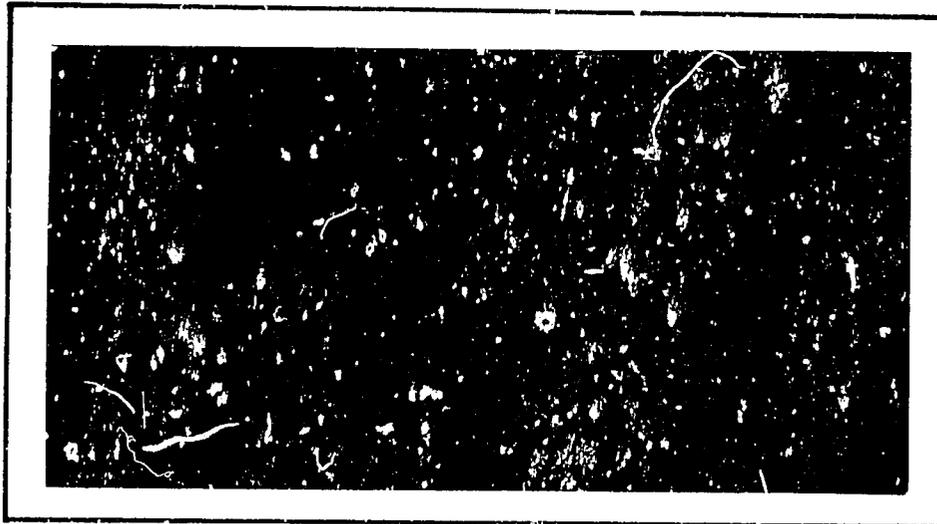


بحث متابعة العمل الأعلام  
في مجال  
الحياة الأسرية وتنظيم الأسرة  
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Research Report  
of the  
1981-82 EGYPT FOLLOW-UP SURVEY  
ON FAMILY LIFE AND FAMILY PLANNING

Carolina Population Center  
University of North Carolina  
at Chapel Hill

Population Studies and Research Centre  
Central Agency for  
Public Mobilisation and Statistics

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HOW TO EVALUATE  
A COMMUNICATION CAMPAIGN  
FOR FAMILY PLANNING

A Demonstration Based on  
Data from the SIS Program for Egypt,  
1980-82

by

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Research Report No. 6  
Further Analysis of the 1981-82 Egypt Follow Up Survey  
on Family Life and Family Planning

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## INTRODUCTION

One administrative weakness of international population programs that is increasing in salience and urgency is the practice of spending large sums of money (often millions of dollars in a single country) with very little or only superficial evaluation. On the receiving end of generous financing but little evaluation are communication and education projects. This phenomenon is not based on willful wastefulness, but on a lack of knowledge about how to evaluate the communication sector of family planning programs and their individual components. A practical step-by-step demonstration of how this can be done at reasonable cost and with highly definitive results is badly needed. This report tries to fill that need. It is a "textbook case" which others can study, critique, and improve upon. Its advantage is that it is not a hypothetical, contrived "case" invented to provide artificial practice, but an actual evaluation of a communication campaign conducted in a nation with critical population problems and obvious unmet communication needs. A planned effort to meet those needs was devised, funded for two years of campaigns, and then evaluated. Because this effort had been preceded by a comprehensive communication survey, there was a baseline against which to measure change. The present report uses this experience and the valuable body of data it provided to create a systematic treatise on the subject of evaluating family planning communication programs.

This case study is a communication program conducted in Egypt between 1980 and 1982 under the sponsorship of the State Information Service (SIS) of the Government of the Arab Republic of Egypt, with special funds provided for this purpose by the United States Agency for International Development. The Social Development Center (SDC) contracted to be a technical advisor to this project. Design of the evaluation procedure, collection of data, data tabulation and analysis were primary responsibilities of the SDC. At the final critical step of collecting data for the final evaluation, SIS and SDC recruited the talents of the Central Agency for Public Mobilisation and Statistics (CAPMAS), the official census and statistics agency of the Government of Egypt.

This particular cycle of communication action and concurrent research is an almost ideal model of how family planning communication programs should be evaluated: in design, in data collection, in analysis, and in interpretation-reporting. No other communication project of comparable magnitude in the family planning field has been given more adequate funds and a stronger mandate to conduct an objective

evaluation. For this reason, this case is presented for careful critical review and study by other communicators, in the hope that within the coming years studies of this type will become almost routine.

Furthermore, the communication problems uncovered in this survey are present, to an important degree, in a great many if not all family planning programs in Third World countries. To the extent that this is correct, the substantive findings of this report are fully as instructive as the methodological exposition.

It should be pointed out that the present report involves some re-analysis and refinement of earlier studies already published. This reanalysis, using a more complex methodology, arrives at the same findings and makes the same recommendations as the original reports. Because it is able to bring together the findings of several reports, the present document should be accepted as a definitive evaluation of the SIS communication campaign during the two-year period 1980-82.

One virtue of this report, from the evaluation perspective, is that it is not an example of an overwhelming success. In fact, it might be considered more of a post mortem of a near-failure. Although this was a disappointment from a programmatic point of view, it is an asset from the perspective of evaluation, for it provides an opportunity for the methodology employed to demonstrate its ability to measure even small amounts of success, to identify the most plausible sources of that success, and to arrive at an explanation for the failures. Making such inferences with firm empirical data is a comparatively rare event in family planning communication research.

In order to make this a perfect example to submit for the consideration of fellow-communicators, the author should be able to report that the findings were immediately recognized as valid and programs were quickly modified to incorporate the recommendations made. It is regrettable that as yet this recognition--for which all evaluation researchers yearn--has not come this way.

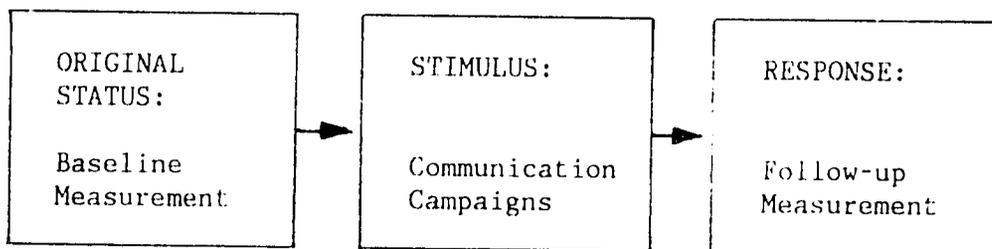
## Chapter 1

A PRACTICAL RESEARCH PLAN FOR  
EVALUATION OF A COMMUNICATION CAMPAIGN

## I

Data Collection Design

The most effective way to evaluate a communication campaign is the classic before-after experimental design. A "baseline" measurement is taken before the communication campaign begins. The communication then takes place and runs its course for a sustained period of time in order to give it an opportunity to exert its impact. At an appropriate later date a second "follow-up" measurement is taken. The results of the baseline measurement are then compared with the results of the follow-up measurement to determine what changes took place, if any, during the time the communication campaigns were in full swing. Schematically, this research design is as follows:



When the communication stimuli are sustained campaigns of mass media programming and/or person-to-person group meetings, personal counselling, or public meetings covering a broad territory, such as a nation (true in the Egyptian case), the before-and-after measurements must take the form of moderate-scale sample surveys. True experimental procedures call for the measurement of identical respondents in the before and after campaigns, and for establishing a control group from which the communication influences are withheld. Furthermore, persons should be assigned at random to the "communication treatment" and the "no-communication" control groups. For evaluation of large scale communication campaigns this ideal design is impractical and self defeating. When large scale mass media are employed, the setting up of comparable treatment and control groups is impossible; radio and television messages cannot be confined so nicely. Even if this were possible, random assignment of persons to one group or the other would not be tolerated. Most damaging of all is the fact that a 45-minute person-to-person interview taken as the baseline measurement has a very powerful communication impact of its own, for it acts like a non-directive counselling session of the type intended to help clients define and deal with personal problems. Because the baseline

communication survey probes in depth the reasons why respondents are or are not practicing family planning, its behavior-changing effect is much greater than conventional fertility surveys which confine their inquiry to more detached responses. The effect of an "in-depth" interview in which motives, attitudes, ethical beliefs, and future intentions are probed in detail is very plausibly as powerful as several months of mass media exposure. It therefore "contaminates" the communication experiment.

A practical alternative to the rigorous before-and-after experiment is to conduct two independent sample surveys, one before and the other after the communication campaign. Individuals who are "contaminated" by the baseline interview have a small probability of being reinterviewed at the follow-up. Thus, the situation that exists before the communication begins and the situation that exists after it has been conducted can be measured. Subtracting the frequency distributions of responses from the follow-up survey from that of the baseline survey yields a measurement of net change during the campaign interval. Ways of dealing statistically with the numerous weaknesses of this approach can be devised, and are described and used in Chapter 3 of this report.

#### Relevance for Communication Evaluation in General

Although this monograph focuses on family planning, the author believes the evaluation design, the data collection procedures, the analysis, and the interpretations made are very similar to the corresponding steps necessary in evaluating any communication campaign where the objective is to induce a major behavior change. Thus, the procedure is deemed to be relevant for evaluating health education programs, sale of commercial products, promotion of public services, election campaigns, and other projects that have large communication input.

## II

### Contents of the Baseline and Follow-up Surveys

A model communications evaluation survey must ask questions that are explicitly focused on communications objectives. Inevitably, these objectives encompass a broad scope of issues related to the provision of family planning contraceptive services and public perception of and response to those services. As a consequence, instead of a "National Family Planning Communication Survey," the author recommends a "National Family Planning Communication-and-Services Survey." This survey should focus on a total evaluation of the family planning program, with questions selected for their relevance and priority in making administrative and planning improvements. (For those who fear that this implies short-sighted abandonment of theory and scientific research in favor of short-term goals, the counter-view must be noted, that valid solution of critical problems is a prime generator of new theories and new perspectives--and that this is especially true in the field of communication and social development.)

Although the communication-and-services survey (hereafter abbreviated as the COM/SERV survey) will share some questions with conventional fertility survey or with the contraceptive prevalence surveys currently being taken around the world, these surveys are much too oriented to themes that have low relevance for improving family planning programs, and they are deficient in providing data for measuring communication impact. Hence, if a family planning program is to receive a rigorous evaluation, especially of its communication component, a new type of survey with a very different focus is required. This is the rationale for sponsoring a COM/SERV survey, as was done in Egypt.\*

In principle, the COM/SERV survey should consist of seven major parts, as follows:

1. Communication habits of the public, both mass and person-to-person
  2. Receipt of family planning communication messages by source
  3. Preconditions for adoption and use of family planning
  4. Adoption and prevalence of use of family planning
  5. Perceived availability and quality of family planning information and contraceptive services
  6. Factors, other than communication and services, believed to influence family planning behavior
  7. Indicators of present and recent changes in fertility.
- The COM/SERV survey in Egypt contained questions on all of these topics.

This report will focus on items 2, 3, 4, and 6 in the above list. A detailed analysis of communication habits in Egypt, using the data from the follow-up survey has already been published.\*\* Hence, item 1 in the above list has been fully studied, and the report should be read as a companion to the present report. Item 4 has also been researched carefully.\*\*\* Together, Research Reports 3 and 5 provide a solid foundation of background information on which an evaluation of the communication component can be based.

The next chapter presents data for each of the above categories of data, drawn from the baseline and the follow-up survey, and reports the amount of change that took place between 1980 and 1982. Every item in the list is represented by a battery of questions, each of which is identified according to its position in the follow-up interview. These batteries of questions usually are synthesized into indices or scales that quantify the variables going into the causal model being tested.

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\*An English translation of the COM/SERV survey taken in 1982 as the follow-up survey in Egypt is available from the author. It is not offered as a model instrument and would need to be reviewed and revised if applied in another country, or even again in Egypt.

\*\*Faten Abd El Fattah, Julie DeClerque, and Amy Ong Tsui. "Media Habits of the Egyptian Childbearing Public." Research Report No. 3, February, 1985.

\*\*\*Faten Abd El Fattah and Amy Ong Tsui. "Rural Availability of Contraceptive Services." Research Report No. 5, July, 1985.

### III A Causal Model of Communication Impact

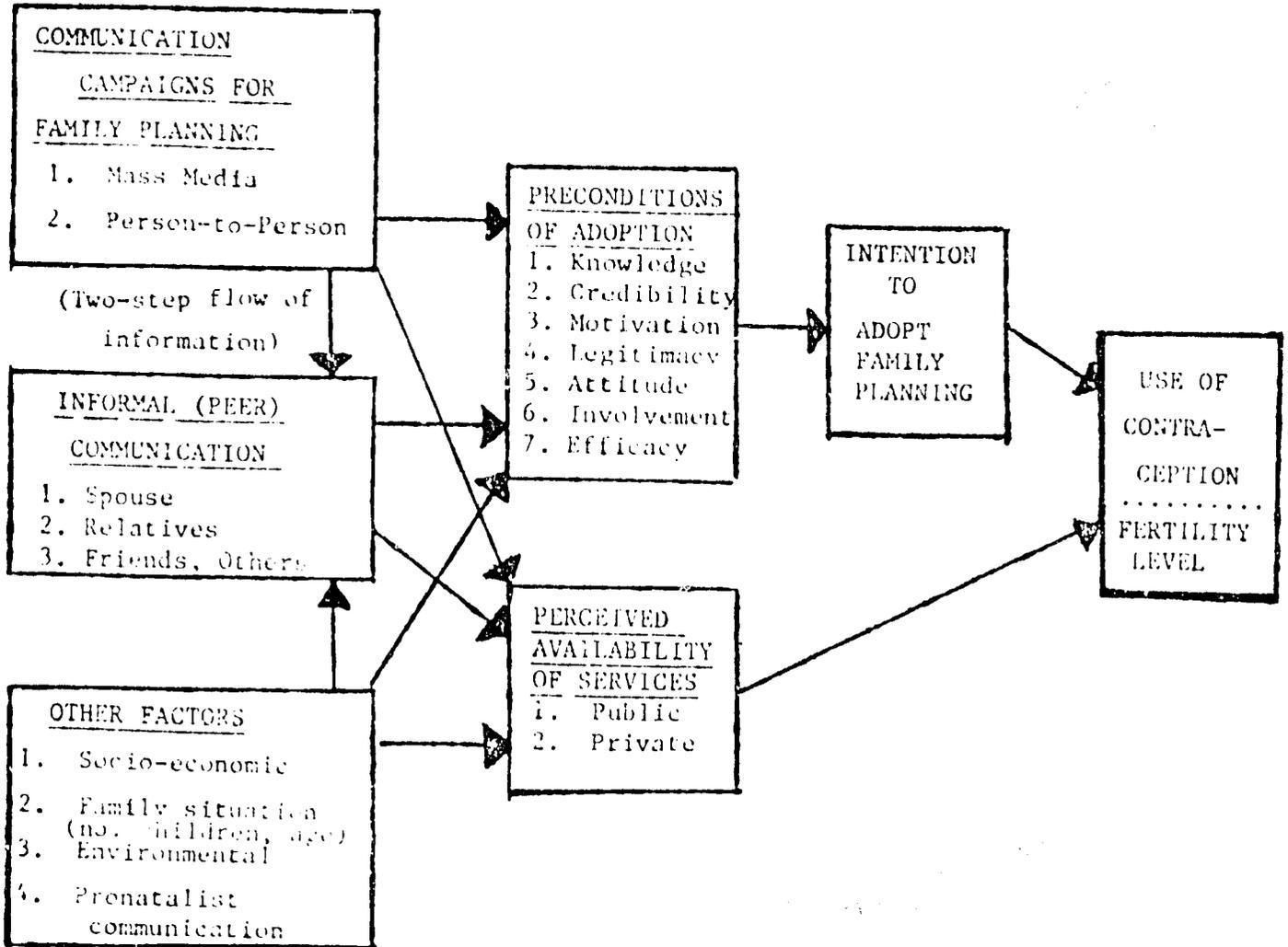
Simply collecting data about the key issues involved in communicating family planning information to the public is no guarantee that a cogent evaluation will emerge from the mass of data. There must be a model of analysis generated, which is then subjected to empirical test. This calls for a "causal model" of how communication exerts its effect upon contraceptive adoption and its continued use.

Figure 1-1 is a schematic portrayal of the model employed in the present report. It envisages communication campaigns to be a special "intervention" intended to induce behavior change. This communication intervention may take two forms, mass media activities and person-to-person activities. Together these activities may influence human behavior in two ways: directly, by persuading individuals to act in the recommended ways, and indirectly, by inducing persons to discuss the idea with their peers and to arrive at a decision. (This is the "two-step flow of information" phenomenon.) Although mass media communication and person-to-person communication should be coordinated, they ordinarily are carried out by distinctively different procedures, with comparatively little interaction between the communicators involved. However, both mass media and person-to-person communication are hypothesized to stimulate informal communication among peers, from which a "public opinion" or "collective image" emerges. According to this theory, many persons who did not respond to the direct communication will respond after interacting with their peers, often without having been exposed to the original communication.

Communication is not envisaged as exerting its impact directly, but by creating, strengthening, or reinforcing certain "preconditions for compliance" with the goals of the communication campaign. For example, people are not very likely to march submissively to a family planning clinic as a simple response to a direct order to do so. Instead, their attendance at the clinic results from a decision arrived at after hearing persuasive arguments why they should do so and reflecting on the information given them. When this occurs, with positive results, it is said that the "preconditions for adoption" have been established. (These conditions are discussed in section V of this chapter.) According to the causal diagram of Figure 1-1, the preconditions for adoption may lead to immediate adoption or to an intention to adopt at some time in the future. Thus, these preconditions for family planning adoption stand between the reception of messages for family planning and adoption or intention to adopt.

Figure 1-1 also emphasizes that communication campaigns and the resulting informal discussion lead to public perceptions of the availability and quality of service provided at the sources of family planning services. Thus, it is not only the "true" situation regarding such services, but the public's perception of the situation, that influences behavior. (It is presumed that there is a very high correlation between the "true" situation and public perception with respect to services, as a consequence of actual use of the services and of informal sharing of such experiences.)

FIGURE 1-1



CAUSAL MODEL OF THE PROCESS OF FAMILY PLANNING ADOPTION

In summary, if a communication campaign is to be evaluated as having promoted the adoption of contraception, it must be demonstrated that the campaign helped strengthen the preconditions of adoption and/or the perceived availability of services. These preconditions, in turn, lead to immediate adoption or intention to adopt at some time in the future. The causal diagram of Figure 1-1 also makes allowance for failure--an outcome of persistent refusal or failure to use contraception, which could result from counter-communications received from another source or from environmental and social factors, to be discussed next.

#### IV

#### The Causal Factors

Even if evidence is found of substantial improvement in the preconditions of adoption during the interval of time devoted to the communication campaign, it is not valid to presume without test that this change is solely a consequence of the communication efforts. A number of other factors and forces are at work which plausibly could have caused the observed change, either independently of the communication effort or interacting with it. Before a claim can be made that communication campaigns have "done any good," these other factors must be considered. There are four categories of such factors. Figure 1-1 illustrates that they must be accepted as direct competitors for credit for any favorable change toward family planning adoption. Because the study design does not permit these factors to be controlled experimentally, the alternative approach is to attempt to control them statistically. That is the strategy adopted in the present study.

##### A. Social Development

From the inception of the idea of special communication campaigns to induce contraceptive adoption, there has been a competing theory that general social and economic development alone can bring about such change. The one variable in this category most closely linked to the use or nonuse of family planning is educational attainment. In this research, the educational attainment of the woman herself and of her spouse is used to measure this ongoing force of social development. Although one can argue that income, occupation, and other indicators of economic development should be included, it is doubtful whether much explanatory effect, in addition to educational attainment, could be gained by their introduction. Hence, in the present study educational attainment is deemed to be a valid surrogate for the variable of social development as the competing hypothesis for observed change in contraceptive behavior.

##### B. Environment

It has been argued, as a corollary of the socioeconomic development hypothesis, that family size and the practice of contraception are highly dependent upon the environmental context in which the family must

survive. If the context is one of marginal agricultural production, children are presumed to be of significant benefit in promoting family survival. If it is a context of urban monetary economy, in which children are said to extract more income from the family than they contribute, even in the long run, the preconditions for fertility regulation are automatically strengthened. Accordingly, rural versus urban residence must be assumed to be a prime factor that can explain fertility changes and increased use of contraception. Rapid urbanization is taking place throughout the developing world, with massive in-migration to urban areas with equally massive out-migration from rural areas.

However, there is the possibility that other environmental forces exist, in addition to urban-versus-rural residence. Concentrations of particular religious, ethnic, cultural, or other groups which have cultures that particularly favor or resist social change can also exist. In Egypt, the entire region of Upper Egypt has been designated as such an environment. (In Latin America, concentrations of indigenous (Indian) populations or of ex-slave (black) populations often are cited as pockets of intense resistance to family planning which communication programs can influence only with extraordinary difficulty.)

For this report, two variables are introduced to represent the environmental forces: urban-rural residence, and residence in Upper Egypt versus residence in other regions of the country.

### C. Family Situation

One of the strongest associations between adoption and use of family planning is family size. When families have no children or only one child, the propensity to regulate fertility is low, except temporarily for spacing. As the family increases in size (number of living children increases), the desire for additional children declines and the preconditions for fertility control become stronger. Another factor, closely correlated with family size but not necessarily identical with it, is age of the wife. After the woman reaches age 30, her propensity to regulate fertility tends to increase at a pace faster than the onset of menopause. Concern for maternal health, worry about possible orphanhood of children born, satiation with child care, and other factors appear to lie behind this age-linked tendency. Hence, response to a communication campaign will be conditioned by the family situation, and particularly by the number of living children already born and the age of the woman. In the diagram of Figure 1-1, both are shown as twin interacting variables.

The causal model proposed for this study admits the validity of all three of these causal "other forces." The statistical procedures will introduce variables for each, and allow them to exert their full explanatory force before a claim for communication is made.

#### D. Other Communication Campaigns

In most nations, spokespersons for the family planning programs are not the only communicators at work. Enterprising journalists for radio and television, written for newspapers, magazines, and books, producers of movies, and numerous consumer forces capitalize on "the population problem" to increase their audience, circulation, or sales. Simultaneously, counter-communication to prevent the public use of medically approved contraceptive methods may be taking place. These communications may be isolated voices of religious or political devotees, acting from deep convictions. Or, they may take a much more aggressive form of organized counter-campaigns, for the explicit purpose of neutralizing the impact of pro-family planning communication. It would be possible, and desirable, to take an inventory of a communication campaign. In the Egypt study this was not done. Hence, data for the counter-SIC communication activity are not available. It is presumed that the effect of such campaigns would be to introduce "noise" into the data and to destroy or lower the size of any measurements that would tend to reflect positive effects of the communication campaign.

#### V

#### The Preconditions for Family Planning Adoption

Section III introduced the idea of "preconditions for family planning" without specifying what these preconditions are. For this report these preconditions are defined as psychological states of individuals which predispose them toward the ultimate use of family planning. There is not one precondition, but several, which are interrelated and interactive. From contemporary theories of behavior change and research testing these theories (much of it in relation to family planning), one can postulate at least seven preconditions:

1. Awareness that contraception exists and knowledge of the methods of contraception.
2. Credibility and trust in the honesty, competence, and sincerity of those who are communicating family planning messages.
3. Motivation to regulate fertility--belief in the advantages claimed for the smaller family with greater spacing between births and in the claimed disadvantages for the larger family.
4. Social legitimacy--belief that the practice of family planning is socially acceptable to those whose opinion and respect the person values most.
5. Positive attitude toward at least one of the means and methods that must be used in order to regulate fertility.
6. Personal involvement and commitment to family planning as a mode of behavior, manifested by informal discussion with peers and exchange of ideas concerning it.
7. Feeling of efficacy, or confidence in one's ability to perform the contraceptive routine and control family size.

Each of these dimensions is assumed to be a continuum, ranging from highly negative to highly positive. Although all tend to be correlated

with each other, each has been demonstrated to have an independent explanatory effect on human behavior change. When all are highly positive, adoption tends to be high; when one or more are strongly negative, adoption is less likely. Hence, the pattern of positive or negative values for these dimensions is a highly sensitive diagnosis of the basis for adoption or nonadoption.

If family planning programs in general, and if family planning communication campaigns in particular, are to be evaluated, the COM/SERV survey should obtain questions which can be used to quantify (create one or more indices or scales) for each of the seven preconditions. Such questions inevitably refer to psychological states of the respondent, and hence are "subjective" beliefs, emotions, and attitudes. Researchers who neglect considering such variables in their studies, and thereby who make no attempt to collect valid and quantifiable data for them, inevitably overlook a main avenue for evaluating the impact of communication efforts and hence of improving them and making them more effective.

In the baseline and follow-up surveys for Egypt, questions were included that were designed to quantify these dimensions.

## VI

### Organization of This Report: Method of Analysis

Both the baseline and the follow-up surveys in Egypt obtained data with which to quantify all of the elements in the causal model described above. The fact that almost identical questions were asked at the beginning and end of the SIS communication campaign provides a measurement of change that took place. Chapter 2 of this report examines those gross changes. Chapter 3 undertakes to examine the causal links between the preconditions of adoption and adoption itself, or intention to adopt. Chapter 3 also evaluates what impact the SIS communication campaigns had in promoting these preconditions. Chapter 4 is an overall evaluation of the SIS communication efforts for the years 1980-82, with recommendations; it also makes recommendations for improving future communication evaluation projects.

Because of the limitations of the research design, described above in section I, it is possible to test the causal model that has been postulated only through statistical procedures of multiple-variable analysis. Insofar as possible, the dependent and independent variables are expressed as continuous or quasi-continuous variables. In this way, the basic requirements for dealing with multiple variables simultaneously, using classical procedures of regression and analysis of variance, are complied with. No claim is made that these are the best or most efficient procedures that can be devised for making the evaluation. On the other hand, the final outcome of the analysis is consistent with other observations concerning the situation in Egypt and has high internal consistency. The present report therefore provides strong evidence that communication programs for family planning can be evaluated economically in a way that yields a surprising amount of diagnostic information useful for revising or improving the programs.

## Chapter 2

MEASUREMENT OF CHANGE IN FAMILY PLANNING BEHAVIOR,  
AND PRECONDITIONS OF ADOPTION, BETWEEN 1980 AND 1982Introduction

The follow-up survey of 1982 repeated, without change or with only minor modifications, a rather large battery of questions asked in the baseline survey of 1980. In this chapter, the frequency distributions of responses to these questions at the two surveys are compared. Differences between the first and second surveys are tested for statistical significance to determine whether the differences should be attributed to random sampling errors or whether they merit further study. Cases of no significant differences between the surveys are presumed to be cases of no significant impact by the SIS communication program, since the status with respect to that particular variable was the same before the program began as when it ended. Although it is possible to imagine a hypothetical situation in which a strong current of negative influence from some other source began simultaneously with the onset of the communication campaign which counterbalanced and neutralized an equally strong stream of positive influence from the SIS program, resulting in zero net change, such a condition did not appear to have existed. As the pattern of positive and negative change emerges from the analysis which follows, it will become evident that there is no evidence of such a hypothetical stand-off of positive and negative campaigns.

Because the time interval between the two surveys was only two years, at this step it is not deemed necessary to make cross-classifications to control for the effects of other variables. Such refined controls will be involved in the multiple-variable analysis of Chapter 3. The rapid comparison of frequency distributions, the task of this chapter, is deemed sufficient to make a preliminary assessment of the possible impact of the SIS communication efforts. This question-by-question comparison is performed by groups of variables, following the outline of the causal model sketched in Chapter 1.

Comparability of Baseline and Follow-up Surveys

The sampling strategy used in the baseline survey resulted in an over-representation of persons with some education, particularly with above-average amounts of education. Although the sampling resulted in acceptably good representation in terms of governorates (states), urban-rural residence, sex, marital status and age in comparison with the follow-up survey, it did yield excess proportions of persons in upper educational levels. Because more educated persons are better informed about and more inclined to practice family planning, this

discrepancy caused the baseline survey to give results that were too "optimistic" or too favorable toward family planning than would be expected if the educational attainment of the baseline and the follow-up survey population had been identical. This surplus of better educated persons could have occurred in two ways. In order to minimize transportation costs, a distance limit was placed on the amount of travel time that would be spent in reaching a particular sample segment. Only places that could be reached within 1.5 hours from the principal city of the state were allowed to be in the universe from which a rural sampling segment could be selected at random. Because rural persons who reside at long distances from the city in Egypt tend to have less education, a systematic selection bias resulted. A second source of the discrepancy may have been the fact that in the baseline survey the houses to be selected in the sample were selected in the field by supervisors, on the days in which interviewing was scheduled to begin. In the follow-up survey, these units were selected by a team, independently of the interviewing operation. The selection procedure used in the baseline may have resulted in housing units with illiterate and low-educated persons being overlooked.

In order to make the two surveys more comparable, this factor of difference in educational composition was controlled by "standardizing" the responses of the first survey for the educational composition of the follow-up survey. This standardization of educational composition was done by weighting the cases of the baseline survey in such a way that the overall educational composition of the two survey populations would be identical. These weights were then used in tabulating all of the baseline data and performing various computations.

Because the pattern of selection of respondents by education appears to have been different for women than for men, weights were prepared for male and female respondents separately. The weights used were as follows:

Level of education	Males	Females	% distribution
No education . . . . .	1.495	1.221	51.4
Less than 6 years (incomplete primary school). . . . .	1.527	1.687	24.2
Grade 6 (completed primary school) . . . . .	0.473	0.270	8.1
Preparatory school . . . . .	0.723	0.508	4.0
Secondary and partial university	0.618	0.547	8.7
Completed university or more. . . . .	0.432	0.541	3.5
Total . . . . .	1.000	1.000	100.0

The effect, of course, is to give much more weight to low education respondents and much less weight to respondents in the upper educational levels. This reweighting was done "across the board" in advance of all tabulations. It is believed that with this standardization on educational attainment, the responses to the before and after surveys are highly comparable. Small differences in composition or small changes are treated conservatively, even when statistically significant.

Part I  
CHANGE IN MASS MEDIA  
COMMUNICATION FOR FAMILY PLANNING: 1980-82

In this section, the baseline and the follow-up surveys are compared to reveal what changes occurred in the receipt of messages for family planning by the respondents. Table 2-1 provides the results for the major mass media: radio, television, and newspapers.

1. Before the SIS program, roughly three-fourths of the public had received family planning messages via radio, television, and newspaper. (The data for newspapers are restricted to the literate population.) This represented very high coverage in comparison with many other developing countries. During the SIS campaign the coverage remained about the same for radio and newspapers, but expanded to more than 90 percent for television.

2. For all of the three major media, the frequency with which messages promoting family planning were received increased significantly. The percentages of the public who received information about family planning several times per day or at least daily increased very substantially for both television and radio. Between 40 and 50 percent of the listening and viewing public received a family planning message daily.

3. Overall, newspaper activity for family planning appears to have remained about the same, remaining at very high attention levels. Very few, if any, other countries can boast of having nearly one-half of its newspaper reading public report reading about family planning several times per week.

These results confirm what is known from other sources about the SIS communication campaign for family planning between 1980 and 1982. Emphasis was placed on stepping up greatly the playing of "spot announcements" for family planning on television and radio. This was paralleled with the placing of paid advertising in major newspapers. Some observers at the time claimed to note a falling-off in spontaneous journalistic reporting of population affairs in newspapers; thus to some extent the paid advertising may have replaced independent initiative of the newspapers to publish feature-stories, editorials, and news reporting about family planning. The advertising was only in selected newspapers; this may account for the result that the proportion who reported "almost never" seeing family planning notices in newspapers increased from practically zero to 11 percent.

SUMMARY. The observation that the SIS family planning campaign "set Egypt afire" with publicity about the population program is not an exaggeration if this is applied to radio and television audiences. Notices for family planning were practically as numerous as those for any other product or service being advertised by these media. The increase for television was greater than for radio, but for both media the levels were near those that communicators would regard as "saturation." The appearance of paid newspaper ads was an innovation that attracted a great deal of attention, even if some journalists who had been dedicated to the population crisis may have felt "displaced."

The SIS campaign added much fuel to the population crisis "fire" that was already blazing very actively before SIS entered the picture. A great deal of the remainder of this report is devoted to isolating what effect this great volume of communication had.

#### A. Special Media Communication

The SIS campaign for family planning made extensive use, much more than preceding communication efforts, of special mass media, such as billboards, posters, magazine advertising, matchbooks, and placards in public transport vehicles. Both the baseline and follow-up surveys contained questions about receipt of family planning messages via each of these media. Table 2-2 provides this before-and-after data for each of these major special media.

1. Notices for family planning seen in magazines, on billboards, posters, bus placards, and matchcovers were reported by very substantial percentages of the public. (Magazine respondents were literates only.) At least one-third of the Egyptian public recalled family planning notices for magazines and on billboards and posters. About one-fourth saw placards on buses and matchbook covers announcing family planning messages via each of these sources. In all cases, there was a very substantial increase in communication for family planning via these "special mass media" in comparison with 1980.

2. Only a tiny 4 percent of the population reported receiving a leaflet or pamphlet for family planning, and this apparently represented a decline in comparison with activity before the SIS campaign began. In many nations, the leaflet has been used massively to inform the public about the individual family planning methods--sensitive information that cannot be transmitted by radio and television. Family planning movies, providing information about contraception while motivating the viewers, also received little emphasis during the SIS campaign, and apparently less than before it began.

SUMMARY. The SIS campaign broke new ground in making use of special media of billboards, matchcovers, posters, and magazine advertising on a large scale without precedent in Egypt. The percentage of persons who recalled seeing family planning messages from these sources is as great or greater than normally obtained in national campaigns for commercial products. Just as was reported for radio and television, the campaign using these special media attained "saturation levels" with their audiences.

Meanwhile, the SIS program gave much lower priority to the mass media of leaflets and family planning movies--special media--that have been important vehicles for communicating the "sensitive" information of family planning programs in other countries.

### B. Institutional Communication

One communication strategy often followed in promoting family planning is to place posters, pictures, or notices at points where family planning services are provided, in order to remind clients who are present for other reasons that family planning services are provided at this site. This is called "institutional communication" or "on-site" family planning advertising. Two questions inquiring about this type of communication were asked in both the baseline and the follow-up interviews. The results (Table 2-3) show that a substantial amount of such communication was being done during the 1980-82 period, since 37 percent of the respondents recalled messages from each of pharmacies and clinics. There was no increase in clinic communication activity between 1980 and 1982. However, there was a significant increase in family planning communication in pharmacies. Institutional communication was not a major facet of the SIS campaign, and hence did not expand as was noted for radio, television, and special media. A preponderant share of this type of communication came from sources other than the SIS program.

### C. Person-to-Person Communication

The SIS communication campaign for family planning was primarily a mass media program. However, it did include some special events, held in selected towns and villages, to promote family planning. In addition, the SIS community development teams working out of the local offices in the governorate headquarters, held public meetings and did community work for family planning, some in the form of group discussions. Meanwhile, other organizations in Egypt were actively promoting family planning through person-to-person contact. The Family Planning Board had a community-level program in which public meetings and small group discussion were the major vehicle for promoting family planning. The American University had a sustained program of village-level work in selected governorates. The private Planned Parenthood Association of Egypt, working with the Ministry of Welfare, also had a very active program of person-to-person communication that functioned both in urban areas and in selected rural areas. With all of these resources combined, it can be said that at the organizational level Egypt had a very ambitious program of person-to-person communication to parallel the ambitious program of mass media communication of SIS.

Table 2-4 provides responses to questions asked at the baseline and follow-up surveys concerning the receipt of messages for family planning via the various person-to-person channels.

1. Home visiting for family planning and public meetings for family planning reached only 5 to 6 percent of the population. There was an absolute decline for both types of person-to-person communication between 1980 and 1982. In the case of public meetings, this decline was very substantial. Whereas 12 percent of the public reported having attended a public meeting for family planning in 1980, only 5 percent made such a report in 1982.

2. In response to a question concerning attendance at small group discussions for family planning, almost 70 percent of the respondents

reported affirmatively. This represented a very substantial increase from the 43 percent of 1980. This question is somewhat ambiguously worded, so it is not possible to determine the extent to which these meetings were a part of an organized local family planning initiative and the extent to which they were spontaneous informal chats among groups of friends. It is clearly evident that person-to-person discussions of family planning issues were very prevalent in Egypt before the onset of the SIS program and increased dramatically during the time of the SIS campaign. Because the SIS campaign for family planning did not increase its person-to-person activities, the increased small group communication between 1980-82 cannot be attributed to SIS. This increase can be attributed to the activities of the organizations promoting village-level discussion.

**SUMMARY.** Person-to-person discussion for family planning increased greatly during the time of the SIS campaign. It is unclear how much of this is due to the efforts of the Population and Development Program (PDP) of the Family Planning Board and other community development programs with a family planning component. Variable 201, which measures this type of activity, will receive very careful and intensive attention in the multiple-variable analysis of the next chapter in order to learn more about its source and its impact.

#### D. Logo and Slogan Recognition

One of the first acts of the SIS communication program in 1979-80 was to hold a contest to choose a new national family planning symbol. This symbol became a logo that appeared on all printed material and on all television presentations diffused via SIS sponsorship. Ability of the public to recognize and correctly identify this symbol with family planning is therefore a good measure of the reach and impact of the SIS program.

During the 1980-82 period the SIS communication program went through three phases. Each of these phases was popularized by a slogan repeated as a part of radio and television publicity and used repetitively in posters and other print material. Ability of the public to recognize and correctly identify these slogans with family planning is an additional good measure of the reach and impact of the SIS program.

- (a) Phase I was intended to be an awareness phase. The slogan "Look Around You" (Egypt has a population problem) was repeated in all media messages of this phase.
- (b) Phase II was intended to be a motivation phase. The slogan "Small Families Live Better." was repeated in all media messages, each of which tried to emphasize one or more reasons for spacing children or limiting family size.
- (c) Phase III was intended to be an action phase, stimulating people to decide to use contraception. The slogan "The Choice is yours" was the rallying cry of this phase, and was intended to convey the idea that family planning is voluntary and a decision for which each couple is responsible.

Because the logo and the slogans did not exist at the time of the baseline survey, there could only have been zero recognition had questions about them been posed. Questions about each of the four items were included in the follow-up survey of 1982, with the following results:

<u>Symbol or slogan</u>	<u>% Correct response</u>
Family planning symbol . . . . .	46.5
Slogan: "Look Around You" . . . . .	39.5
Slogan: "Small Families Live Better" . . . . .	43.3
Slogan: "The Choice is Yours" . . . . .	21.6

SUMMARY. During the two-year period, the SIS campaign created a new national symbol for family planning; through its communication efforts, the campaign managed to get nearly one-half of the Egyptian public to recognize and correctly interpret the symbol as signifying family planning. Meanwhile, it popularized three slogans which were "punch lines" for three themes that were objectives of particular campaigns. SIS succeeded in delivering the messages and having 40 percent or more of the public recognize and correctly identify the slogans for the first two campaigns. The recognition score for the third slogan was lower, perhaps because it lasted for a shorter time and was still operational during the time when the follow-up survey was taken.

In the multiple-variable analysis of the next chapter, an index based upon ability to interpret correctly the logo and slogans is used as an important variable in assessing the impact of the SIS communication program. It is assumed that those who were able to recall the identifying "labels" for the campaign must have received and understood the more detailed content of the messages, while those who could not make a correct identification did not receive, did not attend, or did not understand the content of the messages.

Part II  
PRECONDITIONS OF ADOPTION

Both the baseline and the follow-up surveys obtained measures with which to quantify all of the concepts of the seven preconditions of adoption described in Chapter 1.

Precondition 1: Awareness and Knowledge of Family Planning

In 1980, awareness of family planning was measured at 92.6 percent, and in 1982 at 91.6 percent. Thus, the concept of family planning was almost universally known at the start of the SIS campaign and no progress was made in creating awareness among the 8 percent who still did not know.

Each respondent who knew the meaning of family planning was asked, "What methods of contraception do you know?" Following is a listing of

the percentage of respondents who mentioned methods spontaneously, without prompting or assistance in recognition or recall.

Method	1980	1982	Change
Oral pill. . . . .	90.1	93.8	3.7
IUD. . . . .	51.0	62.5	11.5
Injections . . . . .	19.7	16.8	-2.9
Diaphragm. . . . .	4.5	5.0	0.5
Foaming tablets. . .	2.1	7.0	4.9
Cream, jelly, etc. .	1.8	1.7	-0.1
Condom . . . . .	9.7	12.0	2.3
Rhythm . . . . .	3.0	1.7	1.3
Female sterilization	8.3	9.0	0.7
Male sterilization .	1.9	0.3	-1.7

Knowledge of the oral contraceptive pill was nearly universal in 1980, and increased a few more points during the two-year period. Substantial progress was made in learning about the IUD. More modest progress was made with respect to knowledge of foaming tablets and condoms. The private family planning association of Egypt had a major communication campaign underway to promote the commercial distribution of IUDs, condoms, and foam tablets. Much of the credit for increase in knowledge of these methods must be attributed to this project as well as to increased knowledge gained from general public media, informal discussion with friends and neighbors, and medical and health personnel at clinics.

Although diaphragms, foaming tablets, spermicides, and condoms all are available in the Public Health clinics and in private pharmacies, neither the SIS nor the other communication campaigns did a great deal to create massive recognition of the names of the methods, such as was created for the family planning symbol and the slogans. That three out of every four persons could not spontaneously mention the condom as a family planning method and six out of seven could not mention foaming tablets, although both were available in pharmacies at subsidized prices so low they were practically gratis (as a part of the national family planning program), is symptomatic of a tendency for the SIS program to popularize the idea of family planning without popularizing the products which make family planning possible.

Ability to name contraceptive methods is not a guarantee that respondents know how to use those methods correctly. Both the baseline and the followup surveys contained questions intended to probe the detailed knowledge which respondents have about the principal contraceptive methods approved for use in Egypt. These questions and the responses in 1980 and 1982 are reported in Table 2-5. One-fourth of all who had heard of the pill did not know how to take it correctly, and less than one-half knew what to do if the very common tendency to forget one or more pills occurs. One-fifth of those who had heard of the IUD did not know in what part of the body it is placed, and more than two-thirds did not know how to make the simple check to assure that it is still in place. The data of Table 2-5 emphasize that near-universal ability to name the pill and high recognition of the IUD are a thin veneer covering a great lack of detailed information. This table

reveals that very little progress was made between 1980 and 1982 in imparting this detailed information that is so essential to correct use.

In summary, the available evidence indicates that the SIS program did very little directly to elevate knowledge of family planning methods during 1980-82.

That there is a huge unmet need for information about the contraceptive methods in Egypt is demonstrated by response to the question, "Would you like to learn more about family planning, or do you want more information about it?"

	1980	1982
Wants to learn more. . . .	79.1%	88.3%

It is not implausible that the saturation campaigns conducted by SIS helped to generate the very substantial increase in this unmet need that appears to have occurred, although apparently no progress was made in satisfying it directly.

#### Precondition 2: Credibility and Trust

The baseline and follow-up surveys did not include questions that deal explicitly with feelings of trust or confidence in the veracity of communication messages sponsored by SIS, and hence SIS's credibility as a source of family planning information cannot be tested. However, evidence that the Egyptian public accepts the need for family planning as a national policy, and hence is prepared to believe information about it, is provided in Table 2-6. In this table, four questions about population growth are cited, with responses obtained at both the baseline and the follow-up survey. The data show that at the time of the baseline survey in 1980 more than 80 percent of the Egyptian public believed Egypt had too many people, population was growing fast, and something should be done about it. These proportions changed very little during the two years. Hence, the SIS program "Look Around You," which aimed at the double task of reinforcing the importance of population problems and establishing the credibility of SIS to discuss this set of issues, very probably succeeded in both objectives, while not extending credibility beyond the high levels that already existed. The 20 percent of the Egyptian public that had low credibility for population matters in 1980 remained intact in 1982. Although it did not appear to gain new converts, the SIS program reinforced the importance and heightened the saliency of family planning among the already converted. Meanwhile, the awareness campaign with which SIS entered the family planning communication arena appears to have established the credibility of SIS to speak out on population matters.

### Precondition 3: Motivation for Family Planning

In order to be "motivated" to adopt a new practice, a person must believe in reasons or advantages for changing past behavior. Indicators of the extent to which Egyptian couples do see advantages in having smaller families were placed in both the baseline and the follow-up surveys. Responses are reported in Table 2-7.

Before the start of the SIS campaign in 1980, motivation for family planning was apparently quite strong. More than 60 percent of respondents stated that they wished to have no more children and that their spouse concurred. Preference for having only two or three children was expressed by nearly 70 percent. Less than 15 percent could see economic advantages in having large families, maintaining the current economic situation of the family, and less than 20 percent believed that having a large family improves security in old age. One strong pronatalist tendency was a strong desire to bear sons.

During the 1980-82 period there was improvement in almost all of the indicators of motivation. There was a substantial rise in the proportion desiring no more children and in preference for the two-child family. Meanwhile, the determination to bear sons apparently declined in intensity. Overall, it might be estimated that within this short span of time, 10 percent of the population of childbearing age moved from a pronatalist or neutral position to a "motivated" status for family planning. It is plausible to presume that the campaign "Small Families Live Better" sponsored by SIS was instrumental in bringing about this shift. This topic will be explored in the multiple variable analysis of the next chapter.

### Precondition 4: Social Legitimacy

Except for a comparatively small group of "pioneers," the great majority of the public is reluctant to adopt new behaviors which they suspect may not be approved by those whose opinion matters most--relatives, friends, neighbors, and local community leaders. With respect to family planning, which implies the use of methods condemned by some religious groups, the issue of social legitimacy may be of unusual importance as a precondition of adoption. In order to inventory this situation in Egypt, as part of the baseline and follow-up surveys, a series of questions asked whether particular important peer persons would approve or disapprove of family planning. The questions are quoted and the responses are reported in Table 2-8.

1. At the time of the baseline survey in 1980, 60 percent or more of the respondents reported that each of the peer persons would approve of their use of family planning. (Grandparents were perceived as approving in 54 percent of the cases.) In nearly two-thirds of the cases it was claimed that the local religious leader would approve. This came as a surprising finding at the time, because it was suspected that a primary cause of low adoption rates for family planning in Egypt was a belief that family planning was contrary to the Muslim and Coptic Christian religions.

2. During 1980-82, social legitimacy of family planning increased significantly. Although perceived approval by family members increased slightly (except for grandparents), the strongest increases came for best friend, local doctor, religious leader, and school teachers. Physicians and school teachers were perceived as being nearly 100 percent in favor of family planning. Nearly three-fourths said their local religious leader would approve. Hence, one possible effect of the SIS communication program might have been to make family planning even more socially acceptable than it had been. At the start of the SIS campaigns individuals may have under-appreciated the approval of others; it is possible that the massive multimedia blitz of 1980-82 "ventilated" the issue by forcing it into daily attention via officially approved sources.

3. Further evidence that there was a substantial increase in social acceptability of family planning is provided by the last two questions in Table 2-8. When asked directly whether they regarded family planning as "good" or "bad," only 2 percent in both surveys condemned it as bad. When asked whether family planning was contrary to their religious beliefs, there was an impressive 11 percent increase, from 67 to 78 percent, replying emphatically in the negative. The percent who perceived their religion to be completely against family planning was cut in half, from 21 to 11 percent between the two surveys.

4. Nevertheless, the follow-up survey reveals that a substantial percentage of the population still feels doubts about the social acceptability of family planning. About 20 percent believed that family members and religious leaders would object. Greatest doubts were attributed to grandparents and in-laws. As stated, one person in ten sees his religion as completely prohibiting the practice of family planning. Although these are minority views, to the extent they are held strongly and expressed vehemently they may generate serious doubts about the social acceptability of family planning among many who themselves are favorable.

#### Precondition 5: Favorable Attitudes Toward Contraception

Adoption requires not only an overall favorable attitude toward family planning, but also a favorable attitude toward at least some of the specific methods or procedures that must be used. Questions to explore attitudes toward contraception were included in both the baseline and the follow-up surveys. Table 2-9 reports both the questions and the results.

1. At both the baseline and follow-up surveys there was overwhelming approval of family planning, and respondents reported that their spouse was equally approving. At both surveys 90 percent of respondents approved. Of the remaining 10 percent, most were neutral or only mildly negative.

2. During the two years of the SIS campaign, overall approval increased and there was a decrease in perceived disapproval by the spouse.

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The amount of the increase was modest, representing about 10 percent of the improvement possible given the already high approval rating.

3. When Egyptian respondents are asked to give their attitudes toward specific family planning methods, an entirely different picture emerges, however. Table 2-10 reports the opinions of the respondents concerning the reliability of the methods--their ability to prevent conception. At the time of the baseline survey there was a very common belief that all of the available methods were unreliable. Far less than one-half of those who knew of the oral pill, the IUD, diaphragm, spermicides, and condoms believed them to be as reliable as their use-effectiveness has demonstrated. There appeared to be a great deal of misinformation, rumor, and distrust of all of the available methods. Hence, the baseline survey revealed a clear tendency for Egyptians to say, in effect, "In principle, I have a very positive attitude toward family planning, but a negative attitude toward all of the possible methods I could use to implement family planning."

4. During the two years 1980-82 there was a very strong improvement in attitude toward all of the medically approved methods of family planning. Table 2-10 shows, however, that the tendency just described above persisted at the follow-up survey. Only two-thirds regarded the pill as "very reliable" and the proportions attributing high reliability to the IUD, injections, and diaphragm were absurdly low. In a high percentage of cases, both in 1980 and 1982, the response "don't know reliability" was very common.

5. Another strategy to measure attitude toward the methods was to ask, of those not practicing family planning, "If you were to start using family planning, would you consider using \_\_\_\_\_ (method) \_\_\_\_\_?" The proportions reporting "definitely no" are as follows:

Method	1980	1982	Change
Oral pill . . . . .	32.5	43.4	10.9
IUD . . . . .	52.2	57.5	5.3
Condom . . . . .	63.5	72.0	8.1
Foaming tablets . . . . .	66.4	66.0	-0.6

(Those who did not reply so negatively responded "definitely yes" or "maybe yes".) Distrust of the reliability of the methods and/or exaggerated fears of the effects of the methods on health, sex life, or fertility, far more than disapproval on ideological or other grounds, seem to underlie the low prevalence of contraceptive adoption. As the above statistics indicate, this negative attitude toward the oral pill, IUD and condom appeared to increase, rather than diminish during the time of the SIS campaign, despite the increased appreciation of the reliability of the methods.

In summary, Egypt has a strongly positive attitude toward the idea of family planning, but a strongly negative attitude persists in a very large sector of the population with respect to the available contraceptive methods. The SIS communication campaign of 1980-82 appears not to have been able to counteract fully this negative climate. It was as strong or stronger at the end of the campaign as at the beginning.

### Precondition 6: Involvement in and Commitment to Family Planning

The preconditions cited above lead the person to become involved in a decision-making process in which he or she applies the information gained to his or her present life situation. Self-involvement and self-commitment are difficult to measure directly. In the baseline and follow-up survey, conversing with others about family planning was taken as an indirect measure. Those persons who do a great deal of talking with others about family planning may be considered to be attempting to make a decision of whether to not to become committed. (This assumption is flawed in that many involved and committed persons may not converse with others.) Table 2-11 reports data on the prevalence of talking with other persons about family planning, as measured at the two surveys.

1. At the time of the baseline, about one-half of the respondents reported talking with peers about family planning. A very dramatic increase in such interaction appears to have taken place between 1980 and 1982, for the percentages jump by quantum amounts for discussion with relatives, friends, and neighbors. One possible impact of the SIS communication campaign could have been to make it convenient and easy to talk about family planning. This could also have been an example of the "two step flow of information" in which persons who obtain information from mass media tend to pass it on to their peers in informal discussions.

2. The follow-up survey reported no increase in informal discussion of family planning with physicians, nurses, or midwives.

3. The public seems to be divided roughly 50-50, between those who are involved and those who are not. About one-third appear to be quite involved, having talked with several person during the month preceding the survey, while slightly more than 50 percent had talked to nobody. These proportions change only slightly during the two-year interval, with a slight increase in the proportions who were conversing more frequently. It is not necessary that every person who is committed talk to numerous people every month, so that the first item in Table 2-11 may portray what is a very active communication network, which within a long span of time ultimately involves a large proportion of the public.

4. Although the SIS campaign appears to have stepped up peer discussion of family planning significantly, it apparently did not stimulate increased consultations with physicians or pharmacists.

### Precondition 7: Efficacy

Fatalism, or the belief that the person has little or no control over his or her own destiny, is a major obstacle to inducing persons to try new ideas. This has been thought to be an especially important factor in family planning adoption, because there is a widespread belief among traditional people that one bears "As many children as God sends," or that family size is "God's will." Underlying the doubts about the effectiveness of contraceptive methods, described in Precondition 5, may

be a latent fatalism . Psychologists have used the term "personal efficacy" or a belief that one is able to control one's destiny rather than having it determined by cosmic forces, to refer to the capacity to be anti-fatalistic. Persons who rank high in efficacy have feelings of being responsible for what happens to themselves, and for taking precautions against foreseeable and avoidable undesirable events.

In both surveys, a single direct question was used to measure the strength of personal efficacy with respect to family planning: "Do you think that people can control the size of their family, or that family size is determined by fate or by chance?" The responses were as follows:

Response	1980	1982	Change
Can control family size . . .	60.5	59.9	-0.6
Cannot control family size . .	32.7	39.0	6.3
Don't know, not sure . . .	6.9	1.1	-5.8

Although a majority of the Egyptian population can be rated as efficacious with respect to family planning, a very substantial share (40 percent) still have doubts. Unfortunately, this situation did not improve during the 1980-82 period.

The inability of the SIS communication program to affect this important dimension may have been due, in part, to the fact that the most fatalistic segment of the population were not reached by SIS communications at all. This is discussed in the next chapter.

SUMMARY: Between 1980 and 1982 the preconditions of family planning adoption changed as follows:

1. Knowledge--Low, slight improvement
2. Credibility--High, no change
3. Motivation--Moderate, major improvement
4. Social legitimacy--Moderate, major improvement
5. Attitude--Negative toward methods, no improvement
6. Involvement and commitment--Moderate, major improvement
7. Efficacy--Low, no improvement

There is a strong and plausible hypothesis that the SIS communication campaign of 1980-82 contributed in an important way to motivating the public to consider family planning adoption, to promoting the already high social acceptability of family planning, and to stimulating people to get involved and to make a commitment to family planning. There is no basis for claiming that it contributed directly to knowledge of family planning methods, to changing widely prevalent negative attitudes toward the methods or correcting rumors, or to helping Egyptians overcome their feelings of fatalism about family size.

The multiple variable analysis of the next chapter will attempt to test this rough diagnosis in more refined detail. That chapter uses the item-by-item information presented in this chapter to build a more abstract but nevertheless realistic model of the role which communication played in inducing changes in the preconditions and how the preconditions in turn promoted family planning adoption.

Table 2-1. RECEIPT AND FREQUENCY OF RECEIPT OF FAMILY PLANNING MESSAGES VIA THE MAJOR MASS MEDIA IN EGYPT: 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"Have you ever heard messages about family planning on the radio?"				
Yes, have heard.....	73.4	74.6	1.2	N=2249
No, have never heard.....	26.6	25.4	-1.2	X=1.66
Total.....	100.0	100.0	-0.0	d.f.=1 p<.20
"About how often do you hear something about family planning on the radio?"				
Several times a day.....	8.2	14.3	6.1	N=1647
About once every day.....	15.9	25.7	9.8	X=638.45
About once a week.....	25.3	38.6	13.3	d.f.=4
About once or less a month.....	9.8	10.1	0.3	p<.001
Almost never.....	40.8	11.4	-29.4	
Total.....	100.0	100.1	0.1	
"Have you ever seen anything about family planning on TV?"				
Yes.....	73.3	93.3	20	N=1903
No.....	26.7	6.7	-20	X=388.94
Total.....	100.0	100.0	0.0	d.f.=1 p<.001
"About how often do you see something on TV about family planning?"				
Several times per day.....	17.8	23.4	5.6	N=1786
Once everyday or two.....	21.7	34.5	12.8	X=265.34
Less frequently.....	60.4	42.1	-18.3	d.f.=2
Total.....	99.9	100.0	0.1	p<.001
"Have you ever seen anything about population or family planning in the newspaper?"				
Yes, have seen.....	73.8	77.2	3.4	N=1116
No, have never seen.....	26.2	22.8	-3.4	X=6.67
Total.....	100.0	100.0	0.0	d.f.=1 p<.01
"How often do you see something on population or family planning in the newspaper?"				
Almost everyday.....	21.4	16.5	-4.9	N=887
Several times a week.....	22.2	28.1	5.9	X=1305.23
About once a week.....	30.2	28.7	-1.5	d.f.=4
Less frequently.....	25.4	15.4	-10.0	p<.001
Almost never.....	0.8	11.4	10.6	
Total.....	100.0	100.1	0.1	

Table 2-2. RECEIPT OF FAMILY PLANNING MESSAGES VIA SPECIAL MEDIA  
1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
<b>"Have you seen anything about family planning in a magazine?"</b>				
Yes.....	55.7	75.6	19.9	N=487
No.....	44.3	24.4	-19.9	X=78.16
Total.....	100.0	100.0	-0.0	d.f.=1 p<.001
<b>"Have you ever seen a poster about family planning?"</b>				
Yes.....	31.0	39.8	8.8	N=3188
No.....	69.0	60.2	-8.8	X=115.42
Total.....	100.0	100.0	0.0	d.f.=1 p<.001
<b>"Has anyone ever given you or sent you a leaflet or pamphlet on family planning?"</b>				
Yes.....	5.4	4.1	-1.3	N=3230
No.....	94.6	95.9	1.3	X=10.69
Total.....	100.0	100.0	0.0	d.f.=1 p<.005
<b>"Have you ever seen a billboard with a family planning message?"</b>				
Yes.....	27.1	38.6	11.5	N=3194
No.....	72.9	61.4	-11.5	X=213.81
Total.....	100.0	100.0	-0.0	d.f.=1 p<.001
<b>"Have you ever seen a sign on a bus that had a family planning message?"</b>				
Yes.....	14.7	24.0	9.3	N=3246
No.....	85.3	76.0	-9.3	X=223.90
Total.....	100.0	100.0	0.0	d.f.=1 p<.001
<b>"Have you ever seen a sign on a train that had a family planning message?"</b>				
Yes.....	6.2	13.4	7.2	N=3254
No.....	93.8	86.6	-7.2	X=290.06
Total.....	100.0	100.0	-0.0	d.f.=1 p<.001
<b>"Have you ever seen a matchbook with a family planning message on it?"</b>				
Yes.....	16.3	29.8	13.5	N=3211
No.....	83.7	70.2	-13.5	X=428.94
Total.....	100.0	100.0	0.0	d.f.=1 p<.001

Table 2-3. RECEIPT OF FAMILY PLANNING MESSAGES IN CLINICS AND PHARMACIES IN EGYPT: 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"Have you ever seen a sign or picture at a health clinic that tells you family planning information or birth prevention methods can be held in that place?"				
Yes.....	35.2	36.6	1.4	N=3245
No.....	64.8	63.4	-1.4	X=2.79
Total.....	100.0	100.0	0.0	d.f.=1 p<.10
"Have you ever seen a sign or picture at a pharmacy that tells you family planning information or birth prevention materials can be had in that place?"				
Yes.....	31.4	37.2	5.8	N=3241
No.....	68.6	62.8	-5.8	X=50.62
Total.....	100.0	100.0	0.0	d.f.=1

Table 2-4. RECEIPT OF FAMILY PLANNING MESSAGES VIA PERSON-TO-PERSON COMMUNICATION IN EGYPT: 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"Have you ever received a visit here in your home from someone who came to talk about family planning or to invite you to come to a clinic or other place where they give family planning services?"				
Yes.....	7.7	5.7	-2.0	N=3180 X=17.90
No.....	92.3	94.3	2.0	d.f.=1
Total.....	100.0	100.0	0.0	p<.001
"Have you ever attended a public meeting or a community meeting where family planning was discussed?"				
Yes.....	12.2	5.2	-7.0	N=3176 X=145.29
No.....	87.8	94.8	7.0	d.f.=1
Total.....	100.0	100.0	0.0	p<.001
"Have you ever attended a small group discussion on family planning, where you discussed it with some friends and neighbors and other people?"				
Yes.....	43.0	69.7	26.7	N=3168 X=921.43
No.....	57.0	30.3	-26.7	d.f.=1
Total.....	100.0	100.0	0.0	p<.001

Table 2-5. RESPONSES TO QUESTIONS CONCERNING HOW TO USE THE ORAL PILL AND IUD PROPERLY: EGYPT, 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"How often does a woman have to take the pill to keep from getting pregnant?"				
One pill every day.....	71.1	73.4	2.3	N=3147
Other.....	8.1	7.7	-0.4	X=8.42
Does not know.....	20.8	18.9	-1.9	d.f.=2
Total.....	100.0	100.0	0.0	p<.02
"What should a woman do if she forgets to take the pill for just one day and does not want to get pregnant?"				
Take two pills to catch up.....	44.7	45.8	1.1	N=3190
Other.....	17.7	11.0	-6.7	X=110.38
Does not know.....	37.5	43.3	5.8	d.f.=2
Total.....	99.9	100.1	0.2	p<.001
"What should a woman do if she forgets to take the pill for 3 or 4 days in a row and she doesn't want to get pregnant?"				
Start using another method.....	1.8	3.1	1.3	N=3188
Consult the clinic or physician.	31.4	21.0	-10.4	X=494.57
Other.....	25.8	16.8	-9.0	d.f.=3
Does not know.....	41.0	59.1	18.1	p<.001
Total....	100.0	100.0	0.0	
"In what part of the body is the IUD placed?"				
Uterus, womb, etc.....	74.9	79.8	4.9	N=2535
Other.....	0.3	0.7	0.4	X=51.45
Don't know.....	24.8	19.4	-5.4	d.f.=2
Total.....	100.0	99.9	-0.1	p<.001
"How can a woman know if the IUD is correctly in place without making a special trip to the clinic or doctor?"				
Feel thread with finger.....	30.2	31.9	1.7	N=2527
Other.....	10.9	2.7	-8.2	X=176.43
Don't know.....	58.9	65.4	6.5	d.f.=2
Total.....	100.0	100.0	0.0	p<.001

Table 2-6. INDICATORS OF CREDIBILITY OF EGYPTIAN PUBLIC WITH RESPECT TO THE POPULATION PROBLEM: 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"Do you feel that in Egypt there are:"				
Too many people.....	90.3	95.3	5.0	N=3169
Just the right number of people or too few people.....	9.7	4.7	-5.0	X=90.45 d.f.=1
Total.....	100.0	100.0	0.0	p<.001
"Do you believe the number of people in this country is getting bigger, staying the same, or getting smaller?"				
Increasing.....	99.2	98.5	-0.7	N=3195
Staying the same.....	0.6	1.3	0.7	X=27.32
Decreasing.....	0.3	0.2	-0.1	d.f.=2
Total.....	100.1	100.0	-0.1	p<.001
(IF ANSWERS "INCREASING" TO ABOVE:) "Do you believe the number of people in this country is increasing:"				
Too slowly or at about the right rate.....	16.6	17.0	0.4	N=3054
Too rapidly.....	83.4	83.0	-0.4	X=.35
Total.....	100.0	100.0	-0.0	d.f.=1 p<.50
"Do you believe that something should be done to slow down the rapid increase in the number of people in this country?"				
Yes, something should be done....	97.3	93.3	-4.0	N=2447
No, nothing should be done.....	2.7	6.7	4.0	X=149.03
Total.....	100.0	100.0	0.0	d.f.=1 p<.001

Table 2-7. INDICATORS OF MOTIVATION OF FAMILY PLANNING AND FAMILY PLANNING METHODS: EGYPT, 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"Do you want to have more children than you have now?"				
Yes.....	29.4	28.0	-1.4	N=2879
No.....	62.5	71.2	8.7	X=226.19
Whatever God sends.....	8.1	0.8	-7.3	d.f.=2
Total.....	100.0	100.0	0.0	p<.001
"Does your spouse (husband/wife) want to have more children?"				
Yes.....	29.9	31.6	1.7	N=2859
No.....	61.6	67.9	6.3	X=236.45
Whatever God sends.....	8.5	0.5	-8.0	d.f.=2
Total.....	100.0	100.0	0.0	p<.001
"If you were newly married and could choose exactly the number of children best for you and your spouse, how many living children would you want to have when you become 45 years of age?"				
Two children or less.....	36.0	41.9	5.9	N=3114
Three children.....	33.1	33.1	0.0	X=66.27
Four children or more.....	31.0	25.0	-6.0	d.f.=2
Total.....	100.1	100.0	-0.1	p<.001
"Some people say it is best to have a large family with at least 4 or 5 children, while others think a small family of only two children is better. Which do you think is best?"				
It is preferable to have at least 4 or 5 children.....	20.3	21.7	1.4	N=3242
It is preferable to have 2 children only.....	74.9	75.8	0.9	X=36.17
Does not make any difference....	4.8	2.6	-2.2	d.f.=2
Total.....	100.0	100.1	0.1	p<.001
"What effect on the economic condition does having more children have on most families?"				
Make their life more economically difficult.....	86.7	84.2	-2.5	N=3233
Make them wealthier and better off economically or does not make any difference..	13.3	15.8	2.5	X=17.52
Total.....	100.0	100.0	0.0	d.f.=1
				p<.001

Table 2-7. INDICATORS OF MOTIVATION OF FAMILY PLANNING AND FAMILY PLANNING METHODS: EGYPT, 1980 AND 1982 (Continued).

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
How confident can parents in this country be that their children will take care of them in their old age?"				
Very confident.....	24.9	45.9	21.0	N=3012
Somewhat doubtful.....	48.0	28.3	-19.7	X=778.85
Very doubtful.....	27.1	25.8	-1.3	d.f.=2
Total.....	100.0	100.0	0.0	p<.001
"Does having four or five children improve the chances that you will be well cared for in your old age, or can you be just as confident of being care for if you have only two children?"				
Having four or five children				
improves chances.....	19.9	21.6	1.7	N=3199
It makes no difference.....	21.9	19.5	-2.4	X=13.26
Your chances are better if				
you have only 2 children.....	58.3	58.9	0.6	d.f.=2
Total.....	100.1	100.0	-0.1	p<.01
"How important is it for a family to have at least one son?"				
Very important.....	82.5	65.0	-17.5	N=3190
Important.....	5.2	12.4	7.2	X=.003
Not important.....	12.3	22.5	10.2	d.f.=2
Total.....	100.0	99.9	-0.1	p<.10

Table 2-8. INDICATORS OF SOCIAL ACCEPTABILITY (LEGITIMACY) OF FAMILY PLANNING IN EGYPT: 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"I am going to read a list of persons whose opinions you may respect. Please tell me if you think that each person would disapprove or would not care either way about your using family planning."				
<u>Father (for male respondent)/</u> <u>Mother (for female respondent)</u>				
Would approve.....	69.4	69.5	0.1	N=1740
Would not care either way.....	15.2	12.6	-2.6	X=15.43
Would disapprove.....	15.3	17.9	2.6	d.f.=2
Total.....	99.9	100.0	0.1	p<.001
<u>Brother (for male respondent)/</u> <u>Sister (for female respondent)</u>				
Would approve.....	76.1	79.2	3.1	N=2326
Would not care either way.....	16.0	9.6	-6.4	X=94.55
Would disapprove.....	7.9	11.2	3.3	d.f.=2
Total.....	100.0	100.0	0.0	p<.001
<u>Grandfather (for male respondent)/</u> <u>Grandmother (for female respondent)</u>				
Would approve.....	53.7	51.6	-2.1	N=308
Would not care either way.....	23.3	20.1	-3.2	X=5.23
Would disapprove.....	23.0	28.2	5.2	d.f.=2
Total.....	100.0	99.9	-0.1	p<.10
<u>Father-in-law (for male respondent)/</u> <u>Mother-in-law (for female respondent)</u>				
Would approve.....	58.5	60.1	1.6	N=1646
Would not care either way.....	17.4	13.1	-4.3	X=22.83
Would disapprove.....	24.1	26.7	2.6	d.f.=2
Total.....	100.0	99.9	-0.1	p<.001
<u>Mother's-side-uncle (for male respondent)/</u> <u>Mother's-side-aunt (for female respondent)</u>				
Would approve.....	62.8	68.2	5.4	N=1608
Would not care either way.....	23.7	13.4	-10.3	X=108.05
Would disapprove.....	13.5	18.4	4.9	d.f.=2
Total.....	100.0	100.0	0.0	p<.001

Table 2-8. INDICATORS OF SOCIAL ACCEPTABILITY (LEGITIMACY) OF FAMILY PLANNING IN EGYPT: 1980 AND 1982 (Continued).

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"I am going to read a list of persons whose opinions you may respect. Please tell me if you think that each person would disapprove or would not care either way about your using family planning." (Continued)				
<u>Father's-side-uncle (for male respondent)/</u> <u>/Father's-side-aunt (for female respondent)</u>				
Would approve.....	63.0	67.8	4.8	N=1542
Would not care either way.....	23.3	12.1	-11.2	X=134.76
Would disapprove.....	13.7	20.1	6.4	d.f.=2
Total.....	100.0	100.0	-0.0	p<.001
<u>Best friend</u>				
Would approve.....	75.1	88.6	13.5	N=2780
Would not care either way.....	17.9	3.7	-14.2	X=382.57
Would disapprove.....	7.0	7.7	0.7	d.f.=2
Total.....	100.0	100.0	0.0	p<.001
<u>Local doctor</u>				
Would approve.....	77.3	97.5	20.2	N=2479
Would not care either way.....	20.1	1.6	-18.5	X=580.52
Would disapprove.....	2.6	9.9	-1.7	d.f.=2
Total.....	100.0	100.0	0.0	p<.001
<u>Local religious leader</u>				
Would approve.....	63.6	72.0	8.4	N=2172
Would not care either way.....	22.0	6.7	-15.3	X=327.01
Would disapprove.....	14.4	21.3	6.9	d.f.=2
Total.....	100.0	100.0	-0.0	p<.001
<u>Local school teacher</u>				
Would approve.....	72.4	96.0	23.6	N=1545
Would not care either way.....	23.9	1.7	-22.2	X=445.63
Would disapprove.....	3.7	2.3	-1.4	d.f.=2
Total.....	100.0	100.0	-0.0	p<.001

Table 2-8. INDICATORS OF SOCIAL ACCEPTABILITY (LEGITIMACY) OF FAMILY PLANNING IN EGYPT: 1980 AND 1982 (Continued).

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"Do you think practicing family planning is good or bad?"				
It is completely good.....	95.0	87.1	-7.9	N=3104
It is a mixture of good and bad.	2.4	11.3	8.9	X=1059.29
It is completely bad.....	2.6	1.5	-1.1	d.f.=2
Total.....	100.0	99.9	-0.1	p<.001
"How much would it be against your religious beliefs to practice family planning:"				
It is not against at all.....	66.8	78.3	11.5	N=2925
Somewhat against.....	12.6	10.8	-1.8	X=199.03
It is completely against.....	20.6	10.9	-9.7	d.f.=2
Total.....	100.0	100.0	0.0	p<.001

Table 2-9. ATTITUDE TOWARD THE IDEA OF FAMILY PLANNING IN EGYPT: 1980 and 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"Some couples practice family planning to limit the number of children they will have. Instead of having a big family they try to have a small family. Do you approve or disapprove of using family planning to limit family size?"				
Approves strongly.....	81.2	83.7	2.5	N=3243
Approves moderately.....	8.5	6.0	-2.5	X=79.81
Neutral.....	3.3	3.9	0.6	d.f.=4
Disapproves moderately.....	3.6	4.8	1.2	p<.001
Disapproves strongly.....	3.5	1.5	-2.0	
Total.....	100.1	99.9	-0.2	
"What does your spouse think about the use of family planning for limiting family size? Do you think he/she:"				
Approves strongly.....	78.9	81.2	2.3	N=2868
Approves moderately.....	7.6	6.0	-1.6	X=66.18
Neutral.....	3.0	3.8	0.8	d.f.=4
Disapproves moderately.....	3.9	5.3	1.4	p<.001
Disapproves strongly.....	6.6	3.8	-2.8	
Total.....	100.0	100.1	0.1	

Table 2-10. ATTITUDES TOWARD THE RELIABILITY OF THE CONTRACEPTIVE METHODS IN EGYPT: 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
<u>Oral pill</u>				
Very reliable.....	43.4	66.0	22.6	N=3186
Reliable to some extent.....	20.4	15.1	-5.3	X=740.63
Not reliable at all.....	24.2	8.8	-15.4	d.f.=3
Don't know.....	12.0	10.1	-1.9	p<.001
Total.....	100.0	100.0	0.0	
<u>Intrauterine device (IUD)</u>				
Very reliable.....	32.7	49.4	16.7	N=2532
Reliable to some extent.....	19.8	19.5	-0.3	X=364.91
Not reliable at all.....	26.5	15.6	-10.9	d.f.=3
Don't know.....	20.9	15.5	-5.4	p<.001
Total.....	99.9	100.0	0.1	
<u>Injections for contraception</u>				
Very reliable.....	24.8	37.1	12.3	N=1690
Reliable to some extent.....	17.3	7.6	-9.7	X=217.79
Not reliable at all.....	9.8	6.2	-3.6	d.f.=3
Don't know.....	48.0	49.1	1.1	p<.001
Total.....	99.9	100.0	0.1	
<u>Diaphragm</u>				
Very reliable.....	17.9	35.3	17.4	N=805
Reliable to some extent.....	15.6	15.8	0.2	X=186.10
Not reliable at all.....	21.1	10.8	-10.3	d.f.=3
Don't know.....	45.4	38.1	-7.3	p<.001
Total.....	100.0	100.0	0.0	
<u>Foaming vaginal tablets</u>				
Very reliable.....	14.0	29.8	15.8	N=628
Reliable to some extent.....	10.6	14.2	3.6	X=161.00
Not reliable at all.....	23.7	22.8	-0.9	d.f.=3
Don't know.....	51.7	33.3	-18.4	p<.001
Total.....	100.0	100.1	0.1	

Table 2-10. ATTITUDES TOWARD THE RELIABILITY OF THE CONTRACEPTIVE METHODS IN EGYPT: 1980 AND 1982 (Continued).

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
<u>Crems, jelly, foam for contraception</u>				
Very reliable.....	13.3	16.1	2.8	N=366
Reliable to some extent.....	13.0	13.4	0.4	X=3.78
Not reliable at all.....	22.7	23.8	1.1	d.f.=3
Don't know.....	51.1	46.7	-4.4	p<.30
Total.....	100.1	100.0	-0.1	
<u>Condom</u>				
Very reliable.....	22.4	38.5	16.1	N=1095
Reliable to some extent.....	16.5	21.6	5.1	X=225.28
Not reliable at all.....	35.4	23.1	-12.3	d.f.=3
Don't know.....	25.7	16.7	-9.0	p<.001
Total.....	100.0	99.9	-0.1	
<u>Rhythm</u>				
Very reliable.....	18.1	32.2	14.1	N=513
Reliable to some extent.....	17.8	21.6	3.8	X=86.24
Not reliable at all.....	42.9	31.4	-11.5	d.f.=3
Don't know.....	21.2	14.8	-6.4	p<.001
Total.....	100.0	100.0	0.0	
<u>Female sterilization</u>				
Very reliable.....	62.5	77.1	14.6	N=1858
Reliable to some extent.....	9.2	3.8	-5.4	X=178.54
Not reliable at all.....	5.5	3.3	-2.2	d.f.=3
Don't know.....	22.8	15.8	-7.0	p<.001
Total.....	100.0	100.0	-0.0	
<u>Male sterilization</u>				
Very reliable.....	41.4	55.3	13.9	N=313
Reliable to some extent.....	12.4	1.3	-11.1	X=46.75
Not reliable at all.....	5.8	6.4	0.6	d.f.=3
Don't know.....	40.4	37.1	-3.3	p<.001
Total.....	100.0	100.1	0.1	

Table 2-11. INDICATORS OF INVOLVEMENT AND COMMITMENT TO FAMILY PLANNING DISCUSSIONS WITH OTHERS: EGYPT, 1980 AND 1982.

Question/Response	Percent Distribution			2 X
	1980	1982	Change	
"In the past month, how many people have you discussed family planning with?"				
None.....	54.8	52.3	-2.5	N=2511
1 or 2 people.....	15.0	15.6	0.6	X=22.91
3 or 4 people.....	11.4	11.2	-0.2	d.f.=4
5 to 9 people.....	8.2	10.7	2.5	p<.001
10 or more.....	10.5	10.2	-0.3	
Total.....	99.9	100.0	0.1	
"I am going to read a list of persons and I'd like to ask you to tell me for each one if you have discussed family planning with them."				
<u>Relatives</u>				
Yes, have discussed.....	47.5	65.9	18.4	N=3190
No, have never discussed.....	52.5	34.1	-18.4	X=433.09
Total.....	100.0	100.0	0.0	d.f.=1 p<.001
<u>Friends</u>				
Yes, have discussed.....	52.1	67.9	15.8	N=3191
No, have never discussed.....	47.9	32.1	-15.8	X=319.20
Total.....	100.0	100.0	0.0	d.f.=1 p<.001
<u>Neighbors</u>				
Yes, have discussed.....	44.4	64.7	20.3	N=3190
No, have never discussed.....	55.6	35.3	-20.3	X=532.51
Total.....	100.0	100.0	0.0	d.f.=1 p<.001
<u>Doctor</u>				
Yes, have discussed.....	34.4	30.5	-3.9	N=3190
No, have never discussed.....	65.6	69.5	3.9	X=21.50
Total.....	100.0	100.0	0.0	d.f.=1 p<.001
<u>Nurse</u>				
Yes, have discussed.....	19.1	14.1	-5.0	N=3186
No, have never discussed.....	80.9	85.9	5.0	X=51.55
Total.....	100.0	100.0	-0.0	d.f.=1 p<.001

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Table 2-11. INDICATORS OF INVOLVEMENT AND COMMITMENT TO FAMILY PLANNING DISCUSSIONS WITH OTHERS: EGYPT, 1980 AND 1982 (Continued).

Question/Response	Percent Distribution			2
	1980	1982	Change	X
"I am going to read a list of persons and I'd like to ask you to tell me for each one if you have discussed family planning with them." (Continued)				
<u>Pharmacist</u>				
Yes, have discussed.....	17.8	14.6	-3.2	N=3190 X=22.33
No, have never discussed.....	82.2	85.4	3.2	d.f.=1
Total.....	100.0	100.0	0.0	p<.001
<u>Religious leader or his wife</u>				
Yes, have discussed.....	15.6	16.6	1.0	N=3190 X=2.42
No, have never discussed.....	84.4	83.4	-1.0	d.f.=1
Total.....	100.0	100.0	0.0	p<.20
<u>Midwife</u>				
Yes, have discussed.....	13.9	8.7	-5.2	N=3189 X=72.05
No, have never discussed.....	86.1	91.3	5.2	d.f.=1
Total.....	100.0	100.0	0.0	p<.001
<u>Government fieldworker or home visitor</u>				
Yes, have discussed.....	9.9	6.2	-3.7	N=3189 X=48.94
No, have never discussed.....	90.1	93.8	3.7	d.f.=1
Total.....	100.0	100.0	0.0	p<.001

## Chapter 3

A MULTIVARIATE EVALUATION OF EGYPT'S  
MASS MEDIA CAMPAIGN FOR FAMILY PLANNING, 1980-82Research Plan

Chapter 2 described the changes in family planning indicators that took place between 1980, at the start of the mass media campaign for family planning carried out by the State Information Service (SIS) of the Government of Egypt, and 1982, at the time of a follow-up survey after the campaign had been in full swing for two years; it emphasized that the findings assumed a situation where "other things remained unchanged and other explanatory factors remained constant." That chapter pointed out that other programs for family planning information and education were in operation, which could have accounted for some of the changes observed. It also acknowledged that rising levels of education and urbanization could have explained at least a part of the changes. The present chapter attempts to evaluate the campaign from a multivariate perspective that will try to control for these alternative explanations.

The strategy for analysis in this chapter is as follows:

1. Based on the materials of the 1982 follow-up survey, measurements can be constructed of the amount of exposure to the SIS campaign experienced by each person in the follow-up interviews. These measures rely on self-reported experience, based on recall. It was hypothesized that if the campaign was effective, its impact should be most clearly manifested in those individuals who could recall having heard the messages and even recall specific content. Persons who received the messages but could not recall receiving them cannot be separated in this analysis from persons who really did not receive any of the messages.

This same strategy is used to measure what contact, if any, persons could recall with respect to other family planning communication programs underway at the time. Five indices were constructed. Details of the procedure are described in Appendix A to this chapter.

2. From the materials of the follow-up survey, summary measures (indices) can be developed for each of the major elements in the causal model postulated in Chapter 1. These include measures of the "pre-conditions of family planning adoption." Also included are measures of each of the other factors postulated as possible alternative explanations of family planning adoption behavior. Each indicator was constructed to be a continuous scale, varying from 0.0 or 1.0 to some higher number. Thus, the procedure could assign a score to each person on each of the seven precondition dimensions and on each of the environmental and other factors. Details of the procedure for con-

structing each index are provided in Appendix A to this chapter.

3. Using ordinary least squares multiple regression, in which the communication indicators (item 1, above) and each of the noncommunication variables (item 2, above) could be simultaneously introduced into explanatory models in which the preconditions of adoption (and adoption itself) were treated as dependent variables, a systematic exploration could be made to detect any effect that appeared to be linked to the self-reported contacts with the family planning communication programs, holding constant the external factors. In theory, this design should be able to separate the effects of the other communication programs that were underway at the time from the effects of the SIS campaign, while holding constant education level, number of living children, urban-rural residence, and other possible external influences. Because the variables (indices) conform rather well to the theoretical requirements for multiple regression analysis and all components of the causal model in Figure 1-1 are quantified with plausible reliability and validity, there seems to be a good basis for placing confidence in the results of this multivariate causal analysis.

The theoretical and technical limitations of this research design are well known. Where there is high intercorrelation among the explanatory variables, there is no assurance that the explanatory effect of any one variable is being correctly measured. Where relationships are not linear but curvilinear, the explanatory effect of some variables may be greatly underestimated. Even where intercorrelations among the explanatory variables are moderate, there is a possibility of interactions among them in unsuspected ways, causing one to take precedence over others in the regression equations and not reflect the real causal ordering. An important assumption that the deviations of each variable from the regression relationships are normally distributed may be violated for some of the most important variables. It is believed these limitations are only moderate in this set of data. There are few high correlations between pairs of the explanatory variables. The relationships seem to be well represented by linear equations. Evidence of interaction among the explanatory variables was found, but the ordering of explanatory priority tends to conform rather neatly to communication theories based on previous empirical research. This provides the author a basis for requesting the reader to give the results a "fair scrutiny" and to give this report's interpretation a tolerant reading.

The findings of the multivariate research of this chapter confirm in many respects the findings of Chapter 2. However, they add substantial information that Chapter 2 could not. Moreover, in some important respects they are not consistent with the findings of Chapter 2. Chapter 4 undertakes to consider the research findings of Chapter 2 and Chapter 3 as a single set, reconcile them, and arrive at a final synthesis of the evidence for the effect of the SIS mass communication program in Egypt during 1980-82.

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Part I  
DEFINITION OF THE INDICES

A. Indices of Family Planning Communication

Using sets of questions contained in the follow-up questionnaire, five indices of family planning communication were constructed. The procedure for constructing each index is described in Appendix A. Table 3-1 provides a frequency distribution for each of these variables and a measure of the zero-order correlation of each with every other.

Variable C1. MAJOR MASS MEDIA COMMUNICATION FOR FAMILY PLANNING. This variable counts the number of media from which the respondent reported receiving family planning information with regularity (weekly or more often). Radio, television, and newspaper were the mass media used by SIS for their campaign. Comparatively little use was made of these media by other communication programs. Thus, this index is a reasonably precise measurement of the audience who recalled receiving family planning messages initiated by SIS during the two-year period. The score ranges from 0 to 3. Apparently, the SIS campaign reached slightly less than two-thirds of the Egyptian public by one of these channels. The 37 percent of persons who could not recall receiving family planning messages regularly from any of these sources measures the shortfall of the SIS program's objective to reach the entire public.

Variable C2. LOGO AND SLOGAN RECOGNITION. The SIS campaign used a national family planning logo (symbol) and three different slogans (described in Chapter 2). Thus, there were four items which the respondents to the follow-up survey either could or could not recognize and interpret correctly when presented by a survey interviewer. Presumably, the persons who could recognize these items correctly also received and correctly understood the family planning content of the messages. This variable is the best measure available of the direct communication impact of the SIS efforts. Table 3-1 shows that nearly half (44 percent) of the Egyptian public could not recognize the national family planning symbol or correctly interpret any of the slogans. Only 17 percent were able to interpret all correctly. Thus, if the SIS goal was to reach the entire Egyptian public with all of its messages, it appears to have fallen far short. Of those reached, substantial shares could recall only one or two items. In interpreting these results it should be kept in mind that the campaign was a very large one with a budget of one million dollars per year, and was conducted by Egypt's official public information agency.

Variable C3. SPECIAL MASS MEDIA FOR FAMILY PLANNING COMMUNICATION. This variable measures a person's recall of persons of billboards, posters, magazine advertisements, and other special mass media (other than radio, television, and newspapers). Chapter 2 gives percentages of persons who reported receiving messages via each of the eight possible media. This index simply counts the number of different media from which such information was reported to have been received. Table 3-1 shows that 56 percent of the public received information from none of these sources; of those who did receive information, there was a

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tendency to mention two, three, or four sources.

Variable C4. INSTITUTIONAL COMMUNICATION. During 1980-82, SIS did comparatively little "institutional communication" in the form of mass media materials placed in clinics and pharmacies (outlets for family planning service). However, communication of this type was being done by the private family planning clinics and to a lesser extent through public health clinics. This variable, which measures recall of having seen mass media messages at these institutional sources, is primarily a measure of activities by agencies other than SIS, and especially by purveyors of family planning services.

Variable C5. PERSON-TO-PERSON COMMUNICATION. This variable measures the amount of person-to-person contact respondents had with representatives of family planning programs. As explained in Chapter 2, although the SIS did some communication of this type during 1980-82, comparatively little of the communication budget was spent in increasing such work. Much larger and more comprehensive programs of interpersonal communication were being operated by the Family Planning Board, American University, and the private family planning organizations. Hence, like institutional communication, this variable is primarily a measure of communication for family planning conducted during 1980-82 by agencies other than SIS. Table 3-1 shows that 70 percent of the Egyptian public received some form of person to person communication. Most of this came from one rather than multiple sources.

The correlations in the lower panel of Table 3-1 show that all of these measures of communication are moderately positively correlated. The correlations are highest among the mass media indices. The correlation between the person-to-person index C5 and the mass media indices is low--between 0.31 to 0.38. The activities of SIS are measured by variables C1, C2, and C3, and they are most highly correlated with each other. Institutional communication is also highly correlated with special media; the use of posters and leaflets outside clinics and other service centers and use of these same media inside such centers were either somewhat confused by the respondents, or those who tended to see these materials in one type of place were also highly inclined to see them in the other.

PEER COMMUNICATION. According to the causal model upon which this research is based, a communication force called "informal (peer) communication" is assumed to be at work to stimulate adoption of family planning. An index of this variable was constructed on the basis of questions concerning the degree of freedom people in Egypt felt in communicating about family planning with each other (see Appendix A to this chapter). A low score indicates a belief that such communication is very difficult and hence does not occur very often. A high score indicates that communication with same-sex persons and between married couples is easy and hence occurs with high frequency. Table 3-1 shows that peer communication appears to be very high for nearly 50 percent of the respondents, but that it is very low or low for at least 30 percent.

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### B. Indices of Preconditions for Family Planning Adoption

Each of the seven preconditions for family planning, posited in Chapter 2, was scored as an index. The procedure for scoring each index is provided in the Appendix to this chapter. Table 3-2 reports a frequency distribution for each of the seven indices, and the zero order correlation of each with every other.

Variable P1. KNOWLEDGE INDEX. This index goes beyond simple recognition of the names of methods of contraception to items of knowledge which test the respondent's awareness of how to use the method correctly. It is a reasonably good measure of the information a person should possess in order to make an informed choice of methods. Practically all respondents (96 percent) had some knowledge, but comparatively few had scores in the upper range. Instead, there was a rather even distribution among the range of intermediate levels of knowledge, with scores from 1 to 8. It appears that the Egyptian public has high recognition of the oral pill and one other method, but limited knowledge of the full range of medically approved methods and their correct use.

Variable P2. CREDIBILITY INDEX. Chapter 2 has already reported that credibility is extremely high in Egypt, and this index confirms that only 5 percent show outright disbelief in the credibility of family planning. However, there is a significant range in this credibility, with only 67 percent showing full credibility according to the indicators, with more than 25 percent showing some evidence of disbelief.

Variable P3. MOTIVATION INDEX. This index attempts to measure the strength of the benefits which respondents believe they will enjoy as a consequence of practicing family planning. A low score indicates that the person believes he or she would benefit little, while a high score indicates the person sees numerous and important benefits. The frequency distribution of scores indicates that motivation is strong; only a small percentage of respondents score zero or less than 2 points on the score, which has a maximum value of 9. Nevertheless, within the upper ranges there is a substantial array of variation in motivation, and only about one-fourth of the respondents could be declared "fully motivated."

Variable P4. SOCIAL LEGITIMACY INDEX. This index is based on the perceptions reported by the respondent of whether selected "significant others" among his or her peers would object or approve if they discovered the person was practicing family planning. The scale ranges from zero approval to approval by all peers. Only 10 percent show complete indications that they perceive family planning to be wholly socially illegitimate. However the proportion that declares it to be fully legitimate is also small. Social legitimacy seems to be concentrated at the informal level of friends and close relatives, while a substantial share have doubts about its religious legitimacy or whether more conservative members (such as grandparents) would approve.

Variable P5. ATTITUDE INDEX. As quantified for this study, "attitude" refers to a positive or negative reaction toward use of specific family planning methods. Respondents were presented with a list of all medically approved methods of contraception and asked if they would consider using each of the methods. A person with a score of zero would accept no method, while a person with a high score would accept most or all. The attitude of persons who were using contraception at the time of interview was measured by asking them whether they were satisfied with the method. The distribution of this index shows that only 9 percent of respondents were completely negative in their reaction to family planning. However, there was a strong concentration in the lower scores. A very high percentage of persons would accept only one or two of the methods. Thus, the attitude climate for contraception in Egypt might be categorized as "positive but narrowly focused."

Variable P6. INVOLVEMENT INDEX. This index attempts to measure the extent to which the person has become involved in family planning sufficiently to discuss it with a variety of sources of information. Persons who score zero have discussed it with no one, while those who score high have talked to spouse, relatives, neighbors, doctors, and other sources. Moreover, persons were scored as being involved if they reported that they were providing information to others and if they had talked about family planning with three or more persons recently. Of the possible score of 10, only 10 percent rated zero and only 6 percent rated 7 or above. Thus, although all but a small fraction of Egyptian adults are involved in family planning, that involvement appears to be low or moderately low, with a wide variation in degree.

Variable P7. EFFICACY INDEX. The often-discussed tendency to be fatalistic with respect to fertility and family planning was represented by a single item, presented in Chapter 2. This divides the population into two groups, with about 40 percent being fatalistic.

ZERO ORDER CORRELATIONS AMONG THE PRECONDITIONS. The correlations in the bottom pannel of Table 3-2 show that there is a low but positive correlation among most of the preconditions of family planning adoption. In general, the knowledge index P1 tends to have the highest correlation with all of the others. Thus, knowledge appears to stimulate or be a precondition for the others, especially attitudes and involvement. Also, a positive attitude tends to be moderately highly correlated with involvement. It is not plausible to expect that persons with negative attitudes would be highly active in discussing family planning with others, except possibly to dissuade them. All of these intercorrelations are of such moderately low level that it is deemed appropriate to use them simultaneously in regression equations.

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### C. Indices of Family Planning Adoption

The principal dependent variable of this study, ADOPT, is intended to score each respondent along a continuum ranging as follows:

5. Using method now
4. Definitely plans to start family planning within 12 months
3. Intends to adopt family planning, but not within next year
2. Uncertain about ever adopting family planning
1. Declares he/she will never use family planning.

The frequency distribution is reported in the top panel of Table 3-1. Almost one-fifth of the respondents declare they will never adopt. The 34 percent who report they are currently using family planning are supplemented by a small group (6.7 percent) who plan to adopt within the next year. A very substantial share (38 percent) state they will adopt but at some indefinitely specified future date. Thus, 80 percent of the respondents have a positive "set" toward family planning, but much of this falls on the continuum at the intermediate "vague positive intentions" level. The data emphasize that the ranks of active adopters will not be augmented by substantial numbers of new recruits soon unless these vague intentions can somehow be transmuted into intentions or decisions to act now.

A second measure of adoption, RADOPT, is termed categorical adoption. It divides the respondents into three categories:

Has not adopted. . . . .	67.0%
Adopted before 1980. . . . .	16.0%
Adopted after 1980 . . . . .	17.0%

These data indicate that one-half of all persons who were using family planning at the time of evaluation in 1980 began contraception during the time of the communication campaign 1980-82.

### D. Indices of Other (Noncommunication) Factors

The causal model posited for this study specifies a number of independent variables other than communication. These have been mentioned in Chapters 1 and 2. The mode of scoring each is reported in Appendix A to this chapter. Table 3-3 presents zero order correlations between these "other" factors and all of the remaining variables in the causal model.

Variable AVAIL. MEASURE OF AVAILABILITY OF FAMILY PLANNING SERVICES. This index scores each person according to his or her knowledge of sources of family planning service and the distance to be travelled in order to arrive at that source. The range of scores is from zero (no available sources) to 4, very high availability. Table 3-2 indicates that availability is reasonably high, with a very high concentration at levels 2 and 3.

Variable AGE. Age of the respondent is scored in terms of single

years of age as of last birthday. The lowest value is 14 and the highest 60. Age is positively correlated with reception of family planning communication. Older respondents tended to be more motivated but to find family planning to be socially unacceptable.

Variable RV035. NUMBER OF LIVING CHILDREN. The number of living children is reported in terms of number of children, and ranges from zero to 12. Those with larger families tended not to receive family planning communications, but to be better motivated and more involved.

Variable V543. YEARS OF SCHOOL COMPLETED. The number of years of school completed is reported in terms of single years of education, and ranges from zero to 22. There is a very strong positive correlation between receipt of family planning messages and education. Also, education has a strong positive correlation with all of the preconditions of adoption.

Variable UPPER. In order to measure the effect of residence in Upper Egypt, a dummy variable named UPPER was created, with a score of 1 if the respondent lived in Upper Egypt and zero otherwise.

Variable V008. URBAN-RURAL RESIDENCE. A dummy variable with a score of 2 if the respondent lived in a rural area and 1 otherwise was created in order to assess the impact of urban-rural residence. This variable is V008 unrecoded. Table 3-3 shows rural residence to be moderately negatively correlated with receipt of family planning messages and with all of the preconditions of adoption.

CORRELATIONS AMONG THE "OTHER VARIABLES." With only a few exceptions, the degree of correlation among these "other variables" is quite low, and nowhere are they high (above .6). (Data are in lower portion of Table 3-3.) As would be expected, the correlation between age of respondent and number of living children is moderately high (.58). Availability of services is negatively correlated with residence in Upper Egypt and with rural residence. All other combinations of correlations are below the .2 level. As a consequence of these patterns of low-to-moderate correlations, it is appropriate to insert these "other variables" into regression equations, permitting each to measure a different dimension of effect upon the preconditions of adoption and upon adoption itself.

#### Part II MULTIVARIATE ANALYSIS

The multivariate analysis of the variables whose definition and characteristics have been described above is presented in four parts, each dealing with a distinctive segment of the causal model presented as Figure 1-1 in Chapter 1. Each regression equation is presented in three forms: for males, for females and for both sexes combined. This is done for two reasons. First, it is critically important in evaluation of communication studies to learn whether the two sexes responded the same

or differently. Second, there is some question about the correctness of the sex composition for the follow-up survey, and a separate analysis for each sex permits a comparison of the disaggregated as well as pooled results.

#### A. Impact of Communication on Preconditions of Adoption

Following the causal model specified in Chapter 1, the first step in the multivariate analysis is to assess what impact, if any, the SIS mass media program appears to have had on the seven preconditions of adoption. (The relationship between these preconditions and adoption will be measured in a later section.) A regression equation in which one of the preconditions was the dependent variable and four communication variables and all of the external ("other") independent variables were simultaneously introduced as independent variables was computed for each of the seven preconditions. (Tables 3-4A, 3-4B, and 3-4C are summaries of these regression equations. Table 3-4A reports results for both sexes combined; Table 3-4B reports results for male respondents; and Table 3-4C reports results for female respondents.) Each of these tables presents the standardized (beta) regression coefficients and the value of R (multiple correlation) and R squared (percent of variance in the dependent variable explained by the multiple regression equation). The standardized coefficients are comparable with each other, by columns. The relative absolute size of the beta coefficients to each other is a measure of their relative importance in explaining the dependent variable's variation.

Because the dependent variables in each table share the same set of explanatory (independent) variables, it is also valid to compare beta coefficients by rows. Because of the large sample size, even variables with moderately low beta values are nevertheless statistically significant. However, the coefficients for some of the independent variables are so nearly zero that they are not statistically significant at the 0.05 level of sampling probability. (These items have been asterisked in the tables.) Under these circumstances, it must be concluded that the asterisked items in these tables indicate cells where the variable had no significant effect in determining the level of the propensity to practice family planning, as measured by these indices of precondition. Items that do not have an asterisk are statistically significant, but their explanatory power depends upon the size of their beta coefficient. Beta coefficients between 0.05 and 0.09 have low explanatory power, even when statistically significant. Those between 0.10 and 0.15 have moderately strong explanatory power, while the strongest explanatory variables tend to have beta coefficients of 0.15 or above.

With this as a general orientation, the results of the analysis can be studied. The following findings emerge from these data:

1. Major mass media efforts (radio, television, newspaper; variable C1) are significantly and positively related to all seven of the preconditions, holding constant all other variables, both communication and "other variables." This implies that the persons who recalled

hearing family planning messages frequently via radio, television, or newspaper tended to be more knowledgeable, more trusting, more motivated, more inclined to view family planning as socially acceptable, to have positive attitudes toward family planning, to be more involved, and to be less fatalistic (more efficacious). These relationships tend to be especially strong for knowledge and involvement. It must be kept in mind that the effects of age, education, urban-rural residence, number of living children, and residence in Upper Egypt have all been taken into account in making these measurements. The pattern tends to be similar for males and females. These data suggest that the SIS mass media campaigns had the general effect of promoting all of the preconditions for adoption of family planning, especially among women.

2. Person-to-person communication (communication campaigns in which SIS was not greatly involved; variable C5) appeared to have had an equally strong positive impact on the preconditions. The size of the beta coefficients for variable C5 are just as large as those for variable C1 for several of the preconditions. Mass communication seems to have been more efficacious in promoting knowledge, credibility, and feelings of efficacy. The person-to-person communication activities appear to have been better able to promote involvement, and also to promote all of the other preconditions strongly.

3. The SIS campaign using special mass media appears to have been almost wholly ineffective in having an impact independently of the impact of the other media. For every precondition, the standardized regression coefficients are not significant. This is true for each sex, except for one item for males, and this borders on nonsignificance. The special mass media program reached a considerably smaller share of the public, and appears to have duplicated the impact of other media. Because of its comparatively high correlation with C1, whatever impact it may have had appears, in the regression equations, as attributable to C1.

4. A considerably smaller, but nevertheless significant independent impact was apparently exerted by institutional communication. Its greatest contribution appears to have been in terms of stimulating knowledge acquisition, making attitudes more positive, and promoting involvement.

5. Informal communication among friends, neighbors, and other peers (the variable PEER) appears to have been even more powerful than any of the organized communication programs. Irrespective of their demographic and social characteristics, persons who feel free to talk with others about contraception tend to score highest on all of the preconditions. Later analysis will demonstrate that this communication force is not independent of the organized communication, but that it appears to be a mass response to organized communication in a substantial share of cases.

6. Residence in Upper Egypt clearly is associated with lower preconditions for family planning adoption, especially for males. Rural residence tends to have a negative effect also. Both tend to be linked

to lower knowledge, lower motivation, less positive attitudes, lower involvement, and lower efficacy.

7. Respondent's age, educational attainment, and number of living children tended to have weak relationships to the preconditions. Educational attainment is linked to a higher level of knowledge. Number of living children is linked to stronger motivation and greater involvement. The age variable behaves differently for women than for men. Older women tend to be more motivated and to find family planning more socially acceptable than younger women, but these relationships are much less strong and consistent for men.

Together, these seven generalizations indicate that both organized and informal communication for family planning tend to promote the preconditions for adoption of family planning, and that each of the forms of communication activities in Egypt (except the specialized mass media) appear to have had the effect of strengthening these preconditions. Skeptics of these results will qualify the findings by the following arguments:

- (a) In every population there is a large public that pays close attention to mass media, and tends to be well informed on a wide variety of topics, of which family planning would only be one. Thus, to an unknown extent these results reflect self-selection.
- (b) Many persons who rate low on the preconditions tend to live in a context where they have no access to the mass media, and the controls for region, residence, education, and other variables do not adequately control for this.
- (c) Ability to recall past communication messages is linked to interests. Those for whom a topic is salient or interesting will tend to pay attention to messages, while those who are disinterested will "tune out" the messages or quickly forget them. Thus, scoring high on the preconditions of family planning is simply a demonstration of the tendency for people to reconfirm or reinforce the propensities they already possess.

It cannot be unilaterally denied that these counter-explanations are without some factual basis. However, the uniformity and strength of the communication campaigns in Egypt makes it doubtful that the impact of communication programs is pure illusion; if that were the case, the communication variables should behave like the variables of education, living children, and other having lower and more inconsistent beta coefficients.

The analysis of Table 3-4 was repeated, using the logo and slogan recognition variable C2 (instead of C1 or C3) as indicator of the reach of the SIS program. The findings are reported in Table 3-5. This table attributes somewhat more impact to the SIS campaign than Table 3-4, but the general findings are identical.

The major finding of this section, therefore, is that the stepped-up mass media efforts of the SIS very plausibly had an impact in

increasing the prevalence and consistency of preconditions for adoption of family planning.

### B. Impact of Preconditions of Adoption on Adoption

The seven preconditions of adoption described above are derived from general social psychological theories of social change. This analysis has not yet demonstrated for Egypt that they are linked to actual adoption of family planning. This section makes such a test. Two measures of adoption were used: (1) the Adoption Status Variable, described in section 1, above (a five-category continuum that includes future intentions as well as present behavior), and (2) a Categorical Adoption variable, which is a simple trichotomy specifying status as a current user, a long-term current user, or a non-user. Table 3-6 presents the beta (standardized) regression coefficients for all seven of the preconditions on each of these dependent variables, while controlling simultaneously the impact of the other factors. (Communication variables are not included in these equations, because it is assumed that communication exerts its effect by strengthening the preconditions--a proposition that will be tested in section D, below.) These regressions were computed for both sexes combined and separately for each sex.

From these materials the following inferences can be drawn:

1. In Egypt, four of the seven preconditions appear to have a significant explanatory effect in determining family planning adoption:

Knowledge  
Motivation  
Attitude  
Involvement.

The three preconditions that are not significant in the Egyptian context are Credibility, Social legitimacy, and Efficacy. The first of these has already been shown to characterize practically all of the adult population of the country. Social legitimacy likewise was shown to have a very high prevalence. Efficacy (freedom from fatalism), which is widely believed to be an important factor in family planning adoption in Muslim countries, does not appear to have any independent effect when the other preconditions are taken into account.

Because the SIS (as well as the other communication intervention programs in Egypt) were shown in the preceding section to have promoted these four preconditions significantly, it can be surmised that the SIS communication program was instrumental in promoting adoption of family planning.

2. Number of living children is a powerful impetus to the practice of family planning, independently of all other variables in the model.

3. Age of respondent tends to have a negative effect on family planning adoption, once the positive factor of number of living children is controlled. This implies that older women are less inclined to adopt than younger women, when family size is held constant. This could be

due to belief by older women that they are subfecund, or it could be a generational difference.

4. Both rural residence and residence in Upper Egypt are negatively related to adoption, when all other factors are taken into account. The rural residence factor is especially strong and consistent. It could be that in these areas children are regarded more highly as an economic asset or as fulfillment of life's goals, and hence efforts to control fertility are less prevalent even when all of the preconditions are present. It has also been shown that the family planning communication messages were received there by far fewer people.

5. Educational attainment has a positive though not very powerful effect in promoting family planning adoption when all of the preconditions are present. The well-known positive correlation between educational attainment and fertility control appears to be due, in large part, to the greater prevalence of the preconditions among the better educated.

6. Peer group communication, which was one of the most powerful explanatory variables in the preceding section, suddenly ceases to be significant in Table 3-6. This implies that its impact upon adoption appears to operate through promoting the preconditions, rather than directly.

7. Despite the neatness and high plausibility of the above generalizations, the reader should not overlook the values of  $R$  and  $R$  squared as measures of the completeness of explanation. These equations are able to account for only about 40 percent of the variance in the adoption status variable and only between 20 and 25 percent of the variance in the categorical adoption variable. Thus, although the components appear to be important factors in family planning adoption, they leave more than one-half of the variation unexplained. Traits and factors not considered in this system, measurement error of the variables included, and local environmental and cultural conditions may be important factors in accounting for this result. Although satisfaction comes from isolating a set of factors that appear to be genuinely causal in the adoption of family planning, one should not overlook the fact that this is only a partial, not a complete, explanation.

### C. Interaction of Communication Campaigns with Other Factors

In Table 3-4 the "other variables" were treated as if they were of secondary importance--variables to be controlled in order to assess the impact of communication on adoption. In this section they will be treated as important independent variables, in order to explore their relationship with the various communication programs. Table 3-7 presents regression equations in which each of the communication variables is treated as the dependent variable and the independent variables other than communication are the independent variables. This table is useful for showing the characteristics of the audiences for the family planning communication programs. The table is in three parts:

part A considers both sexes combined; part B is restricted to male respondents; part C is restricted to female respondents. From these tables the following generalizations may be made:

1. The SIS program was highly focused on urban areas. Variables C1, C2, and C3 all show strong negative relationships with rural respondents. (The person-to-person campaigns did not have this trait.)

2. The SIS program was somewhat stronger in Lower than in Upper Egypt.

3. The SIS program was highly focused on educated populations. High positive coefficients are found for the variable of educational attainment. (This is also true for the person-to-person communication campaigns.)

4. The SIS campaigns appeared to reach all age groups about equally. There was a slight tendency to reach those with fewer children, when the factor of age was controlled.

Thus, by focusing primarily on urban, educated persons with smaller than average families living in Lower Egypt, the SIS communication program was weakest in the areas of greatest need: the least educated, the rural, large families, and those residing in Upper Egypt.

#### D. Direct Effects of Communication on Adoption

In section B, communication effects were considered only in terms of their ability to strengthen the preconditions of adoption. The question needs to be raised, "Does communication exert any effect upon adoption directly, independently of the preconditions?" Table 3-8 provides data with which to answer this question. The two adoption variables are treated as dependent variables, with both the communication and the precondition variables in the equation (as well as the "other variables"). From this table it is possible to see that:

1. The communication campaigns appeared to have no direct effect upon adoption of family planning, except through strengthening the preconditions of adoption. This is evident from the top panel of Table 3-8, which shows the communication variables to be either asterisked or of incorrect sign. Nevertheless, in Table 3-8 the preconditions remain significant. The same precondition variables that were significant in the analysis of section A remain significant, even in the presence of the communication variables as well as the "other variables." This is strong evidence that the following variables were (and probably continue to be) genuine preconditions of family planning adoption in Egypt: Knowledge, Motivation, Attitudes, Involvement.

2. Peer (informal) communication behaves like other communication in Table 3-8: it is not significantly directly related to adoption. Like the mass media and person-to-person variables, it exerts its effect

only by reinforcing or augmenting the preconditions.

3. In the presence of both the communication variables and the precondition variables, the following "other variables" remained significantly related to adoption of family planning:

- Number of living children (positive)
- Age (negative)
- Rural residence (negative)
- Educational attainment (positive)
- Residence in Upper Egypt (negative).

4. Thus, in the final analysis, the adoption of family planning in Egypt can be linked to the direct effects of the following nine variables, ranked in their approximate order of explanatory power:

- Attitudes
- Number of living children
- Knowledge
- Involvement
- Age (youth)
- Motivation
- Rural residence (negative)
- Residence in Upper Egypt (negative)
- Educational attainment.

5. Communication, in all of its forms, appears to make no direct contribution to adoption, but exerts its influence indirectly through the preconditions of adoption and the segments of the population by which it is reached.

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## Chapter 3--Appendix A

PROCEDURES FOR CREATION OF INDICES  
USED IN CHAPTER 3General Description of the Procedure

Below are specifications for the creation of all indices used in Chapter 3. All are produced by the same general procedures. Each is developed by the COUNT routine in SPSS. A count is made of the number of times certain specified codes occur in the responses to a specified set of interrelated questions. In the specifications that follow, the variables (questions) to be involved in the COUNT and the codes to be counted for each are specified. A brief identification of the items and explanation of what the index is supposed to do is provided. The variable numbers and codes can be determined by examining the tables of Chapter 2. For full details, see the original questionnaire.

I. Measures of Communication for Family Planning

## C1. MAJOR MASS MEDIA COMMUNICATION FOR FAMILY PLANNING

Variable-Codes to be Counted: Identification:

V230 code 1 or 2 or 3: Radio

V241 code 1 or 2 or 3 or 4: Television

V248 code 1 or 2 or 3: Newspaper

This creates an index ranging in value from 0 to 3, and is a measure of the number of mass media sources from which the respondent received family planning communication at weekly intervals or more often.

## C2. LOGO AND SLOGAN RECOGNITION SCORE

Variable-Codes to be Counted: Identification:

V163 code 1: Family planning logo (symbol)

V165 code 1: Slogan "Look Around You"

V167 code 1: Slogan "Small Families Live Better"

V169 code 1: Slogan "The Choice Is Yours"

This creates an index ranging in value from 0 to 4, and is a measure of the number of identifiers used in the SIS campaigns recognized by the respondent and correctly interpreted. It measures the amount of communication content to which the respondent was exposed by the SIS program, and is the best possible measure of the communication impact of the SIS efforts.

## C3. SPECIAL MEDIA SCORE

Variable-Codes to be Counted: Identification:

- V253 code 1: Magazines
- V254 code 1: Posters
- V255 code 1: Leaflets
- V258 code 1: Family planning films
- V260 code 1: Billboards
- V261 code 1: Bus
- V262 code 1: Traing
- V266 code 1: Cinema

This creates an index of the number of different special media sources from which the respondent received family planning information. The score ranges from 0 to 8.

## C4. INSTITUTIONAL COMMUNICATION

Variable-Codes to be Counted: Identification

- V264 code 1: Clinics
- V265 code 1: Pharmacies

This creates an index ranging from 0 to 2, which measures the exposure of respondents to family planning communication at the sites of potential service.

## C5. PERSON-TO-PERSON COMMUNICATION

Variable-Codes to be Counted: Identification

- V198 code 1: Home visits
- V200 code 1: Public meetings
- V201 code 1: Small group meetings
- V214 code 1: Field workers

This creates an index ranging from 0 to 4, which measures the exposure of respondents to organized communication for family planning by face-to-face communication.

II. Measures of Preconditions of Adoption

According to the model, there are seven preconditions of adoption. An index of each is defined as follows:

## P1. KNOWLEDGE INDEX

Variable-Codes to be Counted: Identification

- V160 code 1: Concept of family planning
- V456 code 1: How often take pill
- V457 code 1: Forget 1 day
- V458 code 1 or code 2: Forget 3-4 days
- V485 code 1: Where IUD placed
- V486 code 1: Check IUD
- V510 code 1: Heard of condom
- V530 code 1: Heard of foam tablet
- V279 code 1: Heard of injection
- V311 code 1: Heard of female sterilization
- V315 code 1: Heard of male sterilization
- V332 code 1: Pill very reliable
- V333 code 1: IUD very reliable

This creates an index with values ranging from 0 to 13. It is a count

of the items of information a person should have in order to make an informed choice of method, within the limits of this interview.

#### P2. CREDIBILITY INDEX

##### Variables-Codes to be Counted: Identification

V148 code 1: Egypt has too many people

V150 code 3: Population growing too fast

V151 code 1: Something should be done

This is an index ranging from 0 to 3. It is based on the assumption that persons who believe that Egypt has a population problem accept as credible the family planning messages.

#### P3. MOTIVATION INDEX

##### Variables-Codes to be Counted: Identification

V075 code 2: Wants no more children

V077 code 2: Spouse wants no more children

V135 code 1: Big families create economic difficulties

V137 code 3: Old age better if have few children

V087 code 2: Prefers two-child family

V092 code 2 or V093 code 2: Would not try for "son"

V153 code 2: Babies die less often

V156 code 1: Early childbearing harms health

V157 code 1: Late childbearing harms health

This index is a sum of indicators of desire to regulate fertility and reasons for doing so. It ranges from 0 to 9.

#### P4. SOCIAL LEGITIMACY INDEX

##### Variables-Codes to be Counted: Identification

V183 code 1: Father/mother approves

V185 code 1: Grandfather/grandmother approves

V189 code 1: Best friend approves

V191 code 1: Religious leader approves

V195 code 1: Family planning not against religion

This index inventories for generational, peer, and religious impact. It ranges from 0 to 5.

#### P5. ATTITUDE INDEX

##### Variables-Codes to be Counted: Identification

V181 code 1 or V182 code 1: Spouse approves family planning

V460 code 1: Would use pill

V480 code 3: Pill will not harm healthy women

V488 code 1: Would use IUD

V513 code 1: Would try condom

V533 code 1: Would try foam

V383 code 1: Satisfied with current method

This index attempts to measure attitude toward use of contraception. It is intended to be a realistic measure of willingness to try each method.

## P6. INVOLVEMENT INDEX

Variables-Codes to be Counted: Identification

- V180 code 1: Have talked family planning with spouse
- V204 code 1: Talked family planning with relatives
- V207 code 1: Talked family planning with friends
- V208 code 1: Talked family planning with doctor
- V209 code 1: Talked family planning with nurse
- V210 code 1: Talked family planning with pharmacist
- V211 code 1: Talked family planning with religious leader
- V212 code 1: Talked family planning with midwife
- V215 code 03 to code 50: Has talked family planning to 3+ persons
- V216 code 2 or code 3: Gives family planning information

This index measures the amount of informal communication a person has done or is doing.

## P7. EFFICACY INDEX

Variables-Codes to be Counted: Identification

- V159 code 1: Can control family size

This one question is all that the interview contains. Hence, this is a dichotomy, and is to be interpreted as a dummy variable.

III. Measure of Informal (Peer) CommunicationVariables-Codes to be Counted: Identification

- V202 code 1: Women can talk about family planning
- V203 code 1: Men can talk about family planning
- V204 code 1: Husbands and wives can talk about family planning

This index ranges from 0 to 3. It is a measure of the permissiveness of the climate for informal communication.

IV. Measure of Availability of Family Planning ServicesVariables-Codes to be Counted: Identification

- V436 code 1 (gets weight of 2): Knows 2+ sources
- V436 code 2 (gets weight of 1): Knows 1 source
- V441 code 00 to 10 inclusive: Travel time LE 10 mins
- V429 code 2: Pharmacy as source

This index, ranging from 0 to 4, scores the items found to be linked to accessibility--knowledge of multiple sources, short travel time, and mention of pharmacies as a source. Persons who possess all should have a high accessibility, while those who have a score of 0 have zero accessibility.

### V. Adoption Status Variables

ADOPT is proposed as the principal dependent variable of the study. It is purported to be a continuous variable on the adoption/nonadoption continuum. The variable was constructed by using IF statements in SPSS.

#### Variables-IF Code: Identification Recode: Recode Code

V379 code 1: Using a method now = 5  
V393 code 00 to 11: Intends to adopt in 12 months = 4  
V392 codes 1 or 2, minus persons in category above 4:  
Intends to adopt, indefinite future = 3  
V392 code 9: Uncertain about future adoption = 2  
V393 code 3: Will never adopt = 1

RADOPT is proposed as an alternative to ADOPT. It is a trichotomy with values as follows:

Has not adopted family planning = 0  
Adopted family planning before January, 1980 = 1  
Adopted family planning after January, 1980 = 2

This index gives zero weight to never-adopters and greatest weight to those who adopted during the time of the SIS communication campaigns.

Table 3-1. FREQUENCY DISTRIBUTIONS AND ZERO-ORDER INTERCORRELATIONS OF COMMUNICATION AND ADOPTION: BOTH SEXES.

Frequency (percent distribution)	Communication variables						
	C1	C2	C3	C4	C5	PEER	ADOPT
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 . . . . .	37.2	43.6	56.0	57.4	31.6	16.4	--
1 . . . . .	29.0	11.6	4.4	12.2	56.7	14.9	18.1
2 . . . . .	21.4	11.8	12.5	30.4	8.4	22.4	3.5
3 . . . . .	12.3	16.5	9.2		2.7	46.3	37.5
4 . . . . .		16.6	9.0		0.6		6.7
5 . . . . .			5.8				34.2
6 . . . . .			2.2				
7 . . . . .			0.7				
8 . . . . .			0.2				
Correlation	C1	C2	C3	C4	C5	PEER	ADOPT
C1. . . . .	1.0000						
C2. . . . .	.6197	1.0000					
C3. . . . .	.5951	.6340	1.0000				
C4. . . . .	.5379	.5953	.7043	1.0000			
C5. . . . .	.3842	.3100	.3805	.3582	1.000		
PEER. . . . .	.3100	.2460	.2251	.2401	.3360	1.0000	
ADOPT . . . . .	.3421	.3228	.2806	.3011	.2820	.3199	1.0000

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Table 3-2. FREQUENCY DISTRIBUTION AND ZERO-ORDER CORRELATIONS OF PRECONDITIONS OF ADOPTION AND PERCEIVED AVAILABILITY OF FAMILY PLANNING SERVICES: BOTH SEXES.

Frequency (percent distribution)	Preconditions of adoption							
	P1	P2	P3	P4	P5	P6	P7	AVAIL
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
00. . . . .	4.0	5.3	1.6	10.5	9.9	10.1	40.1	6.1
01. . . . .	8.7	17.8	3.1	15.0	14.9	11.9	59.9	7.2
02. . . . .	8.2	9.7	5.1	24.8	26.7	11.0		40.8
03. . . . .	10.0	67.2	5.7	31.0	33.9	11.7		41.2
04. . . . .	10.9		8.8	16.8	11.2	19.5		4.8
05. . . . .	13.3		12.0	1.9	2.9	13.4		
06. . . . .	13.3		17.8		.5	8.9		
07. . . . .	13.2		20.0		.0	6.4		
08. . . . .	9.4		18.3			3.9		
09. . . . .	5.9		7.5			2.3		
10. . . . .	2.1					.9		
11. . . . .	.7							
12. . . . .	.1							
13. . . . .	.0							
Correlation	P1	P2	P3	P4	P5	P6	P7	AVAIL
P1. . . . .	1.0000							
P2. . . . .	.3681	1.0000						
P3. . . . .	.4867	.3735	1.0000					
P4. . . . .	.4201	.2924	.3810	1.0000				
P5. . . . .	.5691	.3009	.4364	.4618	1.0000			
P6. . . . .	.6080	.3230	.4589	.4463	.4970	1.0000		
P7. . . . .	.4234	.3731	.3903	.3400	.3649	.3432	1.0000	
ADOPT . . . . .	.5179	.2620	.4220	.3125	.5288	.4620	.2934	1.0000
AVAIL . . . . .	.4545	.3037	.3320	.2868	.3461	.3514	.2345	.3172
								1.0000

All correlations are significant at  $p < .0001$  level.

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Table 3-3. ZERO-ORDER CORRELATIONS BETWEEN PEER AND "OTHER VARIABLES" AND INDICES OF COMMUNICATION, PRECONDITIONS OF ADOPTION, PERCEIVED AVAILABILITY OF SERVICES, AND ADOPTION.

Symbol	Name	PEER	"Other variables"				
			AGE	UPPER	V008	RV035	V543
C1	Major mass media . . .	.3100	.0744	-.2596	-.3741	-.0538	.4555
C2	Symbol and slogan recognition . . . .	.2460	.0291	-.1246	-.4381	-.1172	.5074
C3	Special mass media . .	.2251	.1375	-.1543	-.3689	-.0858	.5403
C4	Institutional communication . . . .	.2401	.0949	-.1545	-.3497	-.0452	.4217
C5	Person-to-person communication . . . .	.3360	.1014	-.1410	-.0943	.0850	.2725
P1	Knowledge . . . . .	.4252	.0259	-.3180	-.3578	.0408	.3889
P2	Credibility . . . . .	.2766	.0959	-.2351	-.1996	.0158	.2038
P3	Motivation . . . . .	.3700	.1773	-.2868	-.2481	.1721	.2117
P4	Social legitimacy . . .	.4039	-.1613	-.1494	-.1208	-.0651	.1679
P5	Attitude . . . . .	.3939	-.0505	-.1873	-.2572	-.0209	.2552
P6	Involvement . . . . .	.5383	.1086	-.2500	-.2087	.1524	.3037
P7	Efficacy . . . . .	.3070	-.0443	-.2358	-.1747	-.0400	.1795
PEER	Informal communication . . . .	1.0000					
AGE	Respondent's age . . .	-.0201	1.0000				
UPPER	Residence Upper Egypt .	-.2569	-.0550	1.0000			
V008	rural residence . . . .	-.1517	-.0786	.1607	1.0000		
RV035	Number of living children . . . . .	.0196	.5760	-.0340	.0698	1.0000	
V543	Educational attainment . . . . .	.1712	.0359	-.0844	-.3096	-.1721	1.0000
ADOPT	Adoption status . . . .	.3199	.0145	-.2372	-.2851	.1160	.2395
AVAIL	Perceived availability . . . . .	.2870	.3126	-.2671	-.2649	.0231	.2333

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Table 3-4A. IMPACT OF COMMUNICATION CAMPAIGNS AND "OTHER" FACTORS ON THE PRECONDITION OF ADOPTION:  
BOTH SEXES (Standardized (Beta) Regression Coefficients)

Independent variables		Knowl- edge	Credi- bility	Moti- vation	Social legiti- macy	Atti- tude	Involve- ment	Effi- cacy
Symbol	Name	P1	P2	P3	P4	P5	P6	P7
C1	Major mass media . . . . .	.248	.134	.109	.130	.130	.169	.116
C3	Special mass media . . . . .	-.044	.013*	.002*	.003*	.006*	.045	-.021*
C4	Institutional communication. . . . .	.134	.052	.063	.058	.123	.127	.063
C5	Person-to-person communication. . . . .	.184	.058	.095	.148	.144	.396	.111
Age	Respondent's age . . . . .	-.103	.080	.066	-.213	-.128	-.051	-.077
UPPER	Residence Upper Egypt. . . . .	-.136	-.129	-.149	-.021*	-.039	-.044	-.133
V008	Rural residence. . . . .	-.146	-.053	-.115	-.010*	-.112	-.008*	-.054
RV035	Number of living children. . . . .	.120	-.027*	.139	.042	.060	.161	.000*
V543	Educational attainment . . . . .	.135	.036*	.044	.006*	.040	.014*	.027*
PEER	Informal communication . . . . .	.178	.148	.218	.286	.231	.291	.169
R <sub>2</sub>	Multiple correlation . . . . .	.694	.408	.530	.497	.530	.778	.413
R <sup>2</sup>	Percent explained variance . . . . .	.482	.166	.281	.247	.281	.605	.170

\*Not significant at the .05 level.

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Table 3-4B. IMPACT OF COMMUNICATION CAMPAIGNS AND "OTHER" FACTORS ON THE PRECONDITION OF ADOPTION:  
 MALE (Standardized (Beta) Regression Coefficients).

Independent variables		Knowl- edge	Credi- bility	Moti- vation	Social legiti- macy	Attit- tude	Involve- ment	Effi- cacy
Symbol	Name	P1	P2	P3	P4	P5	P6	P7
C1	Major mass media . . . . .	.219	.107	.087	.115	.103	.154	.117
C3	Special mass media . . . . .	.045*	-.011*	-.010*	.048*	.055*	.074	-.055*
C4	Institutional communication. .	.119	.085	.071	.091	.122	.115	.096
C5	Person-to-person communication. . . . .	.156	.055*	.069	.149	.137	.389	.132
Age	Respondent's age . . . . .	-.006*	-.040*	.048*	-.142	-.098	-.054	-.076
UPPER	Residence Upper Egypt. . . . .	-.223	-.141	-.196	-.126	-.101	-.051	-.175
V008	Rural residence. . . . .	-.032*	-.083	-.116	-.012*	-.095	.044	-.051*
RV035	Number of living children. . .	.094	-.000*	.117	.004*	.048*	.155	-.012*
V543	Educational attainment . . . . .	.190	.006*	.046*	-.041*	.082	.032*	.041*
PEER	Informal communication . . . . .	.113	.101	.232	.244	.169	.304	.097
R	Multiple correlation . . . . .	.704	.364	.526	.536	.556	.793	.423
R <sup>2</sup>	Percent explained variance . .	.496	.133	.277	.288	.309	.628	.179

\*Not significant at the .05 level.

Table 3-4C. IMPACT OF COMMUNICATION CAMPAIGNS AND "OTHER" FACTORS ON THE PRECONDITION OF ADOPTION:  
FEMALE (Standardized (Beta) Regression Coefficients).

Independent variables		Knowl- edge	Credi- bility	Moti- vation	Social legiti- macy	Attit- tude	Involve- ment	Effi- cacy
Symbol	Name	P1	P2	P3	P4	P5	P6	P7
C1	Major mass media . . . . .	.236	.148	.113	.129	.137	.171	.099
C3	Special mass media . . . . .	.006*	.018*	.030*	.028*	-.005*	.013*	.046*
C4	Institutional communication. . . . .	.156	.026*	.062	.053*	.135	.125	.045*
C5	Person-to-person communication. . . . .	.170	.069	.123	.142	.132	.398	.075
Age	Respondent's age . . . . .	.065	.043*	.115	-.154	-.056	-.016*	-.001*
UPPER	Residence Upper Egypt. . . . .	-.087	-.104	-.111	.037*	-.002*	-.037	-.101
V008	Rural residence. . . . .	-.164	-.071	-.095	.013*	-.110	-.053	-.051
RV035	Number of living children. . . . .	.038*	-.005*	.131	.047*	.042*	.156	-.015*
V543	Educational attainment . . . . .	.109	.041*	.043*	.046*	.012*	.005*	.015*
PEER	Informal communication . . . . .	.211	.210	.196	.301	.268	.279	.230
R <sub>2</sub>	Multiple correlation . . . . .	.732	.442	.543	.477	.515	.764	.419
R <sup>2</sup>	Percent explained variance . . . . .	.536	.195	.295	.227	.265	.584	.176

\*Not significant at the .05 level.

Table 3-5A. IMPACT OF COMMUNICATION CAMPAIGNS AND "OTHER" FACTORS ON THE PRECONDITION OF ADOPTION:  
BOTH SEXES (Standardized (Beta) Regression Coefficients).

Independent variables		Knowl- edge	Credi- bility	Moti- vation	Social legiti- macy	Attit- tude	Involve- ment	Effi- cacy
Symbol	Name	P1	P2	P3	P4	P5	P6	P7
C2	Symbol and slogan recognition. . . . .	.218	.182	.144	.105	.152	.128	.190
C4	Institutional communication. .	.102	.029*	.042	.058	.107	.151	.015*
C5	Person-to-person communication. . . . .	.202	.067	.102	.161	.154	.418	.113
Age	Respondent's age . . . . .	-.100	.087	.071	-.207	-.122	-.041	-.075
UPPER	Residence Upper Egypt. . . . .	-.169	-.148	-.165	-.039	-.058	-.068	-.150
V008	Rural residence. . . . .	-.133	-.036	-.101	-.008*	-.100	-.010*	-.029*
RVO35	Number of living children. . .	.126	-.024*	.142	.042	.062	.157	.007*
V543	Educational attainment . . . . .	.122	.022*	.032*	.007*	.030*	.029	-.001*
PEER	Informal communication . . . . .	.188	.151	.220	.292	.234	.300	.169
R	Multiple correlation . . . . .	.688	.415	.534	.493	.532	.771	.426
R <sup>2</sup>	Percent explained variance . .	.473	.172	.285	.243	.283	.595	.182

\*Not significant at the .05 level.

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Table 3-5B. IMPACT OF COMMUNICATION CAMPAIGNS AND "OTHER" FACTORS ON THE PRECONDITION OF ADOPTION:  
 MALE (Standardized (Beta) Regression Coefficients).

Independent variables		Knowl- edge	Credi- bility	Moti- vation	Social legiti- macy	Attit- tude	Involvement	Effi- cacy
Symbol	Name	P1	P2	P3	P4	P5	P6	P7
C2	Symbol and slogan recognition. . . . .	.167	.139	.105	.065	.119	.078	.184
C4	Institutional communication. . .	.138	.058*	.051*	.121	.133	.163	.035*
C5	Person-to-person communication. . . . .	.187	.062	.075	.170	.153	.419	.131
Age	Respondent's age . . . . .	-.008*	-.040*	.048*	-.143	-.098	-.056	-.074
UPPER	Residence Upper Egypt. . . . .	-.263	-.158	-.209	-.148	-.120	-.082	-.191
VC08	Rural residence. . . . .	-.034*	-.070	-.107	-.021*	-.094	.030*	-.026*
RV035	Number of living children. . . .	.094	.001*	.119	-.005*	.047*	.152	-.008*
V543	Educational attainment . . . . .	.195	-.018*	.029*	-.026*	.079	.057	-.005*
PEER	Informal communication . . . . .	.128	.104	.235	.254	.177	.319	.096
R	Multiple correlation . . . . .	.692	.369	.528	.529	.554	.783	.434
R <sup>2</sup>	Percent explained variance . . .	.479	.136	.278	.280	.307	.613	.188

\*Not significant at the .05 level.

Table 3-5C. IMPACT OF COMMUNICATION CAMPAIGNS AND "OTHER" FACTORS ON THE PRECONDITION OF ADOPTION:  
FEMALE (Standardized (Beta) Regression Coefficients).

Independent variables		Knowl- edge	Credi- bility	Moti- vation	Social legiti- macy	Attit- tude	Involve- ment	Effi- cacy
Symbol	Name	P1	P2	P3	P4	P5	P6	P7
C2	Symbol and slogan recognition. . . . .	.259	.212	.178	.141	.171	.166	.194
C4	Institutional communication. .	.133	.000*	.044*	.053	.110	.121	.026*
C5	Person-to-person communication. . . . .	.187	.078	.131	.154	.139	.412	.081
Age	Respondent's age . . . . .	.085	.057	.127	-.142	-.045*	-.002*	.011*
UPPER	Residence Upper Egypt. . . . .	-.112	-.122	-.125	.023*	-.014*	-.054	-.115
V008	Rural residence. . . . .	-.144	-.046*	-.073	.022*	-.092	-.045*	-.023*
RV035	Number of living children. . .	.041*	-.002*	.133	.046*	.046*	.156	-.014*
V543	Educational attainment . . . . .	.110	.036*	.040*	.052	.007*	.012*	.011*
PEER	Informal communication . . . . .	.218	.210	.194	.304	.270	.286	.225
R	Multiple correlation . . . . .	.735	.454	.551	.477	.520	.763	.434
R <sup>2</sup>	Percent explained variance . .	.540	.206	.303	.228	.270	.582	.188

\*Not significant at the .05 level.

Table 3-6. IMPACT OF PRECONDITIONS OF ADOPTION ON ADOPTION: STANDARDIZED REGRESSION MEASURES.

Independent variables		Adoption status variable			Categorical adoption		
Symbol	Name	Both sexes	Male	Female	Both sexes	Male	Female
P1	Knowledge . . . . .	.155	.189	.153	.176	.189	.179
P2	Credibility . . . . .	.011*	.034*	-.020*	-.008*	.008*	-.025*
P3	Motivation . . . . .	.115	.142	.089	.071	.115	.032*
P4	Social legitimacy . . . . .	-.021*	-.043*	.004*	-.108	-.102	-.107
P5	Attitude . . . . .	.284	.250	.308	.145	.111	.172
P6	Involvement . . . . .	.121	.088	.139	.108	.095	.116
P7	Efficacy . . . . .	.006*	.003*	.013*	-.010*	-.018*	-.001*
AGE	Respondent's age . . . . .	-.134	-.169	-.127	-.044*	-.078	-.027*
UPPER	Residence Upper						
	Egypt . . . . .	-.052	-.017*	-.073	-.043	-.002*	-.073
V008	Rural residence . . . . .	-.112	-.098	-.132	-.125	-.120	-.125
RV035	Number of living						
	children . . . . .	.169	.173	.190	.168	.183	.162
V543	Educational						
	attainment . . . . .	.044	.033*	.037*	.067	.065	.061
PEER	Informal						
	communication . . . . .	-.004*	.028*	-.022*	-.000*	.026*	-.021*
R	Multiple						
	correlation . . . . .	.635	.621	.656	.485	.481	.495
R <sup>2</sup>	Percent explained						
	variance . . . . .	.404	.386	.430	.235	.231	.245

\*Not significant at the .05 level.

Table 3-7A. IMPACT OF "OTHER VARIABLES" ON COMMUNICATION VARIABLES: STANDARDIZED REGRESSION MEASURES, BOTH SEXES.

Independent variables		Major mass media	Symbol and slogan recognition	Special mass media	Institutional communication	Person-to-person communication	Adoption status
Symbol	Name	C1	C2	C3	C4	C5	
Age	Respondent's age . . . . .	.059	.028*	.166	.091	.050	-.172
UPPER	Residence Upper Egypt. . . . .	-.148	-.011*	-.052	-.054	-.047	-.106
V008	Rural residence. . . . .	-.214	-.295	-.192	-.212	.033*	-.191
RV035	Number of living children. . . . .	-.026*	-.052	-.100	-.034*	.087	.243
V543	Educational attainment . . . . .	.338	.384	.435	.316	.239	.154
PEER	Informal communication . . . . .	.180	.131	.110	.138	.281	.182
R	Multiple correlation . . . . .	.576	.603	.608	.507	.416	.503
R <sup>2</sup>	Percent explained variance . . . . .	.332	.363	.370	.257	.173	.253

\*Not significant at the .05 level.

Table 3-7B. IMPACT OF "OTHER VARIABLES" ON COMMUNICATION VARIABLES: STANDARDIZED REGRESSION MEASURES, MALE.

Independent variables		Major mass media	Symbol and slogan recognition	Special mass media	Institutional communication	Person-to-person communication	Adoption status
Symbol	Name	C1	C2	C3	C4	C5	
Age	Respondent's age . . . . .	-.023*	-.026*	-.007*	-.017*	.036*	-.189
UPPER	Residence Upper Egypt. . . . .	-.219	-.050	-.068	-.053	-.065	-.133
V008	Rural residence. . . . .	-.117	-.195	-.177	-.104	.105	-.141
RV035	Number of living children. . . . .	.012*	-.001*	.001*	.032*	.091	.245
V543	Educational attainment . . . . .	.356	.461	.432	.334	.308	.185
PEER	Informal communication . . . . .	.197	.153	.213	.258	.231	.188
R	Multiple correlation . . . . .	.577	.628	.627	.524	.413	.488
R <sup>2</sup>	Percent explained variance . . . . .	.333	.395	.394	.274	.170	.238

\*Not significant at the .05 level.

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Table 3-7C. IMPACT OF "OTHER VARIABLES" ON COMMUNICATION VARIABLES: STANDARDIZED REGRESSION MEASURES, FEMALE.

Independent variables		Major mass media	Symbol and slogan recognition	Special mass media	Institutional communication	Person-to-person communication	Adoption status
Symbol	Name	C1	C2	C3	C4	C5	
Age	Respondent's age . . . . .	.075	-.009*	.077	.004*	.081	-.120
UPPER	Residence Upper Egypt. . . . .	-.070	.030*	-.016*	-.036*	-.030*	-.079
V008	Rural residence. . . . .	-.316	-.401	-.265	-.333	-.037*	-.237
RV035	Number of living children. . . . .	-.036*	-.052	-.090	-.011*	.072	.244
V543	Educational attainment . . . . .	.307	.298	.409	.268	.174	.121
PEER	Informal communication . . . . .	.187	.130	.045	.074	.338	.183
R <sub>1</sub>	Multiple correlation . . . . .	.592	.595	.584	.510	.445	.522
R <sup>2</sup>	Percent explained variance . . . . .	.351	.354	.341	.260	.198	.273

\*Not significant at the .05 level.

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Table 3-8. DIRECT IMPACT OF COMMUNICATION ON ADOPTION: STANDARDIZED REGRESSION MEASURES.

Independent variables		Adoption status variable			Categorical adoption		
Symbol	Name	Both sexes	Male	Female	Both sexes	Male	Female
C1	Major mass media . .	-.014*	-.054*	.022*	-.042*	-.100	.011*
C2	Symbol and slogan recognition . . .	-.004*	-.018*	.005*	-.019*	-.050*	.005*
C3	Special mass media . .	.002*	.038*	-.046*	-.030*	-.003*	-.052*
C4	Institutional communication . .	-.002*	-.063	.042*	.035*	-.029*	.076
C5	Person-to-person communication . .	-.032*	-.075	.026*	-.078	-.103	-.043*
P1	Knowledge . . . . .	.153	.208	.133	.194	.230	.180
P2	Credibility . . . . .	.008*	.034*	-.023*	-.004*	.011	-.023*
P3	Motivation . . . . .	.113	.138	.088	.070	.109	.035*
P4	Social legitimacy . .	-.023*	-.037*	.001*	-.105	-.091	-.102
P5	Attitude . . . . .	.282	.254	.302	.147	.117	.172
P6	Involvement . . . . .	.143	.156	.118	.166	.199	.132
P7	Efficacy . . . . .	.008*	.012*	.012*	-.007*	-.007*	-.001*
AVAIL	Perceived availability . . .	.039	.026*	.034*	-.010*	.011*	-.040*
AGE	Respondent's age . .	-.135	-.163	-.127	-.032*	-.070*	-.019*
UPPER	Residence Upper Egypt . . . . .	-.048	-.015*	-.068	-.044	-.000*	-.077
V008	Rural residence . .	-.109	-.098	-.125	-.128	-.134	-.114
RV035	Number of living children . . . . .	.168	.167	.190	.158	.170	.159
V543	Educational attainment . . . .	.050	.056	.038*	.091	.118	.065
PEER	Informal communication . .	-.006*	.022*	.023*	-.002*	.019*	-.015*
R	Multiple correlation . . .	.637	.628	.658	.491	.499	.500
R <sup>2</sup>	Percent explained variance . . . . .	.406	.394	.433	.241	.248	.250

\*Not significant at the .05 level.

## Chapter 4

SYNTHESIS OF FINDINGS AND RECOMMENDATIONS

Chapter 2 provided one set of findings about the apparent impact of the SIS mass media campaign for family planning, based on differences between the baseline and follow-up surveys. Chapter 3 presented another set based on the multivariate analysis of retrospective and recall data from the follow-up survey only. For the most part, the two chapters provide identical or very similar findings. However, each chapter provides some information which the other cannot. In a few instances there are apparent contradictions. The goal of this chapter is to synthesize all of the findings to arrive at an overall evaluation of the SIS campaign and to make recommendations for future campaigns in Egypt, on the assumption that the conditions described in the follow-up survey still exist.

A. Positive Accomplishments of the SIS Campaign

Two major accomplishments of the SIS communication campaign for family planning were to (a) increase dramatically the frequency with which the public received communication about family planning and (b) experiment with an entirely new strategy for delivering such information. With a budget of the size adequate for any major national "media blitz," the SIS program was a multimedia coordinated effort to make family planning a priority issue. It broke new ground and dared new approaches. It used paid advertisements on radio, television and newspapers to generate awareness of the urgency of the population program. It put family planning messages on signboards, on placards in the public transport, on keychains, on matchcovers, on shopping bags, on posters that were plastered on walls, poles, elevators in public places and numerous other places. The sheer volume of communication was unprecedented in Egypt, and probably has been surpassed in no other country.

Using conventional advertising strategy, it created a national symbol for family planning, and taught people to recite slogans that encapsulated the aims of the campaign. The messages were of the type which advertisers use--drama, music, humor, cartoons, and other interesting programming to gain attention and hold it long enough to get a message delivered. For its time it was a great innovator in the use of television as a paid medium for family planning communication, paying fees of substantial magnitude for the privilege. In sum, it was a campaign designed and carried out by an experienced public information service using the strategy and techniques which commercial advertisers use for a sustained nationwide effort to promote a particular product or service. The "climate" was less of the kind employed to promote soap,

soft drinks, cigarettes, and similar minor consumer products than of the kind used to promote major purchases or investments such as life insurance, savings and loan associations, bank accounts, or real estate and housing, where long-term welfare, altruism for others, and careful decision making are important components. The SIS program was an important experiment in family planning communication. Whereas the communication had previously been in the hands of "educators," employed by nonprofit public and private institutions, an important segment was placed in the hands of professional mass media salespeople and avowed public relations experts.

Chapter 2 has documented the quantum leap in the frequency at which family planning messages were received and the variety of channels used. There is ample evidence that the SIS campaign "worked" and succeeded in attaining its initial objective to saturate public attention with family planning messages.

The positive tangible results of the SIS campaign reflect the objectives and content of the messages transmitted. The objectives were to create awareness of the population problem, to heighten its saliency, to "desensitize" it as an issue for open public discussion, and to motivate people to decide to use family planning. Chapter 2 has provided convincing evidence that these objectives were attained in a degree sufficient to be measured. Indicators of motivation, of involvement, and of social legitimacy increased significantly and meaningfully during the two-year period.

Another accomplishment of the SIS program apparently was to stimulate greatly the flow of interpersonal communication among friends, relatives, and other peers. One objective of mass media communication is to stimulate the "two step flow" of information. This reaction appears to have followed upon the heels of the SIS "blitz." The analysis of Chapter 3 has attributed to the SIS program a strong reinforcement of all of the preconditions of family planning adoption. However, Chapter 2 found little improvement in knowledge or attitudes during the period. This apparent contradiction may reflect the "two step flow," as persons who were stimulated to talk to peers improved their knowledge, legitimacy, attitudes and other preconditions.

#### B. Weaknesses of the SIS Communication Campaigns

The major goal of evaluation is to remedy deficiencies in previous campaigns and to capitalize on needs revealed by the evaluation. Hence, the following listing of apparent weaknesses of the SIS campaign is submitted as constructive forward-looking findings rather than ex post facto criticism.

1. The SIS campaign spent too much effort and money on population awareness. The baseline survey revealed that an overwhelming majority of the Egyptian public (about 80-90 percent) was already aware of the population problem and convinced that something should be done about it before SIS began its "Look Around You (Egypt has a population problem)" campaign. Some critics of the SIS campaign made this assertion in 1980,

before the SIS campaign began, and the results of the baseline survey support the basic validity of their point. For a full decade the Egyptian public had been told about its population crisis, by all of the media. As mentioned in Chapter 1, the SIS followed this strategy perhaps primarily to establish its own credibility as a population spokesman. On the other hand it may have lost credibility by failing to assume leadership on the logical next step--active promotion of contraceptive services.

2. Aside from its general support for the idea of family planning, stimulating public discussion, and raising the saliency of the population crisis, the SIS program made only slight or no contribution to removing critical barriers to further adoption, as revealed by both the baseline and follow-up surveys:

- (a) The level of in depth knowledge of the methods of contraception did not improve.
- (b) Untrue or exaggerated rumours about the contraceptive methods were pandemic at the start of the campaign, and remained equally strong at the end.
- (c) Negative attitudes toward the contraceptive methods were not improved.
- (d) A vague intention to adopt "sometime in the future" apparently was stimulated, but there was only small evidence of having precipitated strong intentions to adopt in the immediate future (next 12 months.)
- (e) The proportion of persons who declared they would never adopt family planning was not reduced.
- (f) As a consequence of the above, the prevalence of contraceptive use rose only slightly during the interval of the campaigns.

3. The SIS campaign spent too much time communicating with the "already converted" and failed to reach the untapped audiences in greatest need. The SIS campaign failed to reach adequately the segments of Egypt's public which needs help the most: the rural uneducated, the urban uneducated, and the Upper Egypt Region. The disparity between urban and rural, educated and uneducated, Upper Egypt and Lower Egypt was clearly manifest throughout the analysis of Chapters 2 and 3. The lowest one-fourth of the socioeconomic strata was completely by-passed by the SIS campaign of 1980-82. Receipt of only some of the messages was concentrated in these segments. It is of utmost importance to cease programming so exclusively for the television and radio audiences of Cairo and Alexandria and concentrate on the groups that are most in need of help.

SUMMARY: The "deficiencies" of the SIS program do not lie in having committed destructive errors that damaged the family planning movement but in failing to acknowledge that the public was already aware and aroused and was ready for specific instructions--which never came. The critical needs, listed as item 2, above, were clearly revealed in the results of the baseline survey, but were not adequately acknowledged.

It is unlikely that adoption of family planning will make major progress in Egypt until these barriers are broken down, either by SIS communication or by some other agency or agencies.

### C. Recommendations

Based on the findings of this evaluation, the following recommendations appear to be warranted:

1. EGYPT HAS BEEN SUPERSATURATED WITH AWARENESS COMMUNICATION AND FURTHER CAMPAIGNS WHERE THIS IS A MAJOR COMPONENT WOULD BE LARGELY WASTEFUL.

2. FOUR PRECONDITIONS FOR FAMILY PLANNING STAND OUT AS BEING IMPORTANT IN EGYPT FOR DETERMINING THE RATE OF ADOPTION AND HENCE THE CHANGE IN THE BIRTH RATE. These are:

- (a) Knowledge of contraceptive methods, and how to use them correctly. At the present time knowledge is seriously deficient.
- (b) Motivation--Awareness of the specific benefits of smaller and well spaced families and of the drawbacks of larger and closely spaced families. Motivation is weak in large segments of the public.
- (c) Positive attitudes toward a variety of medically approved contraceptive methods. Exaggerated rumors about short-term and long-term side effects of the pill, the IUD, injections, and other methods are running at epidemic proportions in the country. Condoms and spermicides are maligned unjustly. Large proportions of the public declare they would never use the pill, the IUD, condoms, or other approved methods--for reasons which have no medical justification.
- (d) Involvement. The more discussion there is between friends of the same sex and between husbands and wives about family planning, and especially successful family planning, the greater the intention to adopt becomes. The evaluation research revealed a great deal of informal involvement with friends and relatives, but little consultation with physicians, nurses, and other personnel who could be most influential in precipitating a decision.

FUTURE COMMUNICATION CAMPAIGNS SHOULD TAKE THE PROMOTION OF THESE FOUR PRECONDITIONS AS BEING PRINCIPAL OBJECTIVES.

3. SPECIAL CAMPAIGNS AND PROGRAMS NEED TO BE DEVELOPED TO REACH THE AUDIENCES WHO ARE BEING BY-PASSED BY PREVIOUS CAMPAIGNS: THE LEAST EDUCATED, THE RURAL, AND THOSE IN UPPER EGYPT. Contrary to common belief, at least one-fourth of Egypt's population cannot be reached effectively by radio, television, and newspaper mass communication as it has been programmed in the past. Special programs for these groups need to be developed. This involves more than simply finding a communication medium which can reach them; it also means programming for their interests, communication habits, and tastes.

4. COMMUNICATION AIMED AT PRECIPITATING A DECISION TO ADOPT, TO ACT NOW, SHOULD BE SUBSTITUTED FOR THE BLAND INUENDOS OF PREVIOUS CAMPAIGNS. THIS SHOULD INCLUDE CLOSE COORDINATION AND SUPPORT OF THE PROVIDERS OF FAMILY PLANNING SERVICES: CLINICS, PHARMACIES, AND PRIVATE PHYSICIANS. This should include some "grassroots" or local

participation instead of the "vertical communication" which now characterizes family planning communication by SIS.

5. FAMILY PLANNING IS SOCIALLY ACCEPTABLE, ON BOTH SOCIAL AND RELIGIOUS GROUNDS, WITH AN OVERWHELMING MAJORITY OF THE EGYPTIAN PUBLIC. DISSENT IS EXPRESSED ONLY BY A SMALL MINORITY. One of the surprising findings of both the baseline and follow-up surveys was the high percentage of persons who perceived no conflict between religion and family planning, and who claimed their families and friends approve of family planning. When placed in the multiple-variable analysis of Chapter 3, the variable of social legitimacy emerged as being too weak to be considered significant. Those who oppose family planning on religious or moral grounds in Egypt may be highly vocal and volatile, but they do not speak for the citizenry. Communication programs to persuade them should contain factual data about their minority status.

6. GREATER EMPHASIS NEEDS TO BE PLACED ON VOLUNTARY CHOICE AMONG A WIDER VARIETY OF CONTRACEPTIVE METHODS. Egypt's has been characterized as a one method (oral pill) family planning program. This evaluation has shown that this is true on the information as well as the use front. People know very little about other methods, but show a sincere interest in learning more. Special consideration needs to be given to the approval and use of methods which seem to have a substantial potential for acceptance and use by major sections of the public, if they were better informed and high quality services provided. Among these are IUD, tubal ligation, and injections. Once this approval is given, the communicators should lose no time in broadening the horizons of choice for the public.

7. THE PRESENT REPORT MERITS THE ATTENTION OF ALL OF THE AGENCIES, INTERNATIONAL AS WELL AS NATIONAL, ENGAGED IN PROVIDING FAMILY PLANNING COMMUNICATION AND SERVICES IN EGYPT, SINCE THIS REPORT IDENTIFIES RATHER PRECISELY THE CURRENT BARRIERS TO MORE RAPID PROGRESS. Because this report could provide a foundation on which a new era of greater success could be based, it should receive full and critical discussion in an interagency setting.

8. A comprehensive COM/SERV national survey, of the type on which this report is based, should be repeated at least every five years in Egypt. IN VIEW OF PAST AND CONTINUING DEFICIENCIES IN THE COMMUNICATION PROGRAM, THE EVALUATION PROCESS MUST BE CONTINUED AND THE RESULTS PUBLICIZED UNTIL REVISED PLANS, WHICH INCORPORATE THE FINDINGS AND RECOMMENDATIONS OF THE EVALUATIONS, ARE PUT INTO EFFECT.

9. IT IS THE BELIEF OF THE AUTHOR THAT THE ABOVE EIGHT RECOMMENDATIONS ARE ALSO RELEVANT FOR CONSIDERATION BY FAMILY PLANNING PROGRAMS IN MANY DIFFERENT COUNTRIES--DEVELOPED AS WELL AS DEVELOPING. CARRYING OUT THESE RECOMMENDATIONS WITH ALL POSSIBLE SPEED MAY BE THE MOST EFFICIENT WAY TO HELP INDIVIDUAL COUPLES AS WELL AS INDIVIDUAL NATIONS ACHIEVE THEIR ASPIRATIONS FOR FAMILY SIZE AND GROWTH.