem solving: We treated problem solving as the process by which people analyze a situation, define a problem, identify alternative solutions, and decide on the best one. By problem, we meant simply a situation where some organization or program (or part of it) is not meeting its goals (or establishing new programs).

   b. Information: We used information rather broadly here. Perhaps, we would have been a little more concrete if we had used the term "technical information," although this itself would probably have been too narrow. Implicitly, we defined information in a rather round-about way: Information includes all information "relevant" to problem solving. Or, to be more specific, we are dealing with information needed to analyze a situation, define the problem, identify alternative solutions, and decide on the best one. Given this round-about definition, then, we would say that information includes: (1) data on the situation in which the organization is working, (2) feedback on organizational performance, (3) data on organizational resources and capabilities, (4) case studies of what other agencies have done in similar situations, (5) technical reports setting forth more general solutions to a larger class of problems, and (6) empirical research exploring or testing even more general hypotheses about the problem. This list is of course not exhaustive.

2. **Relation between problem solving and information.** Having divided the problem solving process into the steps of analyzing a situation, defining a problem, identifying alternative solutions, and deciding on the best one, we took the position that one needs information to carry out each of these steps. That is, at each step of the problem-solving process, information has to be produced and/or retrieved, transformed, applied, and communicated.

3. **Key roles.** Because we were dealing with problem solving in an organizational situation, we had to recognize the fact that many actors participate in the problem-solving process. Rather than treat problem solving and information handling as if only a single individual were involved, we felt we had to define three information-handling roles in the problem-solving process—the roles of administrator, researcher, and information resource person (IRP). Our definition of these key roles was guided to a large extent by the background of the people participating in the East-West Communication Institute's Program of Professional Development.
a. **Administrator.** The administrator would be at the program rather than the policy level; that is, he does not decide broad national policy himself, but starts with the broad national policy and within the framework of that policy—as well as the bureaucratic and financial constraints—plans and perhaps supervises the implementation of the policy. Generally, he would be in charge of communication activities (mass media campaigns, extension activities, etc.) either at the national or subnational levels.

b. **Researcher.** We expected the researcher to be an in-house researcher, that is, one hired full-time by the agency, whose activities would be directed at the continuous evaluation of agency performance and/or the development of new projects and activities.

c. **Information Resource Person.** We found a certain amount of difficulty in associating the information resource person with a specific position within the agency. What we had in mind was a person who knows what information is available inside the agency and in other agencies more or less engaged in the same activities, who knows how to obtain needed information from the outside, and, when presented with a question, can decide what information is necessary to answer it. Such a person often has the responsibility for storing and retrieving the information available within the agency. These responsibilities are discharged to one extent or another by people as varied as a staff assistant to the administrator, the in-house researcher, the librarian, and a secretary.

We did not pretend that positions corresponding to all of these roles (especially the role of information resource person) are present in all agencies. We believed, though, that administrative, research, and information resource functions are discharged in every agency and that the effective discharge of these functions demands that the people performing these functions work closely together as a team.

Close cooperation among those discharging the administrative, research, and information resource functions calls for the realization and appreciation that each role makes certain demands on and receives certain demands from the other two roles. Effective use of information depends on the response given by the other two.

**ORGANIZATION**

The organization of this module reflects the training objectives—imparting the key concepts of problem solving and information, the relationship between these concepts, and the three information-handling roles in the problem-solving process. That is, we tried to show how the administrator, the researcher, and the information resource person cooperate with one another in handling information to solve problems.
In Units II, III, and IV, the participants examine given problems and identify the probable causes that have information, education or communication (IEC) implications. They then focus on the information needed to determine the most likely cause and to identify the possible IEC activities likely to solve the problem. Next, they have to select the IEC activities to undertake, and they therefore must identify the information they need to make this decision. Finally, the IEC activity chosen for implementation has to be "fleshed out" into some plan of action, and again, the participants identify the information needed to develop this plan of action.

The final two units expand on two of the information-handling roles. Unit V deals at greater length with the information resource unit—what it is, how it can be developed, and how it can be better utilized in the problem-solving process. Unit VI focuses on the researcher’s role in making research more useful for problem-solving and so, stresses the communication aspect of the researcher’s role.

Other modules in this series are meant to be self-instructional in two senses: (a) much of the learning comes through the process of the participants’ own reading, discussion, and practice; and (b) it should be possible for a highly motivated individual to learn from the module by reading and doing the exercises on his or her own.

This particular module is probably self-instructional only in the first sense. Because the discussions and exercises for this module were planned as interactions among administrators, researchers, and information resource persons, much of the learning that should come from discussions and exercises with people occupying different roles probably cannot be attained by a person reading this module alone. However, Units V and VI could be used separately for training workshops involving only information resource persons or researchers.

The Case Study. For those persons who use this printed version of the module, a country case study is included to provide a program context in which to carry out and discuss the exercises. The case study is a simulation of a real country program situation and all of the information contained in it is real. It is to be used for Exercises II-1, 2; III-3; IV-1, 2; and VI-3. The case study provides the background information and description of a program that the module participant uses to identify and analyze problems, their causes, and to justify recommendations for problem solutions and program action. For Exercise VI-3 the study provides information on research results in the form of tables and is to be used for writing up the results for different types of audiences.

The Module Manager. Although the module encompasses the three roles of the administrator, researcher, and information resource person in a family planning program, the main focus is on effective information use. It is preferable,
therefore, that the module manager be a person who has had direct involvement in information services for all divisions of the program. The person should be familiar with what is involved in operating a strong and efficient resource materials information center. This person should also be knowledgeable about the administrative structure, the functions of the three roles, and the interaction of these roles in the organizations and institutions represented by the participants of the module. This person should have the ability to give direction and stimulate discussion among the individuals and to promote teamwork.

CONSTRAINTS

There were two major constraints that faced us when we prepared this module—the international character and the wide range of differences in background of the participants and the one-week time period allotted for this module.

1. **Wide range of differences in participants' backgrounds.** Because the participants came from different countries, worked in different bureaucratic situations, and differed in educational background, it was extremely difficult to come up with a set of readings and exercises that would prove to be both challenging and interesting without giving an unfair advantage to those participants whose program or country would be under discussion. Because we used a case study or a country disguised as "Limat," participants spent a tremendous amount of time absorbing the background information on the country.

2. **Time allotment.** Our experience in administering the module suggests that a more realistic time schedule might be as follows:

1st Day:
1. Introduction of module and concept of three roles by the module manager.
2. Read Unit I (Introduction).
3. Discussion and clarification of Unit I.

2nd Day:
1. Read Unit II, except for the Answers to Exercises and Exercise II-1.
2. Clarify Exercise II-1.
3. Read and analyze the case study, following guidelines for using the case study.

3rd Day:
1. Do and discuss Exercise II-1.
2. Read, clarify, do, and discuss Exercise II-2.

4th Day:
1. Read Unit III through Exercise III-2.
2. Clarify, do, and discuss Exercise III-1.
5th Day: 1. Read Exercise III-3 and Unit IV.
2. Clarify and do Exercises III-3 and IV-1.

6th Day: 1. Read, clarify, and do Exercises IV-2 and IV-3.
2. Discussion of Exercises III-3, IV-1, 2, 3.

7th Day: 1. Read Unit V, except for the Answers to Exercises.
2. Read, clarify, do, and discuss Exercise V-1.

8th Day: 1. Read, clarify, do, and discuss Exercises V-2, 3, 4.

9th Day: 1. Do Pre-Unit Assessment Form.
2. Read Unit VI, excluding the Answers to Exercises.
3. Read, do, and discuss Exercises VI-1, 2.

10th Day: 1. Read, clarify, do, and discuss Exercise VI-3.
2. Read readings.
3. Read, clarify, do, and discuss Exercise VI-4.
4. Re-read Unit I.

**IMPLICATIONS FOR ADAPTATION**

Here, we will make some general suggestions about using this module in other training situations, as well as certain recommendations about specific units. Our suggestions and recommendations are, of course, based on the assumption that this module is going to be used within a particular country, even perhaps one particular agency.

**Readings and exercises.** Obviously, the first thing to do is to make the readings and exercises as relevant as possible to the participants. This would mean that as much as possible, the background readings should be on the country and/or agency involved. Where this is not feasible or desirable, some of the more general background readings could be supplemented by examples taken from the country or agency concerned.

The exercises should be reviewed in two ways. Although the problems we have used in the module are problems that we feel exist to one extent or another in most family planning programs in developing countries, it is quite possible that in any one country or agency, other problems may be more important and pertinent. Changing the problem that participants are asked to consider should not be problematic, since what is more important is the way they handle information to solve it.

The exercises should also be reviewed in terms of the different responsibilities we have assigned to the administrator, researcher, and information
resource person. Although the administrator's responsibilities tend to be fairly constant from agency to agency, there is far less uniformity among agencies with respect to the researcher's and information resource person's roles. If, for instance, in any one agency, the responsibilities we have assigned to the information resource person are in fact being discharged by a staff assistant to the administrator, then the exercises should be adapted to reflect this reality.

**Organization.** The exercises were designed as exercises in the cooperative handling of information by the administrator, researcher, and information resource person. In cases where this module is used to train people performing only one of these roles, Unit V will have to be stressed for the information resource person and Unit VI for the researcher. The readings will have to be dropped in the units that are not emphasized (and perhaps others added), and the exercises will have to be redesigned to reflect the background of the participants.

**Scheduling.** If the above two general suggestions are followed, scheduling can be much more flexible. The time factor would no longer be a constraint as it was at EWCI. Use of readings and exercises that are quite closely related to the participants' own responsibilities and experience will obviate the need to absorb the background data of a mythical country and its peculiar problems. Furthermore, use of the participants' own country or agency makes it possible for the participants to be able to contribute more to each other's learning process as each participant will be working from his own store of knowledge and experience in the problem area of interest.

**Overview.** The Overview will need to be revised to reflect whatever changes have been made in the other units.

**Unit I—Introduction.** The Introduction discusses the basic concepts and premises underlying information use in problem solving and the development of the module. These concepts and aspects are probably valid and generalizable to development programs in any specific country, agency, or sector. However, in any adaptation, the examples illustrating the points of discussion in this unit might be made more country- or agency-specific, relating the examples to the actual country agency situation used in the adaptation.

**Unit II.** This unit takes the participant through the problem-identification process: The participant identifies a problem and its implications for program activities. In so doing, the participant must decide what information is needed to define problems and the program activities that will solve these problems.

It is strongly recommended that the case study on Limat, which is long and detailed, be replaced by a shorter case study on your own agency or country.
Exercise II-1 involves a given problem—a decline in vasectomy acceptors. Other problems which could be used for Exercise II-1 are a gap between the level of family planning practice and level of positive attitudes towards it, women's hesitation to come to public hospitals for abortions, and there being 150 fewer clinics than called for in the plans. While we feel that any of these problems would apply to one extent or another in most countries, we caution prospective users of this module to consider whether their trainees actually handle problems at this level of generality. It may well be that the prospective trainees' areas of responsibility do not include the analysis of such problems but merely the design and/or implementation of programs decided upon by higher-ups. In this case, it is suggested that the problem descriptions be revised to include a program decision and that participants be assigned to design and implement the program.

Exercise II-2 deals with a selected IEC activity which is divided into several components or aspects. The exercise is aimed at helping participants identify the information needed on each of the components to come up with a plan of action. Needed information is given on one of the components; participants must define the information that is needed for the other listed components. In the real world, program people know or have in hand some of the information on some of the components. Prospective users of the module may want to make this exercise less open-ended by supplying the information on some of the components. This should make the exercise a little more realistic, easier, and less time-consuming.

Unit III. This unit tries to help participants identify appropriate sources for needed information. That is, after completing this unit, the participant should be able to (a) identify a large number of sources of information that could be applied to problem solving; (b) use several approaches in identifying appropriate sources of information; (c) select documents and materials that will probably contain the most appropriate relevant information; and (d) convey and describe information needs precisely and clearly to providers of information.

The main difficulty with this unit stems from our having prepared the module for an international group of participants. For this reason, most of the sources of information listed are international sources of information, and the index terms used to retrieve the needed information naturally are the index terms most commonly used by these international sources of information.

In the real world, people seeking information tend to seek it first within their own agency, and then within their own country before tapping international sources (unless it is easier and cheaper to tap the international sources). We would therefore suggest that this unit be adapted to include in-country sources of information and the index terms used by these sources of information.
Exercise III-1 deals with the identification of sources of information relevant to different components of an IEC activity. If prospective adapters of this module change the IEC activity, they should review the list of information needed.

Exercise III-2 involves use of the Handbook on Sources of Information on Population/Family Planning. The usefulness of this exercise would depend to a large degree on whether participants in fact solicit information from sources outside their countries. Usefulness would also depend on the extent to which the index terms used in the Handbook are compatible with those used by in-country sources of information. In countries where there is something equivalent to the Handbook that identifies in-country sources of information, describes their holdings, and lists the index terms used, this local equivalent of the Handbook obviously should be considered for this exercise.

Exercise III-3 is an exercise in communication. The administrator communicates his information needs to the researcher and the information resource person and then, administrator, researcher, and information resource person compare the seven items they have selected as "most relevant." This exercise takes longer than most people realize because to be effective, sufficient time must be given to enable all three role-holders to compare their answers and resolve their differences.

Exercises III-1 and III-2 may seem relevant primarily for information resource persons, but this does not mean that only they should undertake these two exercises. We feel that these two exercises are also useful to researchers and administrators. Researchers often have to retrieve information themselves, but many administrators know little about the retrieval of information and must learn about the problems and difficulties that an information resource person has to go through when he or she tries to get the information that the administrator seeks. Only when administrators and researchers have some understanding of the information-retrieval process are they likely to be able to communicate their needs to the information resource person more accurately.

Unit IV. Unit IV simulates the development of a plan of action, with the purpose of demonstrating how information is used in the development of such a plan. The exercises are geared toward showing how the administrator, researcher, and information resource person cooperate as they bring to bear on the assignment the information they possess or have retrieved.

*The Handbook is available from the Clearinghouse and Information Section, Population Division, ESCAP, Sala Santitham, Bangkok-2, Thailand.
The way we have divided responsibilities among administrator, researcher, and IRP may not be the actual division of responsibility as it exists in different countries. Hence, prospective adapters of this module may prefer to alter the exercises, dividing the responsibilities and simulating the project development process as these actually take place in their countries. This may mean a lesser role for the researcher and/or information resource person, but the team work aspect and direct involvement of the researcher and/or information resource person throughout the project development process should not be minimized.

Exercise IV-1 calls for occupants of each role to come up with a number or recommendations for a plan of action on a mass media campaign to increase vasectomy acceptors in Limat. These recommendations are to be documented and supported with information from abstracts of at least seven documents and from the Limat case study or from the locally adapted case study and information materials. In addition, the information resource person is asked to list additional sources of information that may be used in developing the plan of action and the researcher is asked to suggest new lines of research that could provide additional information to be needed.

Exercise IV-2 calls for separate discussions among subgroups of administrators, researchers, and information resource persons on the recommendations they have come up with and the information they have used to support these recommendations.

Exercise IV-3 calls for the respective leaders of the administrator, researcher, and information resource person subgroups to meet with a higher-level executive and present each subgroup's recommendations.

Unit V. Unit V is titled "Meeting Information Needs through the Information Resource Unit," although a better title is probably "How to Develop a More Effective Information Resource Unit." It starts off with a comprehensive listing of the problems involved in information transformation and dissemination. The section then suggests ways to assess user needs; keep informed of programs, projects, and services; transform information for users; establish and operate an information resource unit; and expand the information resource base.

This unit may be too long and detailed for administrators and researchers but too short for information resource persons. Organizing this unit is more difficult when participants include administrators, researchers, and information resource persons. It may be best to assign only certain exercises to administrators and researchers, but they still should be involved if only to realize how much is involved in establishing and maintaining a good information resource unit. The appreciation of what a good information resource unit can do for the program is especially important because, even in agencies where they do exist, too many
information resource units have never been given the chance to demonstrate what they can do. Too often, they are treated as mere repositories for documents, and administrators, not realizing the potential value of a good information resource unit, are not sympathetic to plans for an expansion of services or responsibilities. This unit could be a complete mini-course for IRPs.

Exercise V-1 deals with ways to keep the information resource person informed of programs, projects, etc. Perhaps what should be stressed more here is the fact that this kind of activity is not the sole responsibility of the information resource person; the administrator and researcher—users of the information unit—also have some responsibility to provide this information to the information resource person. Hence, Exercise V-1 is not just a call for suggestions about what the information resource person can do by way of informal interaction with information users, but also what the administrator and researcher can do by way of informal interaction with information resource persons to inform the latter of their information needs.

Wherever feasible, Exercise V-2—the development of a questionnaire—could more profitably be done as a cooperative task between information resource person and researcher.

In Section Four of this unit, presentation of ways to transform information for users includes abstracting and extracting. An optional exercise on abstracting or extracting could be included in this section of the module. A specific document of relevance to the module participant group could be selected by the module manager for abstracting or extracting. The exercise could begin with a statement from administrators and researchers as to exactly what they think should be contained in an abstract or extract, and why. After the abstracts or extracts have been completed, a critical review of some of the abstracts or extracts could be the focus of a discussion on good and poor abstracts or extracts. This evaluation could include as criteria the statement from the administrators and researchers as to what they want from an abstract or extract.

Exercise V-3, Promoting Information Services, is especially important because many people, through ignorance, fail to use the information services that are available to them. This exercise calls for the information resource person to list three ways in which he or she can encourage users to use the information resource unit. One could also ask researchers and administrators to indicate why they do (or do not) use the resource unit.

Exercise V-4 calls for the listing of at least one type of action or service that could be implemented to meet each of the enumerated problems in information transformation and utilization. This exercise, which repeats the assignment given at the beginning of the unit, is intended to provide the participant with some measure of what is learned from this module unit. Some of these problems
relate to researchers' use of the information resource unit, others to the administrators' use of it, and still others to the information resource persons' functions within the unit. Alternatively, we could have an exercise in which administrators, researchers, and information resource persons deal only with those problems that concern them (but, they would have to deal with these problems more extensively). Further, after each role-holder makes his suggestions, holders of the other two roles could respond by stating what the implications of those suggestions are for his or her own role. In cases where participants come from a single agency, it would probably be appropriate to demand, as the product of this exercise, a plan of action for developing the agency's information resource unit into a more responsive part of the organization.

Unit VI. Unit VI is titled "Making Research More Useful for Problem Solving." It is aimed at helping participants identify ways of planning, conducting, and presenting research so that its results can be more easily and directly applied to problem solving. It covers the following points: (1) Research utilization involves two-way communication between the producer of knowledge (researcher) and the consumer of knowledge (administrator); (2) a distinction can be made between different types of researchers (in-house, market, and academic) and the kinds of problems appropriate for each type; (3) the results of a research study are more likely to be used if the variables involved in it are variables under the control of the administrator; (4) there is a need for reporting research results in different ways to different audiences; and (5) there is a need for some person or role that will link knowledge producers and users more effectively.

This unit may seem more useful to researchers and administrators, but information resource people might find some pointers as to how to evaluate research studies in terms of their utilizability. This unit could also be treated as a short mini-course in itself.

An exercise related to the interaction between consumers and producers of research would have been quite helpful. If we were offering this course to people who came from the same agency (and maybe, country), we probably would have taken a completed research project sponsored or implemented by the agency, evaluated the extent to which the findings had been applied, and tried to analyze why the results were (or were not) applied. Such an exercise could well make Exercise VI-4 (Characteristics of Utilized or Underutilized Research) more meaningful.

Exercise VI-1 (Where One Should Go to Get Research Done) does a good job of distinguishing among the different types of researchers, but it is appropriate primarily for administrators.

Exercise VI-2 (Mutable Variables, Focused Data, and Utilization) could well include a lengthy discussion session in which administrators, researchers, and information resource persons could present and justify their answers.
OTHER MATERIALS

Some additional materials have been incorporated into Units V and VI. In Unit V an example of a national information network, the Indonesian five-year plan, and an example of a questionnaire for assessing information needs and use are to be examined when participants are covering the sections on information networking and assessing information needs. These examples provide the participant with a fuller picture of the aspects and details in information networking and questionnaire development for assessing information needs. The three readings by Feliciano, Cernada/Sun, and Radel, which are integrated into Unit VI, are key papers covering the major considerations on the difficult problem of making research useful. They are to be read and referred to in doing the exercises that follow them in the unit.
THE EAST-WEST CENTER is a national educational institution established in Hawaii by the U.S. Congress in 1960 to "promote better relations and understanding between the United States and the nations of Asia and the Pacific through cooperative study, training and research."

Each year the East-West Center brings together more than 1,500 men and women from the many nations and cultures of these regions. They work and study together while exchanging ideas and experiences in cooperative programs seeking solutions to important problems of mutual concern to East and West. For each participant from the United States in Center programs, two participants are sought from the more than 60 countries and territories in Asia and the Pacific area.

Five institutes with international, interdisciplinary academic and professional staffs conduct the East-West Center's problem-oriented programs. East-West areas on which Center programs are focused include communication across national barriers, culture and language learning, food systems, population dynamics, and technological adaptation in developmental processes aimed at improving the quality of life. Each year the Center awards a limited number of Open Grants for graduate degree education and innovative research by Senior Fellows in areas not encompassed by institute programs.

The Center is directed by an international Board of Governors of a public, non-profit educational corporation—known as the "Center for Cultural and Technical Interchange Between East and West, Inc."—created by the Hawaii State Legislature in 1975. The United States Congress provides basic funding for Center programs and for the variety of scholarships, fellowships, internships and other awards. Because of the cooperative nature of Center programs, financial support and cost-sharing arrangements are also provided by Asian and Pacific governments, regional agencies, private enterprise and foundations. The Center is situated on land adjacent to and provided by the University of Hawaii, which conducts classes and grants degrees for degree-seeking East-West Center students who also are involved in the Center's problem-oriented programs.

THE EAST-WEST COMMUNICATION INSTITUTE concentrates on the use of communication in economic and social development and in the sharing of knowledge across cultural barriers. The Institute awards scholarships for graduate study in communication and related disciplines, primarily at the University of Hawaii; conducts a variety of professional development projects for communication workers in specialized fields of economic and social development; invites Fellows and visiting scholars to the Center for study and research in communication and to help design projects; offers Jefferson Fellowships for Asian, Pacific, and U.S. journalists for a semester at the Center and the University of Hawaii; conducts and assists in designing and carrying out research; arranges conferences and seminars relating to significant topics in communication; conducts a world-wide Inventory-Analysis of support, services and country program needs in communication programs; assembles relevant communication materials with emphasis on Asian and Pacific material and makes these available for students, scholars, and practitioners at the Center and elsewhere; and publishes papers, reports, newsletters, and other materials emanating from the above activities.