

**An assessment  
of fertility  
and contraception  
in seven  
Philippine  
provinces:  
1975**

Wilhelm Flieger  
and Imelda Pagtolun-an



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## PREFACE

The Seven Provinces Survey of 1976 was a cooperative undertaking of three university-affiliated research centers—the Population Institute, University of the Philippines System, Manila (UPPI); the Mindanao Center for Population Studies of the Research Institute for Mindanao Culture (MCPS); and the Office of Population Studies, University of San Carlos, Cebu City (OPS). UPPI collected and prepared the data for the three Luzon provinces of Laguna, Nueva Ecija, and Pangasinan; MCPS provided the data for Misamis Oriental and Southern Leyte; and OPS was responsible for the data from Capiz and Negros Oriental. The first impetus for the study, conceived as a multi-survey affair, came from the U.S. Agency for International Development (USAID), which wanted to closely monitor the development of the Philippine population and the effects of the country's family planning program on this development. Plans for the first (1976) survey round were completed in mid-1975 through an agreement between USAID and the Commission on Population, Republic of the Philippines (POPCOM). For UPPI, funding was provided by USAID through POPCOM, while MCPS and OPS received their financial support from the Research Institute for the Study of Man, New York. The interest as well as the assistance of all three of these agencies is gratefully acknowledged.

An operation of the magnitude of the Seven Provinces Survey is the work of many. Foremost among the contributors are the staff members of the research centers who designed the survey, supervised the field work, edited and processed the data, and did the first analyses. Of equal importance are the local field workers who, with hardly any exception, performed their data-collecting tasks with admirable enthusiasm, often under physically taxing and sometimes—according to the Philippine Constabulary—dangerous conditions. That the project did proceed without any major difficulty must be credited to the interest as well as the authority which the then POPCOM Executive Director, Dr. Esmundo, placed in and behind the survey, and to the wholehearted cooperation that regional, provincial, and municipal government, POPCOM, and PC officials afforded the field workers. In many instances their support went far beyond any call of duty.

This report was prepared from the combined records of the three research centers during the period May through September 1977, while the authors served as Senior Fellow and Research Intern,

respectively, at the East-West Population Institute under an agreement between the East-West Center, USAID, and the Philippine research organizations involved in the study. The authors wish to express their appreciation to the administration and staff of the East-West Center's Population Institute for the generous technical and financial support that made extensive work on the Philippine data not only possible but also a rewarding professional experience. Special appreciation goes to Director Lee-Jay Cho, Dr. Peter C. Smith, and Dr. Griffith Feeney, all of the East-West Population Institute, for their professional advice, and to the Institute's computer staff for assisting with the project. Funds for the publication of this paper were made available under contract No. AID/DS/PE-C-0002 by the Office of Population, USAID.

Any report is necessarily limited not only by time and financial restraints but also by the biases of the writers. To make the report as useful as possible to those with interests somewhat divergent from those of the writers, it includes a larger than usual number of detailed tables that permit the reconstruction of at least some baseline data and the calculation of indicators omitted by the authors. Furthermore, a report for policy-makers has to be tailored to the needs of the prospective readers. It is a common complaint of development program administrators that reports written by demographers or other social scientists are often too technical and cannot be understood by the nonspecialist. As a result, they are more often than not shelved without being read. Although this complaint is valid, to translate technical facts into a layman's language is not only difficult but also entails, like any translation from one language into another, the loss of finer points. To increase the readability for nondemographers, this report is largely descriptive. Wherever technicalities could not be avoided, attempts were made to describe them extensively in as simple a language as possible.

Social science data, especially when they do not fit preconceived or expected patterns, are open to interpretations that may differ with the interpreter. The interpretations offered in this report reflect solely the thinking of the authors and not necessarily that of other researchers involved in the project or of the sponsoring or cooperating agencies.



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**ABSTRACT** *In 1976 a series of annual fertility and family planning surveys of selected areas of the Philippines was launched by a consortium of demographic research centers. This launching coincided with renewed efforts of the government to coordinate and broaden ongoing family planning efforts in the country and to integrate them into a general development scheme. The surveys were designed to provide policy-makers with fertility and family planning indicators for the purpose of monitoring existing trends and detecting eventually emerging ones. This report documents some of the findings of the first (1976) round of these surveys, which was conducted in seven purposively chosen provinces.*

*Birth rates in the seven provinces in 1975 were generally high, hovering around an average of 35 births per 1,000 population. Fertility levels were not uniform throughout the survey area, however; marked differences existed among provinces, and even more substantial ones were found between urban and rural populations within most of the provinces. Retrospective fertility rates extracted from pregnancy histories of ever married women 15–54 years old indicate that no significant fertility decline had occurred in the provinces during the first half of the 1970s. Wherever slight declines are measurable, they can be traced to the small proportion of women in urbanized areas who had been exposed to prolonged and more extensive education and nonagricultural labor force participation and who, as a result, tended to delay their marriages. Timing of marriage emerged as the single most important factor explaining urban-rural fertility differentials. Marital fertility rates, which were uniformly high in all residential strata of all survey provinces, suggest that the fertility behavior of married women, whether urban or rural, had differed little in the recent past.*

*As of 1975, contraceptive practice had caused but a small dent in the high fertility levels of the seven provinces. Although modern contraceptives were used effectively by a portion of the better educated urban women, family planning still faced relatively stiff resistance in the rural areas, where people, until then, could see no compelling reasons for changing their traditional ways of life. In consequence, contraceptive prevalence rates were low. As specific factors responsible for this low prevalence, the surveys identified, among others, the persistence of the large-family ideal, the lack of adequate contraceptive knowledge among rural women, which manifested itself in a widespread*

*fear of contraceptive side effects and high dropout rates among contraceptive users, and a general reluctance of the rural population to experiment with innovations.*

*As the survey data show, up to 1975, the response to modern methods of family planning had been most positive among those segments of the female population that had experienced the comparatively greatest amount of social transformation. This finding seems to suggest that the so far used cafeteria approach to contraception, with its lack of closer links with changes in other spheres of life, is not the most effective one for the rural areas. The government's plan of coupling family planning with related and more broadly defined development efforts offers better prospects for a reduction of the country's population growth rate.*

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In the Philippines one often hears the statement that the country's birth rate is too high. Although there appears to be a general awareness of a "population problem," its effect on behavior is doubtful in the face of the continuously high fertility level. A cynical observer might be tempted to conclude that the problem is nothing more than a fashionable topic of conversation to most people. In contrast, the government has been concerned for about one decade that the country's birth rate, which is hovering in the upper 30s, poses a threat to economic development, and it has invested large portions of its own financial resources and foreign aid in programs designed to curb natural population increase.

These programs have taken various forms over time, with each new one building on its predecessors. In the middle and late 1960s, the government attempted to make contraceptive technology available throughout the country, hoping that individual families would use it to prevent unwanted pregnancies and thus improve their chances of upward economic and social mobility. In a second phase, family planning services were incorporated into maternal and child health (MCH) and other health-related programs to make them more palatable to the predominantly rural population, which so far had shown strong reluctance to accept modern contraceptives. Subsequently, emphasis was given to motivation and communication campaigns, and population education was introduced into secondary and tertiary school curricula. A fourth step, implemented in selected areas on a pilot basis in

1975, consisted of linking family planning and child health services to broadly conceived development schemes that would provide improved physical and economic infrastructures, social services of various kinds, and institutional changes. This last strategy was labeled the Total Integrated Development Approach (TIDA).

In 1976, the TIDA scheme was dropped in favor of the so-called Outreach Project which, like earlier family planning strategies in the Philippines, concentrates once again more directly on service delivery. However, in contrast to earlier program stages, the Outreach Project embodies three other family planning-related components: (1) Information, Education, and Communication (IEC), (2) systematic program training, and (3) systematic program evaluation. The organizational backbone of the Outreach Project is formed by some 3,000 full-time outreach workers located throughout the country, each of whom is supposed to "reach out" to 2,000 couples of reproductive age and to establish and supervise some 20 *barangay*<sup>1</sup> supply points. The officers in charge of the supply points assist in motivating eligible couples and delivering supplies to users. The Outreach Project is not managed by the national but by provincial governments, and it is not executed by one central but by diverse governmental and private agencies which, either voluntarily or by force of law, are engaged in some or all of the four program components. The role of the national agency, the Commission on Population (POPCOM), is that of coordinator and supervisor. Funds for the program are shared by the national (through POPCOM) and local governments.

The extensive and expensive fertility control efforts of the government and supporting agencies give rise to a question: What have the investments bought? If the cynic mentioned earlier had his way—and the persistently high birth rate seems to support him—the answer would be: Very little, because of the continuing gap between governmental policy and apparent public taste. Although the answer sounds convincing, it does not do justice to the complex situation it purports to explain. Fertility control is linked to other factors like health, nutrition, education, material development, and economic and social change, which the government has emphasized at various times and to varying degrees. Although all of these factors mutually influence one another, so far little is known about how they do so. Moreover, and

1 The *barangay* is the smallest political and administrative unit and, in rural areas, is usually identical with a village.

perhaps more importantly, changes in these interrelated factors may not be noticeable at present but occurring nevertheless and helping to prepare a social climate favorable to future changes, including changes in fertility behavior and population growth patterns.

Because of the complexity of the situation, the many unknowns that exist, and the technical difficulties involved in measuring behavioral changes over a short period of time, a definitive answer to the question of the effectiveness of governmental population policies, strategies, and programs is not possible at this juncture. However, on the basis of available recent data, it is possible to answer more modest questions about the effects of past fertility control efforts. This report, which makes use of 1976 survey data from seven TIDA provinces, first scrutinizes and compares provincial fertility levels and trends, then attempts to isolate demographic and social variables that characterize Philippine subpopulations with higher and lower birth rates and that possibly help determine their fertility behavior. The study gives particular emphasis to current use of contraceptives (at the time of the survey) and the effect of their use on the birth rate. In the final part of the report, we classify women according to whether or not they bore any children in 1975 and their attitudes toward family planning. We then compare various subgroups of women to determine whether family planning efforts in 1975 were concentrated on those who could use it most effectively or on others who were only marginal contributors to population growth. Finally, we consider the implications of the findings for family planning strategy.

#### THE 1976 SEVEN PROVINCES SURVEY

The project that gave rise to the collection of data on which this report is based was sponsored by the Commission on Population (POPCOM), Republic of the Philippines, and financed with support from USAID and the Research Institute for the Study of Man, New York. The field work was conducted in January and February 1976, with calendar year 1975 as reference period, and 31 December 1975 as cutoff point for the data.

#### Selection of study areas

Seven provinces, out of a total of 73 extant in the Philippines in 1975, were designated as study areas by POPCOM: Laguna, Nueva Ecija, Pangasinan, Capiz, Negros Oriental, Southern Leyte, and Misamis



Oriental. The selection of these provinces was not governed by sampling considerations of any kind but was entirely purposive. In early 1975, the government had chosen these provinces as testing laboratories for the Total Integrated Development Approach (TIDA) referred to earlier. To determine whether the approach was workable and suited for general use throughout the country, the government wished to monitor ensuing developments closely. For this reason, annual surveys through 1980 were envisioned. This plan was changed in late 1976 because of basic modifications of the TIDA idea, which resulted in the present Outreach Project. Policy-makers and funding agencies now considered it more desirable to obtain national fertility and family planning estimates instead of scattered local ones. As a result, provincial survey areas were replaced by regional ones. Only two Seven Province Surveys were conducted, one in early 1976, and the second one exactly one year later. Toward the middle of 1977, the first regional survey was undertaken in five of the country's 12 geographical regions. The regional survey retained the structure and the content of the provincial ones; i.e., it used the same basic sampling design for individual regions that had been employed before for individual provinces, and an identical questionnaire.

According to the 1975 Integrated Census of Population and Its Economic Activities, which was taken eight months prior to the 1976 provincial survey, the study provinces contained a combined population of 5,283,871 on 1 May 1975, or 12.6 percent of the country's population at that date. (The total population count of the 1975 census was 42,070,660.) In population size, the seven provinces ranged from 1.5 million (Pangasinan) to a quarter million inhabitants (Southern Leyte). Because of the purposive selection of the project areas, the provinces were not intended to be representative of the entire Philippines. Consequently, conclusions drawn from the study data should not be applied to the Philippines as a whole. Whatever facts concerning fertility and family planning are stated in this report, they can at best be interpreted as symptomatic within the Philippine context but not necessarily as typical for all of the Philippines.

### **Survey coverage**

The project output desired most and immediately by the sponsoring agencies was fertility and family planning indicators that could serve as benchmarks with which similar indicators obtained at a later time

could be compared for the purpose of detecting and monitoring emergent trends. In addition to measuring such trends, the government wished to learn more about the social and economic dynamics that regulate fertility and predispose people toward behavioral changes. In accordance with these desires, the survey covered three broad areas: (1) number and socioeconomic characteristics of the entire residential household population, (2) marriage and pregnancy histories of all ever married women between ages 15 and 54, and (3) family planning histories of all currently married women of ages 15–54.

Socioeconomic characteristics of the population were measured at the household level because it is the household that basically determines the social standing of the individual. To make possible more extensive measurements of differential fertility, information on education, occupation, and work history of every woman of ages 15–54 was added. Detailed pregnancy histories containing information on date and type of termination of every pregnancy experienced by ever married women in that age group were collected to serve as raw data for the calculation of present and past birth rates and the imputation of fertility trends.

Additional pregnancy histories were assembled for a 25 percent subsample of never married women for the purpose of assessing the extent of premarital fertility and its contribution to birth rates of the provincial populations. Questions concerning family planning practice were directed toward only currently married women in order to avoid possibly hostile responses. Exhibit 1 summarizes the types of information collected about each household and eligible women living in it.

### **Sample design**

For each study province, a systematic sampling scheme was employed, with the residential household (i.e., a household that had resided in the sample area continuously since 1 July 1975) as the ultimate sampling unit. The general framework of the sampling scheme and the sample sizes used in the provinces were dictated by the involvement of three research institutes in the project and the financial means available. In 1975 three university-affiliated agencies were engaged in demographic research in the Philippines—the Population Institute of the University of the Philippines, Manila (UPPI), the Office of Population Studies of the University of San Carlos in Cebu City (OPS), and the Mindanao Center for Population Studies of the Research Institute

**EXHIBIT 1 Type of information collected about each household and eligible woman: Seven Provinces Survey, 1976**

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**HOUSEHOLD**

**Membership roster**

For every household member: age, sex, relation to household head, family relationship, civil status

**Socioeconomic indicators**

Household head: education, occupation

Dwelling unit: light, water, toilet, cooking facility, construction material

**WOMAN (between ages 15 and 54)**

Education and occupation

Work history (previous five years)

Pregnancy history

**EVER MARRIED WOMAN (between ages 15 and 54)**

Marriage history

**CURRENTLY MARRIED WOMAN (between ages 15 and 54)**

Never user of contraception

Reasons for nonuse

Possibility of persuasion

Ever user of contraception

Method used first

Source of information

Start of practice

Previous user

Reasons for stopping

Time of stopping

Current user who changed method

First method used

Current method used

Reasons for changing

Current user continuing to use first method

Current method used

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for Mindanao Culture, an affiliate of Xavier University, Cagayan de Oro City (MCPS). The three institutes pooled their resources for the Seven Provinces Survey, with UPPI taking charge of the three study provinces in Luzon, OPS of Capiz and Negros Oriental, and MCPS of

Southern Leyte and Misamis Oriental. To assure comparability of results for all seven provinces, preparatory work, including sampling design, content of survey, questionnaire construction, and definition of variables, was done cooperatively by representatives from the three centers, who likewise agreed on a common set of interviewers' instructions and editing and coding procedures. Computer processing of the data was performed centrally by the computer staff of UPPI in Manila. Finances for the UPPI portion of the project were provided by POPCOM and USAID, while OPS and MCPS obtained grants from the Research Institute for the Study of Man, New York.

Because of the limited financial resources available, a total sample size of 14,000 households for all seven provinces combined, or an average sample size of 2,000 households per province, was decided upon. This scheme was slightly modified in the sense that the number of sample households selected by each center (6,000 for UPPI, 4,000 each for OPS and MCPS) was proportional to the population size of the individual provinces. Since provinces differ considerably in size, some of them had larger samples than others. The sample sizes varied from about 1 percent of all provincial households in the three Luzon provinces to 2 percent in Capiz and Negros Oriental, and 3 percent in Southern Leyte and Misamis Oriental.

Within each province, three strata were identified: (1) urban households, which included all households located in the *poblaciones* (central parts) of chartered cities; (2) semi-urban households, i.e., all households in the municipal *poblaciones* (administrative centers of municipalities); and (3) rural households, which covered the remainder. This threefold stratification was thought preferable to the urban-rural dichotomy normally employed by the National Census and Statistics Office, which makes no distinction between central-city households and households in the entirely rural hinterlands of cities that, administratively, are parts of the cities, and which assumes the same degree of "urbanism" for households in city and municipal *poblaciones*.

A two-stage cluster probability design with replacement was employed to draw the sample for every provincial stratum, using preliminary household listings from the 1975 census as frame. The first stage selected the *barangay*, with probability proportional to population size measured by number of households. In the second stage, a probability subsample of 50 households per *barangay* was selected by



systematic sampling on the basis of *barangay* maps or, where these were not available, household listings. The main reason for choosing this type of cluster design was to minimize travel of interviewers which, in case of a completely randomized design, would have been extremely time-consuming and expensive.

### Data limitations

Sample size, sampling design, and variables used impose several limitations on the data. On the average, the rural components of the study provinces, with the exception of Laguna, accounted for around 85 percent of the total provincial populations, whereas the urban components as defined in this study covered less than 5 percent. To obtain reasonably stable urban and semi-urban estimates, the survey had to use considerably larger sampling fractions for these two strata than the proportions of the populations in these strata. Table 1 indicates the total number of provincial households counted during the 1975 census, the number of sample households per stratum covered by the survey, and the proportions of households sampled. Despite relative over-sampling, estimates of urban and semi-urban parameters still suffer from large sampling variations because of their small numerical bases. To compensate for this deficiency in cases where detailed breakdowns by additional variables were desired, it was often necessary to combine stratum data. Since sampling fractions for the various strata differed greatly, the data had to be appropriately weighted before they could be collapsed. The weights that inflate the sample figures to their estimated actual sizes resulted in a case load so large that any tests applied to them produced highly significant correlations that may not have existed when unweighted data were used. To ascertain whether variables calculated for entire provinces or all provinces combined displayed statistically significant correlations, computer programs designed to estimate the effects of one variable on others had to be run twice, on weighted and unweighted sample figures, first to obtain the amount of variation in the dependent variable accounted for by the independent ones, and second to measure statistical significance. Obviously, the two types of analysis were not exactly comparable because they were performed on different populations. This dual type of analysis has to be kept in mind whenever statistical tests are referred to in this paper. A comparison of the results of a multiple classification analysis employed in a later section of this report, which were obtained

TABLE 1 Number of households in sampled areas, number of sample households, and percentage of households sampled, by province and stratum: Seven Provinces Survey, 1976

Province and stratum	Number of households in sampled areas <sup>a</sup>	Number of sample households	Percentage of households sampled
LAGUNA	135,807	1,500	1.1
Urban	6,788	300	4.4
Semi-urban	26,227	500	1.9
Rural	102,792	700	0.7
NUEVA ECIJA	164,748	1,750	1.1
Urban	6,981	400	5.7
Semi-urban	19,732	500	2.5
Rural	138,035	850	0.6
PANGASINAN	257,624	2,750	1.1
Urban	3,647	650	17.8
Semi-urban	28,474	750	2.6
Rural	225,503	1,350	0.6
CAPIZ	74,944	1,500	2.0
Urban	2,427	250	10.3
Semi-urban	6,848	500	7.3
Rural	65,669	750	1.1
NEGROS ORIENTAL	126,622	2,500	2.0
Urban	3,684	350	9.5
Semi-urban	11,089	900	8.1
Rural	111,849	1,250	1.1
SOUTHERN LEYTE	48,488	1,300	2.7
Semi-urban	7,381	650	8.8
Rural	41,107	650	1.6
MISAMIS ORIENTAL	90,496	2,700	3.0
Urban	8,477	800	9.4
Semi-urban	10,505	550	5.2
Rural	71,514	1,350	1.9

<sup>a</sup> Based on preliminary 1975 census count.

first from weighted and then from unweighted data, appears to indicate, however, that, for the study at hand, the weighting effect on the amount of variation explained is relatively small. This means that the weights themselves are not appreciably intercorrelated with any of the variables to which they are applied. But the comparison likewise shows that not all the relationships between variables for which the weighted

data yield highly significant  $F$  ratios are really significant when unweighted data are used (see Appendix Table A16).

Another factor besides the dual type of analysis just mentioned, which affects the statistics presented, is that the sample used was a stratified cluster sample and not a simple random one. The cluster design tends to increase the sampling error. Expressed differently, the type of sample used implies a "design effect" that biases the statistical results. This design effect is defined as "the ratio of the actual sampling variance, taking into account the complexity of the sampling design, to the variance of the sample under assumption of simple random sampling" (Kish, 1965:8.2). It is a function of two components, the degree of homogeneity within sample clusters measured by intraclass correlation and the number of elements in sample clusters. It increases with the size of the clusters and the degree of homogeneity within the clusters (Kish et al., 1976:12). No attempts have been made in this study to estimate the design effect. However, Kish et al., after inspecting data from eight fertility surveys that had been conducted in different parts of the world, found that the design effect (which has to be measured separately for every variable) tends to be largest for socioeconomic variables and smallest for demographic background variables such as age and age at marriage. For variables measuring contraceptive practice, the design effect "appears to be widely spread but with a tendency toward lower (i.e. smaller error) values" (Kish et al., 1976:25). The implication of these findings for this report is that measurements involving socioeconomic variables must be viewed with less confidence than measures using demographic indicators only.

One purpose of this report is to "explain" behavior related to fertility and family planning. It attempts to do so by isolating specific demographic, social, and economic variables, measuring their covariations with the behavior in question, and finally, by way of causal inference, assessing their influences on the behavior. Most demographic and socioeconomic variables specified in sociological surveys, this one included, pertain to groups and make little allowance for individual variability. More specifically, no account is taken of psychological and situational factors, which determine an individual's behavior to a large extent. Since such personality-related factors are being ignored, a great amount of behavioral variation remains unexplained, a fact usually reflected in the low  $r^2$ s which analysis of variance procedures yield. While low  $r^2$ s are not necessarily indicators that the explanatory

variables are of little consequence, they make it plain that a fuller understanding of individual behavior cannot be reached without the use of personality-related variables. In addition and as far as group variables are concerned, most studies, and this one again is no exception, employ only a small number, which touch on only a few facets of communal life and are by no means comprehensive.

#### RELIABILITY OF SURVEY ESTIMATES

Two avenues are explored in this section to assess the reliability of the survey results: (1) Survey estimates are compared with alternative sets of data obtained through different procedures, and (2) the survey data are checked for internal consistency. The latter method is applied primarily to fertility estimates extracted from pregnancy rosters.

#### Provincial survey estimates and 1975 census results

In May 1975, the Philippines undertook its first quinquennial census. The results of the first phase of this census, dealing with population and its economic activities, had been published by the time this report was being written. Since the reference dates of the census (1 May 1975) and the survey (31 December 1975) are only eight months apart, a relatively close correspondence between census and survey results should be expected, assuming that both sets of data are reasonably accurate. Table 2 provides a comparison of some total population parameters taken from both data sets.

The total population figures estimated by the survey for 1 July 1975 are, on the average, between 1.5 and 6 percent lower than the 1 May census figures. These differences are somewhat exaggerated because the survey figures exclude deaths that had occurred in households during the second half of 1975. However, the largest part of the discrepancies is the result of differences in the definition of "household population." The survey definition excludes all persons who had not continuously resided in the sampled households between 1 July and 31 December 1975, or who were members of households that had migrated into the sample areas during the same period. The only province for which the total population survey estimate for midyear is slightly (less than 1 percent) above the census count is Nueva Ecija. The annual population growth rates implied in the 1 July and 31 December provincial population estimates are approximately 3.5 percent, ranging from 3 percent for Laguna to 4 percent for Capiz. Because

TABLE 2 Total population parameters obtained from the 1975 census and the 1976 Seven Provinces Survey, by province

Data source and parameter	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental
CENSUS, 1 MAY 1975							
Total household population	802,012	945,712	1,519,363	444,664	739,548	276,242	559,364
Male	403,668	479,928	760,343	223,405	375,201	140,911	284,516
Female	398,344	465,784	759,020	221,259	364,347	135,331	274,848
Sex ratio	101.34	103.04	100.17	100.97	102.98	104.12	103.52
Number of households	135,700	157,605	258,745	74,869	126,405	48,394	90,554
Average household size	5.91	6.00	5.87	5.94	5.85	5.71	6.18
SURVEY, 31 DECEMBER 1975							
Residential household population							
1 July 1975	790,480	950,013	1,460,714	439,296	715,155	258,030	529,188
31 December 1975	804,036	968,479	1,487,367	446,647	728,926	262,076	538,390
Male	399,510	497,927	745,288	220,039	372,264	134,644	275,185
Female	404,526	470,552	742,079	226,608	356,662	127,432	263,205
Sex ratio	98.76	105.82	100.43	97.10	104.37	105.65	104.55
Number of households	135,565	161,980	246,784	71,395	121,894	48,731	86,809
Average household size	5.93	5.93	6.03	6.15	5.98	5.38	6.20

CENSUS SOURCE: NCSO (1975: table 2).

these population estimates exclude not only recent migrants but also deaths during the second half of 1975, the implied rates should come close to the provincial crude birth rates. They do so for Nueva Ecija, Pangasinan, Negros Oriental, and Misamis Oriental (less than 10 percent difference); for the remaining three provinces the differences are between 10 and 20 percent.

Census and survey population sex ratios point in the same direction, viz., male dominance, for five out of the seven provinces. For Laguna and Capiz, the survey estimates indicate slight female dominance, in contrast to the male-dominant census ratios. In view of the migration history of Laguna, which was characterized by heavy female immigration (Flieger et al., 1976:162), the survey figure at least for this province appears to be plausible. The total numbers of households estimated by the survey for Laguna and Southern Leyte are virtually identical with the census figures; in all other cases, the survey figures are below those of the census (on the average by about 4 percent), a finding that may be related to the (in this context not verifiable) presence of migratory households in these provinces. Average household size figures, which are relatively insensitive indicators, display only minor discrepancies. In view of the smallness of the provincial samples and their corresponding sampling variations together with the variations (in most cases only minor) between census and survey parameters, the agreement between both data sets appears satisfactory.

In Table 3, provincial census and survey age structures are compared. The census figures refer to the total population enumerated and not to the population that resided in private households. Census information for the latter is not available. The bias introduced through the use of the total population, however, is extremely small because total and household populations, when considered in toto, differ by less than one quarter of 1 percent in the seven survey provinces (NCSO, 1975: table 2). Age groups for males 15 and older had to be collapsed because detailed age groupings were coded only for surveyed women of ages 15 to 54.

It is an acknowledged fact that Philippine census age structures for years up to 1970 suffer from underenumeration and age misstatements, particularly for the youngest age group. 1970 census data for the seven survey provinces, for example, yield consistently proportions of less than 3 percent for persons under one year of age, which are unlikely in view of the high birth rates experienced by these provinces.

TABLE 3 Age structures obtained from the 1975 census and the 1976 Seven Provinces Survey, by sex and province (percent)

Data source, sex, and age group	Laguna	Nueva Ecija	Panga- sinan	Capiz	Negros Oriental	South- ern Leyte	Misamis Oriental
CENSUS, 1 MAY 1975							
Male							
<1	3.2	2.9	3.0	2.9	3.1	3.1	3.2
1-4	12.0	12.7	12.7	12.9	12.8	12.2	13.4
5-14	28.2	29.6	28.8	30.7	29.9	29.9	29.3
15+	56.6	54.8	55.5	53.5	54.2	54.9	54.1
Female							
<1	3.0	2.9	2.9	2.8	3.0	3.0	3.1
1-4	11.5	12.4	12.0	12.5	12.7	12.1	13.2
5-14	27.5	29.0	27.5	29.9	29.5	29.9	29.6
15-19	12.4	11.9	11.3	11.6	11.5	10.7	12.6
20-24	10.1	8.9	8.5	8.4	8.8	7.2	9.4
25-29	7.2	6.7	7.0	6.1	6.2	5.9	6.7
30-34	5.6	5.5	5.5	5.3	5.6	5.5	5.2
35-39	5.1	5.1	5.0	5.5	5.6	5.2	5.2
40-44	4.1	4.0	4.3	4.0	4.3	4.3	4.0
45-49	3.4	4.0	3.8	3.6	3.5	4.0	3.3
50+	10.1	10.3	12.4	12.3	9.1	12.2	7.8
SURVEY, 31 DECEMBER 1975							
Male							
<1	3.1	4.0	3.2	3.7	3.4	3.4	2.7
1-4	12.4	13.8	13.6	12.2	12.4	11.8	13.0
5-14	29.3	30.1	29.2	29.4	30.7	30.2	31.8
15+	55.2	52.1	54.0	54.7	53.5	54.6	52.6
Female							
<1	3.1	3.8	3.2	3.2	3.3	2.5	3.2
1-4	11.4	11.8	12.6	11.9	11.3	12.8	12.5
5-14	27.3	28.9	28.6	30.7	29.0	30.6	30.4
15-19	11.4	12.9	11.5	13.0	9.9	8.4	8.9
20-24	9.1	8.4	7.4	7.0	8.5	4.1	5.9
25-29	6.7	6.4	6.5	5.7	6.6	6.0	6.0
30-34	5.5	5.7	5.3	4.7	5.6	5.0	4.5
35-39	4.8	5.1	4.6	5.4	6.1	5.0	5.3
40-44	3.6	3.2	4.3	4.1	5.2	4.0	4.5
45-49	3.4	2.7	3.3	3.5	3.9	3.6	3.7
50+	13.8	11.2	12.5	10.9	10.7	18.1	15.0

NOTE: Percentages may not sum to 100.0 because of rounding.

In comparison, 1975 census figures are somewhat better, though not in all cases. Survey proportions for the youngest age group are larger than the corresponding census proportions for all seven provinces and better approximate what one would expect on account of the birth rates, with the exception of Laguna and Misamis Oriental males and Southern Leyte females. When we compare the Leyte and Misamis survey proportions with the census figures and the proportions obtained by the survey for the other provinces, the first represent most probably underestimates. When age groups under one and one to four are combined, the census totals remain below those of the survey in most cases, but differences become smaller. This finding suggests that, in addition to undercounting babies, the census probably shifted children who in reality were below one year of age into the next older age group.

Larger census-survey differences appear when women of age 20 and older are compared. There is a general tendency among the survey figures to assign more women to the age group 50 and over. This is particularly obvious for Southern Leyte and Misamis Oriental. Likewise conspicuous are the "holes" in the Leyte and Misamis survey age structures for women 15 to 24 years old, which contrast sharply with the smooth census age distributions. Although parts of these differences may be explainable by female out-migration from Southern Leyte and male-dominant in-migration to Misamis Oriental (Flieger et al., 1976: 163), a comparison between the 1975 and 1970 census age structures for both provinces (which shows rather strong similarities) and the fact that the survey places disproportionately large numbers of women into age group 50 and over suggest that the survey population estimates for Southern Leyte and Misamis Oriental cannot be entirely correct.

Even larger discrepancies between census and survey results become obvious when marital status of women is scrutinized (Table 4). For the age groups 15-19 and 20-24, proportions currently married obtained from the survey are larger throughout than census proportions, and in a number of cases, e.g., Misamis Oriental, considerably so. The opposite pattern holds for the two oldest age groups shown in Table 4. Differences are smallest for the age range 25-44, though survey figures fluctuate more than those based on the census, obviously reflecting sampling variations. For age group 25-29, which usually displays the highest age-specific fertility rate, survey estimates of currently



TABLE 4 Percentage of currently married among women 15–54 according to the 1975 census and the 1976 Seven Provinces Survey, by age group and province

Data source and age group	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	South-ern Leyte	Misamis Oriental
CENSUS, 1 MAY 1975							
15–19	8.5	7.6	5.6	5.9	8.1	5.3	6.8
20–24	40.3	41.4	35.4	39.1	43.4	37.0	39.4
25–29	69.6	73.8	68.9	72.5	72.1	69.2	72.5
30–34	84.7	87.1	84.2	86.0	85.0	83.7	86.4
35–39	88.5	90.7	88.5	89.6	88.3	89.5	91.1
40–44	88.9	90.9	89.5	89.6	89.2	89.9	91.8
45–49	87.2	90.0	88.2	88.5	87.7	89.5	90.4
50–54	83.6	87.2	85.4	84.9	84.1	87.6	87.9
SURVEY, 31 DECEMBER 1975							
15–19	12.4	9.7	11.1	8.7	13.6	12.1	17.7
20–24	52.1	54.3	54.3	49.0	44.1	71.2	59.0
25–29	77.6	76.2	79.1	74.5	70.1	75.2	79.4
30–34	85.2	88.9	90.1	85.8	78.5	93.0	86.8
35–39	90.2	91.4	89.3	79.3	79.4	92.2	88.2
40–44	83.5	94.6	82.2	92.5	75.0	94.4	88.9
45–49	79.1	78.6	77.8	84.2	80.7	84.0	86.1
50–54	78.0	86.1	80.0	89.1	85.4	84.7	93.5

CENSUS SOURCE: NCSO (1975, table 6).

married women are consistently above census counts, Negros Oriental excepted. Since the absolute number of births to women 15–24 tends to be small when compared with births to women one to ten years older, but the absolute number of younger women exceeds that of the older ones, the larger proportions of young women categorized by the survey as currently married are reflected in relatively lower marital age-specific and—because the 15–19 and 20–24 marital birth rates tend to be dominant among all age-specific marital rates—likewise lower total marital fertility rates than comparable census figures would yield.

The reason why survey proportions of currently married young women are consistently and considerably larger than census proportions cannot be attributed to differences in the definition of “currently married” between census and survey because both include legalized as well as common law marriages. There may have been differences in the

interpretation of the definition by census and survey interviewers. The existence of common law marriages is difficult to determine. For the survey, no clear-cut instructions were given as to what constitutes a common law marriage; instead, the decision as to whether or not such a union existed was left to the discretion of the respondents. Census interviewers, by contrast, may have applied some more stringent and preset conditions before they declared a cohabiting couple to be "married." Survey estimates indicate that the marital situation in the survey provinces was not a very clear one from a legal point of view: Common law marriages, as defined by the respondents, were not infrequent, and many couples admitted that they had lived together before their marriages were formalized. A good number of these couples may have advanced their dates of first marriage to avoid classification by the interviewers of their first child or children as illegitimate.

### **Survey rates compared with other estimates**

One of the main purposes of the Seven Provinces Survey (SPS) was to estimate provincial fertility levels and trends. Repeated efforts have been made to obtain reliable national or regional fertility estimates (Flieger and Smith, 1975; NCSO, 1975; Concepción and Smith, 1977), but attempts to measure fertility for smaller population units have been few. One of these exceptions was the dual-record project that the Mindanao Center for Population Studies undertook in the province of Misamis Oriental during the first half of the 1970s. From a comparison of 1976 Seven Provinces Survey and dual-record rates for that province, Madigan et al. (1976) concluded that, though the "survey data yield somewhat lower rates (1975 total fertility rates of 5.5 for Misamis Oriental and 6.8 for Southern Leyte) than the dual-record project, they do not appear to be unreasonable." The decline in the total fertility rate (TFR) between 1971 and 1975, which the Misamis survey data show, tallies with a similar trend exhibited by the dual-record data. According to Madigan et al. (1976), "the declines registered in the level of total fertility in the pregnancy history data for Misamis Oriental and Southern Leyte appear reasonable in the light of declines reported from the various samples of the very carefully executed dual-record project in Misamis Oriental."

The East-West Population Institute (EWPI), in cooperation with the Philippine Census and Statistics Office, has estimated provincial age-specific birth rates for the 14 years preceding the 1975 census

on the basis of unadjusted 1975 census data and the help of the own-children method (East-West Population Institute, unpublished data, 1979). The trends that the total fertility rates (including women 15–49) display for the 1960s indicate rather stable fertility for all of the seven provinces except Laguna, for which a slight but consistent decline is suggested. For the first half of the 1970s, the rates imply declining fertility for all SPS provinces, a trend which is also indicated by the rates extracted from the 1976 SPS data. When estimated annual levels of fertility and trends for the 1970–75 period are compared, a relatively good agreement between the EWPI census data and the SPS survey results is evident for three of the seven provinces: Laguna, Capiz, and Misamis Oriental. For Nueva Ecija, Pangasinan, and Southern Leyte, survey-based TFRs are by one-half to one child higher than census-based rates; the opposite holds for Negros Oriental (Figure 1).

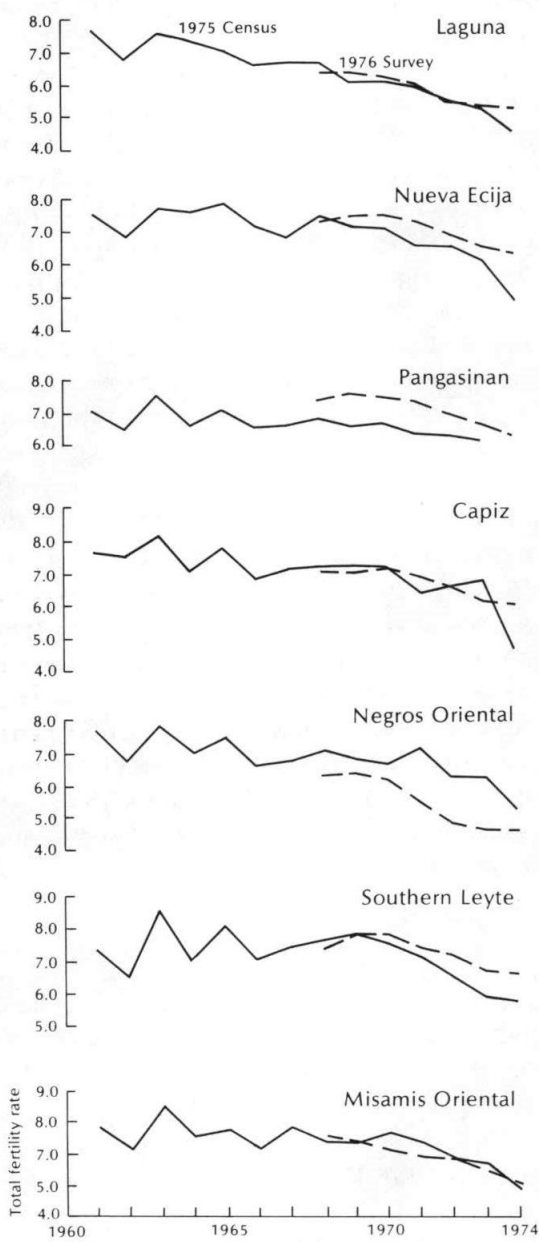
Determining which of the two estimates is closer to the true rates is difficult and would require a detailed checking of the data. On purely theoretical grounds, it may be argued that the higher survey rates are preferable in view of (1) the tendency to underreport rather than overreport vital events in both surveys and censuses and (2) the use of more direct methods employed by the survey to obtain the base information and fewer assumptions to calculate the rates. However, birth information collected through surveys often suffers from timing errors, i.e., errors that push births either backward or forward in time, thereby leading to annual birth rates that are too high or too low. The question of whether such timing errors have crept into the birth histories of the 1976 SPS and may eventually explain some of the discrepancies between the 1975 census and 1976 SPS rates will be discussed in the subsequent section.

### **Accuracy of pregnancy reporting**

The raw data from which the birth rates presented in this report were extracted are pregnancy histories. Extensive scrutiny over the past years of pregnancy records collected in different parts of the world has uncovered various types of errors and inaccuracies that affect the reliability of the birth rates and the validity of the conclusions based on them (e.g., Potter, 1975; Cabigon, 1976; Brass, 1977; Brass et al., 1968). The most common errors are the omission of births or their misplacement in time.

When pregnancy records collected in the seven provinces in 1976

FIGURE 1   Levels and trends of total fertility rates obtained from 1975 census and 1976 Seven Provinces Survey: 1960–74



were edited, a good number of them showed deficiencies. Aside from missing records of a small proportion of women who could not be reached by the interviewers, others had either no or only incomplete dates for one or more of the reported pregnancy terminations, or they showed intervals between successive terminations that were unacceptable. Wherever possible in such cases, reported dates were shifted to make the pregnancy intervals believable, or more likely dates were estimated on the basis of interval patterns of previous or subsequent pregnancy terminations of a woman. When no reasonable remedies could be found, the entire defective records were excluded from the calculation of the birth rates. A comparison of the estimates of the total (weighted) number of women of ages 15–54 present in the seven provinces in 1975 and the number of women included in the calculation of age-specific and total fertility rates shows that the latter was short by 3.8 percent. Differences in both estimates for individual provinces varied from 1.9 percent in Southern Leyte to 5.1 percent in Nueva Ecija. Women whose pregnancy records were most often defective were of the older childbearing ages, particularly women 50–54 years of age. In Nueva Ecija, the estimated proportion of such older women with defective records reached 31 percent (Table 5). Among younger women, nonusable records were most frequent among the 25–29 year olds. Omissions of pregnancy records may introduce a bias into the data, into the age distributions of women as well as the age-specific rates. In view of the absence of any basis on which adjustments for missing or defective records could be made, however, it is assumed in this report that provincial age structures of women with defective records were identical to those of women with usable ones, and that the same holds for their age-specific birth rates.

Brass (1977:90) has observed that

it hardly needs to be said that many retrospective surveys in less developed countries have suffered from the omissions in the reporting of previous births to women and errors in the timing of even the last birth which are so large that the estimate of fertility level is highly doubtful. In other cases the total births may be reasonably counted but the time of occurrence suspect.

With regard to timing of births, Brass distinguishes two types of errors, reference-period size errors and reference period slippage. The first of these refers to the allocation of births, which actually may have taken place, say, 5.3 to 9.6 years prior to the survey, to the 5–10 year period, while the second is related to the systematic “pushing” of

TABLE 5 Differences between estimated proportions of all women 15–54 in population and of women 15–54 with complete pregnancy records, by five-year age group and province: Seven Provinces Survey, 1976 (percent)

Age group	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	South- ern Leyte	Misamis Oriental	Seven provinces
15–19	3.1	3.5	6.4	2.2	2.7	0.5	7.7	4.3
20–24	0.2	4.2	<sup>a</sup>	11.7	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	0.8
25–29	6.5	1.3	2.8	1.5	7.6	10.7	7.7	4.6
30–34	0.0	3.3	1.8	3.7	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	0.5
35–39	10.1	4.7	0.7	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>	1.5
40–44	5.0	0.0	3.1	4.8	5.8	1.8	2.8	3.4
45–49	1.9	10.0	6.8	<sup>a</sup>	3.8	<sup>a</sup>	7.4	4.6
50–54	18.7	30.8	14.7	18.2	21.1	17.6	12.7	19.5
15–54	4.3	5.1	3.6	4.1	2.6	1.9	3.4	3.8

<sup>a</sup> Estimated number of women with complete pregnancy records slightly exceeds estimated number of total women because of weighting.

births farther into the past or forward to the present (Brass, 1977:91). Potter (1975) has observed that the slippage tends to operate in different directions at the two ends of the memory range.

Using duration and time-specific fertility rates as the starting point, Brass (1977:93) has devised a screening process that scrutinizes whether or not the array of rates “conforms with an acceptable pattern of variation with time and duration.” Past studies have suggested that the Gompertz curve is a fair approximation of age-specific fertility patterns (Murphy and Nagnur, 1972; Romaniuk and Tawny, 1969; Wunsch, 1966). With the Gompertz curve, cumulative fertility to age  $x$  is expressed in the form

$$F(x)/F = AB^{(x-x_0)}$$

where  $F$  is the level of cumulative fertility reached at the end of reproduction,  $A$  and  $B$  describe variations of the slope of the cumulative fertility curve with age, and  $x_0$  is the origin of age.

By taking double natural logarithms of both sides of the equation, the transformation of the proportion of fertility achieved by age  $x$  becomes a linear function of  $x$ :

$$\ln (-\ln F(x)/F) = \ln (-\ln A) + (x-x_0) \ln B,$$

which is of the form

$$Y(x) = \alpha + \beta (x-x_0),$$

where  $Y(x) = \ln (-\ln F(x)/F)$ ,  $x$  is age, and  $\alpha$  and  $\beta$  are constants. Because comparisons have shown that this model fits relatively well only over the central part of the reproductive period, Brass transformed the age scale on the basis of Coale-Trussell model fertility schedules (Coale and Trussell, 1974) by changing the age interval units (Brass, 1977:97). To incorporate the time element into this one-dimensional model, Brass finally "converted" the model to cohort form:

$$Y(x, T) = \alpha (T) + \beta (T) \phi (x-x_0),$$

where  $T$  denotes the lowest reproductive age of a cohort, and  $\phi (x-x_0)$  the transformed age intervals.

The greatest problem with the model is, as Brass (1977:99) states, the use of the Coale-Trussell model fertility pattern. He suggests as a possible alternative an "internal standard" derived from the observed population. He points out, however, that for New Guinea data, which he used for demonstration purposes, the application of such an internal standard "leads to a similar structure of deviations from the model and, therefore, the same conclusions." Kandiah (1977), working with period data from South Korea, New Zealand, Singapore, Taiwan, and the United States, came to the identical conclusion, viz., "that the model holds whether we pick a standard from the population being studied or from a different population."

For checking purposes, Brass calculates  $\alpha (T)$ s, defined as  $Y(1, T)$ , the double logarithms of the proportion of total fertility in the youngest childbearing age group of cohort  $T$ , and series of  $\beta (T)$ s, one for each available interval, for successive cohorts. The  $Y(1, T)$ s vary with the mean age of the age-specific fertility distribution, and the  $\beta (T)$ s vary inversely with the spread (standard deviation) of the distribution (Kandiah, 1977). This means that, when corresponding values for successive cohorts are compared, increasing  $Y(1, T)$ s indicate rising mean age at childbirth, which could be caused by, among other factors, delayed marriage, and increasing  $\beta (T)$ s signify a greater concentration of births within the reproductive period. According to Brass (1977:98), "if the location of births in time was accurate, it would be expected that (1) the  $\beta$  estimates would be the same in each time interval for a cohort. (2) trends in  $\beta$  and  $Y(1, T)$  would be modest and regular, and

(3) changes in parameters would have a sensible relationship to each other."

Appendix Tables A1 through A7 show (1) distributions of total live births (per thousand women) to cohorts of women who were of childbearing age at the time of the survey and residing in the seven project provinces, and (2) corresponding  $Y(x, T)$ s and  $\beta(T)$ s. For the younger cohorts which had not completed fertility at the time of the survey,  $F(T)$  values were estimated by "making the ratio of  $F(x, T)$ , for the highest available age, to  $F(T)$  the same as the corresponding ratio for the time period values in the most recent interval" (Brass, 1977:96). When  $Y(1, T)$  and  $\beta$  estimates for successive cohorts of women are compared, considerable fluctuations rather than "modest and regular" trends appear. However, when these fluctuations are compared over provinces, certain patterns become evident.

For cohorts of women aged 35 or older in 1976 and regardless of province of residence,  $\beta$  values are low for the most distant periods (15 to 20 years) before the survey, extremely high for the five- and ten-year periods, and again low for the most recent time. The implication of this finding is that the pregnancy reporting of these women exhibits the "Potter effect"; i.e., their first (oldest) births are pushed forward in time, and their most recent ones backward, with the first of these two tendencies the stronger one. A similar pattern of reporting is evident for the middle-aged women, particularly those 30–34 years old at the time of the survey:  $\beta$ s are low for the most recent time period, and a concentration of births is indicated for the time periods five or, in some instances, ten years prior to the survey. Notable exceptions are the 30–34 year old women of Capiz and Southern Leyte, for whom  $\beta$  values across periods are relatively stable. An examination of the  $\beta$ s for the younger cohort (25–29) reveals the opposite tendency: Reported births are highly concentrated in the time period immediately preceding the survey, in contrast to the period five years past. These particular  $\beta$  patterns do not necessarily imply a shifting of births in time but may be the result of the late twenties and early thirties being the peak childbearing years, in which births tend to be concentrated, an explanation which may apply, at least in part, also to the women who were in their thirties in 1976.

One result of a concentration of births in the younger childbearing ages is a relatively low mean age at childbirth, which, in the Brass procedure, should appear as a low  $Y(1, T)$  value. For women of all



seven provinces,  $Y(1,T)$  values tend to decrease when one moves from the cohort 30–34 years old to the cohort 15–19. This movement conforms to that of the  $\beta$ s for the same cohorts, which show a concentration of births in the most recent time period for the 25–29 year old women, and five years later for women 30–34. If it is correct that age at first marriage is generally rising, as various investigations have suggested, resulting in a later start of childbearing and a higher mean age, one would expect the opposite trend; i.e.,  $Y(1,T)$ s should increase as cohort age decreases. The fact that this is not so may suggest that the youngest women included in the sample have pushed the birth dates of their children into the present. The rising values of  $Y(1,T)$  for older women which Tables A1 through A7 display when one moves from age 30 to 45 once again agree with the corresponding  $\beta$  trends: The mean age at childbirth of these women increases with age because they had pushed most of their births into the middle range of their reproductive periods. Why the  $Y(1,T)$ s for women of the oldest cohorts shown (ages 50–54) are extremely low when contrasted with the corresponding values of the cohort five years younger is difficult to decide.

The Brass screening procedure does not permit direct correction of the timing errors in the pregnancy histories that it indicates. However, the findings it yields help to reconcile in part the earlier mentioned differences in fertility levels and fertility trends derived from the survey data on the one hand and the 1970 census data on the other (Figure 1). Because of the concentration of reported births by older and middle-aged women in the 5–10 year period prior to the survey and the deconcentration in the most recent time period of births reported by women 30–34 years old, who were the heaviest contributors of births, the survey data most likely *overestimate* the fertility level for the late 1960s and *underestimate* that for the middle 1970s. In other words, the fertility decline imputed from the provincial fertility rosters is most probably exaggerated.

#### SOCIAL AND DEMOGRAPHIC CHARACTERISTICS OF THE SEVEN SURVEY PROVINCES

The seven TIDA provinces that POPCOM designated as study areas are spread over almost the entire length of the Philippine Archipelago, from northern Luzon to northern Mindanao. Three of them, Pangasinan, Nueva Ecija, and Laguna, are situated in Luzon; and three

others, Capiz, Negros Oriental, and Southern Leyte, are parts of the Visayas Region, which is composed of smaller islands sandwiched between Luzon and Mindanao. Misamis Oriental, the only Mindanao province among the seven, is located on the northern coast of that island. Besides being somewhat representative of the Philippines geographically, the seven provinces also incorporate a good amount of ethnic, economic, and development-related variations found in the country. Pangasinan and Nueva Ecija are part of the Philippine agricultural heartland, with the former linguistically oriented toward the Ilocanos to the north, and the latter toward the Tagalogs in the south. An additional difference is that Pangasinan is relatively densely settled. During the 1960s, it lost a good part of its young working population through out-migration (Flieger et al., 1976). By contrast, Nueva Ecija has been settled and cultivated more recently. The province of Laguna, which shares common boundaries with Greater Manila, has been strongly influenced by the modernizing trends emanating from there. Because it has served as the country's premier testing area for family planning from the early 1960s on, it is probably the most family planning-saturated province in the country to date. The three Visayan provinces reflect, geographically and also ethnically, the major subdivisions of that region. Capiz, located at the northeastern tip of Panay Island in the Western Visayas, has a Hiligaynon-speaking population; Negros Oriental is linguistically oriented toward the Cebuanos of the Central Visayas; and Southern Leyte, in the Eastern section of the Visayas, though populated by Cebuano-speaking people, is geographically close to the Waray areas of Eastern Leyte and Samar. Economically, Capiz and Negros Oriental are part of "sugarlandia" and, in 1975, were better off than Southern Leyte which, with its meager agricultural resources, probably has to be counted among the poorest provinces of the country. Misamis Oriental in northern Mindanao is to a large extent an agricultural frontier area settled by Cebuanos. In more recent years, promising industrial developments have sprung up around its capital city of Cagayan de Oro.

The socioeconomic conditions that prevailed in the seven provinces in 1975 did not differ vastly if we abstract from Laguna. Whatever differences existed in the variables included in the survey, they mirrored mostly variations in traditional social structures. If the available social indicators are taken as a yardstick, Laguna was the most modernized of the seven provinces. Because of its closeness to Manila and

participation in the industrial development occurring there, its primary economic base was no longer agriculture. More than 60 percent of all Laguna household heads had major occupations other than farming or fishing. In the six other provinces, the proportions of household heads who obtained their basic livelihoods from either farming or fishing ranged from 61 percent in Negros Oriental to more than 77 percent in Southern Leyte. The proportion of household heads with industrial or manufacturing jobs was twice or three times as large in Laguna as anywhere else in the survey areas, and smallest in Southern Leyte (Table 6).

Among other factors, opportunity to obtain an education is indicative of the developmental level that an area has attained. In the past at least, either schooling opportunities must have been relatively limited in the three Visayan survey areas, or the better educated Visayans must have left their home provinces in disproportionately large numbers. Probably both of these explanations apply. In Negros Oriental, almost one-fourth of all household heads in 1975 were illiterate; in Capiz and Southern Leyte, the proportions of illiterate household heads amounted to some 15 percent, compared with less than 10 percent in the Luzon and Mindanao provinces. Up to the present, the Visayas have been the major out-migration area of the country, and a number of migration studies have shown that migrants tend to be better educated than the nonmovers. That Misamis Oriental, an in-migration area, had a relatively small proportion of household heads without any schooling and one of the largest proportions of high school- and college-educated among the seven provinces speaks in favor of the migration hypothesis. The predominant level of educational attainment among the middle-aged population, which the household heads represent, was a less than complete elementary schooling, two-thirds of all household heads in each province reporting that amount of education.

When proportions of households with modern amenities like electricity and private water supply are considered, differences between provinces clearly indicate the extent of development and modernization that individual areas had undergone. The Visayan provinces once again were at the lower end of the scale. For example, household electricity was almost nonexistent in Southern Leyte, and private water supply was a rarity in Capiz.

Socioeconomic household conditions were mirrored in the situations

TABLE 6 Selected family-type and socioeconomic indicators of households: Seven Provinces Survey, 1976 (percent)

Indicator	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	South- ern Leyte	Misamis Oriental
<b>FAMILY TYPE</b>							
One nuclear family only	72.2	74.6	70.0	73.6	73.3	68.8	69.7
Horizontally extended nuclear family	3.2	2.3	3.0	2.8	3.1	3.4	5.1
Vertically extended nuclear family	11.1	12.3	13.8	12.6	10.7	16.7	13.4
Multi-family household	10.7	8.0	9.8	8.9	9.6	6.5	7.4
Others	2.8	2.8	3.4	2.1	3.3	4.6	4.4
<b>EDUCATION OF HOUSEHOLD HEAD</b>							
No schooling	6.0	8.1	9.8	15.1	22.5	13.5	9.4
Some or complete elementary schooling	63.7	68.0	61.2	67.1	63.0	66.5	61.2
Some or complete high school	18.4	17.1	21.5	12.0	9.6	14.9	18.4
Some or complete college	9.5	6.5	7.5	5.9	4.9	5.1	11.0
<b>MAJOR OCCUPATION OF HOUSEHOLD HEAD</b>							
Professional	3.0	2.8	3.1	2.8	1.7	1.8	3.1
Clerical and sales	13.3	6.1	8.4	4.9	5.6	5.0	7.1
Industrial and manufacturing	23.3	11.9	10.8	8.0	9.5	6.4	8.6
Farming and farm work	33.6	63.4	58.8	69.2	53.6	73.7	63.9
Fishing	4.6	0.7	5.2	9.2	7.6	3.8	5.7
Service	4.5	2.6	3.2	1.6	2.3	1.8	1.9
Others	17.7	12.5	10.5	14.3	19.7	7.5	9.7
<b>EDUCATION OF WOMEN 15-54 IN HOUSEHOLD</b>							
No schooling	3.6	2.3	3.6	5.2	13.0	4.7	4.3
Some or complete elementary schooling	55.9	63.6	56.4	64.8	61.7	62.7	57.8
Some or complete high school	25.9	21.3	27.2	18.7	15.6	23.9	27.3
Some or complete college	14.6	12.8	12.8	11.3	9.7	8.7	10.6

of the women who resided in the households. Provincial educational patterns of women 15–54 years of age were almost identical with those of household heads, except that the general educational level of women was somewhat higher. This was so because the average age of the women was lower than that of the household heads and more of them had benefited from the greater educational opportunities that had become available during the most recent decades.

The predominant household type in all survey areas was the single nuclear-family household, containing an average of six persons (Table 2). Extended households were most prevalent in urban areas. For all seven provinces combined, the proportions of extended households (of all types) amounted to 45 percent in urban, 39 percent in semi-urban, and 31 percent in rural areas. The same finding is reflected in average household size figures, which stood at 6.25 for urban and 5.90 for rural households. The smaller proportion of extended households in rural areas is probably, as Castillo (1972) has suggested in another context, related to the ready availability of building materials like bamboo and nipa and of building space in the countryside. In urban areas, where houses tend to be larger and more expensive and where space is limited, it is more difficult for a young couple to establish its own home. The tendency of newlyweds living in cities to stay with their in-laws during the first months or years of their married life is reflected in the larger proportion of urban households with more than one family nucleus. Most nuclear families that had taken in other relatives formed “vertically” extended households; i.e., the added relatives were either parents or their siblings or grandchildren and nieces and nephews of the household heads or their spouses. This type of household extension has its roots in the custom of children assuming care of their aging parents, for older couples to take in grandchildren for the sake of help and companionship, for wealthier families to contribute to the education of the children of their poorer relatives, and for urban families to provide room and board for the children of their brothers and sisters “back home” in the rural areas who come to the city in search of education or jobs.

Nuptiality behavior displays comparatively few variations when provinces in their entirety are compared (Table 7). In all seven provinces taken together, the proportion currently married among all women of ages 15–54 was 60 percent. Only Southern Leyte and Misamis Oriental registered considerably larger proportions. However,

TABLE 7 Percentage of women 15–54 currently married and singulate mean ages at marriage, by province and stratum: Seven Provinces Survey, 1976

Province and stratum	Percentage of women currently married	Singulate mean age at marriage
LAGUNA	59.3	23.1
Urban	46.4	27.4
Semi-urban	48.7	25.1
Rural	64.2	22.2
NUEVA ECIJA	58.7	22.7
Urban	57.8	23.6
Semi-urban	49.4	18.9
Rural	59.7	23.4
PANGASINAN	60.7	22.8
Urban	54.2	26.4
Semi-urban	49.4	24.3
Rural	62.4	22.5
CAPIZ	57.2	24.4
Urban	40.0	29.2
Semi-urban	49.2	23.1
Rural	58.9	24.2
NEGROS ORIENTAL	57.9	24.5
Urban	43.0	26.3
Semi-urban	53.1	25.5
Rural	59.1	24.3
SOUTHERN LEYTE	69.5	20.8
Semi-urban	54.5	26.0
Rural	72.9	19.5
MISAMIS ORIENTAL	67.3	23.0
Urban	47.5	24.7
Semi-urban	60.5	24.4
Rural	70.8	22.4

the homogeneity of percentages currently married at ages 15–54 across provinces tends to disguise differences in the timing of marriage and the extent of marital dissolution, which have opposite effects on the percentages. The Leyte figure of 69.5 percent probably indicates that women in this province, where there is little else to do, continued the traditional pattern of early marriage. This hypothesis is supported by the low singulate mean age at first marriage of 19.5 years for rural

women, an age three or more years below that of rural women in the other provinces. For Misamis Oriental, in-migration of young families is the most likely explanation for the larger than average proportion of currently married women.

Although provincial variations in marital behavior appear relatively small, larger differences become evident when strata are compared. The directions these differentials took in each of the seven provinces in 1975 were identical: Considerably fewer urban than rural women were married, and urban women had entered matrimony two to five years later than their rural counterparts. Urban-rural differences in the proportions of married women likewise reflect the flow of young and unmarried women in quest of education or employment from the *barrios* (villages) to the cities. An examination of urban age structures will show a large concentration of women between the ages of 15 and 30 in almost all cities. In contrast to urban and rural marital patterns, those of semi-urban women are blurred, both proportions currently married and age at first marriage. A particularly unclear picture emerges for Nueva Ecija, where relatively few semi-urban women were reported as married despite an extremely low mean age at first marriage. The discrepancy between these two indicators suggests faulty estimates rather than a peculiar type of marriage behavior. Likewise conspicuous in Table 7 are the small proportions of married women and the relatively high mean ages at first marriage in Capiz and Negros Oriental. Both of these provinces are sugar-growing areas dominated by family-owned corporations which, at least in the past, have insured themselves of a steady and permanent supply of labor by employing entire families. It may be that the desire of such employed families to maintain as large as possible an income by keeping many family members at work has prevented women from marrying as early as their contemporaries in other parts of the country where economic structures are different.

Marital stability appears to have been relatively high. In none of the seven provinces did the proportion of married women who were living separated from their husbands exceed 15 percent. Widowhood among women under age 54 was likewise rare, varying from 2 to 3 percent between provinces.

Earlier we made reference to the living standards attained by the seven provinces. Some distinct differences among provinces were observable in 1975, but these must have been of rather recent origin.

General health of a population, one of the more reliable social indicators, tends to be reflected in the proportions of pregnancies successfully terminated and in the survival chances of babies and younger children. Figures in Table 8 describe the cumulative experience of all women of childbearing age who resided in the survey provinces in 1975: i.e., they represent the average condition for the past 40 years. A comparison of all indicators shown reveals hardly any difference between provinces in pregnancy outcomes or child survival. For all seven provinces, reported pregnancy wastage amounted to 7 to 8 percent, and most of it was supposedly caused by spontaneous terminations before full term. According to survey estimates, voluntary pregnancy terminations were negligible during the past decades. The proportions of babies under age one who had died imply infant mortality rates between 60 to 80 per 1,000 live births. These rates fall well within the range of national estimates cited by Concepción and Smith (1977:67) for the years 1968 and 1973, and of provincial estimates for 1965 (OPS, unpublished data). Mortality of children one to four years of age was roughly one half as high as infant mortality.

#### FERTILITY LEVELS AND TRENDS IN THE SURVEY AREAS

According to 1975 census counts, the average annual 1970–75 intercensal growth rate of the Philippines amounted to slightly less than 3 percent. For the seven project provinces, the 1975 census yielded annual growth rates ranging from 1.85 percent in Pangasinan to 3.42 percent in Misamis Oriental (Table 9). If the census figures are correct, and if we assume that the estimate of the country's crude death rate of around 9 per thousand population in 1971 (see Osteria and Baltazar, 1976:133) is likewise correct, the crude birth rates of the seven provinces must have been higher by about 10 per thousand than the growth rates indicated in Table 9. However, the census figures include increase or decrease caused by migration. In more recent years, Laguna and Misamis Oriental had attracted many in-migrants, whereas the other provinces had experienced out-migration (Flieger et al., 1976). This means that for the in-migration provinces the birth rates should have been higher than the intercensal growth rates by less than 10 per thousand, and those of the out-migration provinces by more.

The 1975 provincial crude birth rates extracted from the 1976 survey are presented in Table 10. All of them conform more or less to the just mentioned expectations, but when we take the national



TABLE 8 Pregnancy terminations by type to women 15–54 in 1975 and child mortality experience:  
Seven Provinces Survey, 1976

Pregnancy termination and child mortality	Laguna	Nueva Ecija	Panga- sinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental
PREGNANCY TERMINATIONS							
Estimated total number of pregnancies	588,076	653,897	1,078,451	384,744	544,455	209,124	434,876
Live births (%)	90.6	93.1	92.6	92.4	93.6	93.4	92.1
Stillbirths (%)	1.0	0.2	0.3	0.7	0.8	1.1	1.1
Spontaneous terminations (%)	8.1	6.6	6.9	6.8	5.5	5.5	6.4
Voluntary terminations (%)	0.3	0.1	0.2	0.1	0.1	0.0	0.4
CHILD MORTALITY							
Estimated total number of live births	532,857	608,978	998,887	322,360	509,868	195,242	400,498
Children still living (%)	89.0	89.6	98.3	89.5	88.5	84.9	86.7
Infant deaths (%)	5.8	6.6	6.4	6.0	6.4	7.3	7.9
Children who died at ages 1–4 (%)	3.7	2.8	3.3	3.1	3.8	5.8	3.9
Children who died after age 5 (%)	1.5	1.0	1.0	1.4	1.3	2.0	1.5

NOTE: Because the information on which the data in this table are based may have been distorted by faulty recall in many cases and a tendency may exist to "forget" unpleasant events such as child deaths and fetal loss, the figures should be regarded as approximate.

TABLE 9 Provincial census populations and average annual intercensal growth rates: Philippines, 1970 and 1975

Province	Census population		Average annual intercensal growth rate
	6 May 1970	1 May 1975	
Philippines	36,684,486	42,070,660	.0275
Laguna	699,736	803,750	.0278
Nueva Ecija	851,294	947,995	.0216
Pangasinan	1,386,143	1,520,085	.0185
Capiz	394,041	445,716	.0247
Negros Oriental	652,264	740,417	.0254
Southern Leyte	251,425	276,418	.0190
Misamis Oriental	472,756	560,490	.0342

SOURCE: NCSO (1975: table 1).

growth rate and death rate estimates as approximately 30 and 10 per thousand population and the resulting birth rate as 40 per thousand. and then compare with the latter figure the crude birth rate for all seven provinces combined, which was 34.8, the survey estimates appear to be on the low side. Most surprising is the relatively low crude birth rate of Misamis Oriental, a province located in a region whose women had the highest fertility among all women in the country in 1968 (Flieger, 1975: 106). The likelihood that the survey did underestimate 1975 fertility somewhat has been documented earlier.

The most salient feature of Table 10 is its indication of substantial stratum differences in fertility within each of the seven provinces. With the exception of Nueva Ecija and Pangasinan, the average difference between uncorrected urban and rural crude birth rates amounted to 30 percent. The patterns displayed by the stratum rates do not in all cases follow the trends one would expect, i.e., high in rural areas, intermediate in semi-urban, and low in urban areas. In the three Luzon provinces of Laguna, Nueva Ecija, and Pangasinan, semi-urban rates were the lowest among the stratum rates, and in Pangasinan it was the urban population that displayed the highest fertility. The unexpected patterns persist even after the rates are standardized for age and marital composition differences. When standardized rates are compared, a pattern similar to those of Laguna and Nueva Ecija emerges for Capiz, whereas in Misamis Oriental the semi-urban rate becomes the largest among this province's stratum rates. What Table 10 implies is that the

TABLE 10 1975 crude birth rates and standard errors and age- and marital composition-standardized birth rates, by province and stratum: Seven Provinces Survey, 1976 (per thousand population)

Rate and stratum	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental
CRUDE RATE							
All strata							
Uncorrected rate	33.17	39.21	33.79	35.56	36.04	32.78	30.47
Standard error	1.75	2.01	2.30	2.80	3.16	3.04	1.66
Urban							
Uncorrected rate	27.22	36.40	36.94	21.80	23.57	na	26.03
Standard error	4.11	4.11	4.71	3.54	3.09	na	2.11
Semi-urban							
Uncorrected rate	24.50	31.26	29.65	27.36	25.16	26.56	30.80
Standard error	6.80	6.80	2.92	2.19	3.06	2.73	5.04
Rural							
Uncorrected rate	35.72	40.13	34.09	36.47	37.27	33.43	31.16
Standard error	2.14	2.20	2.53	3.06	3.50	3.34	2.00
AGE- AND MARITAL COMPOSITION-STANDARDIZED RATE <sup>a</sup>							
All strata	29.8	37.4	33.3	40.2	36.8	39.4	32.7
Urban	31.4	34.7	39.3	33.1	28.1	na	29.9
Semi-urban	27.3	34.7	36.2	32.9	29.5	37.7	34.7
Rural	31.5	37.9	33.1	41.3	37.9	39.8	33.4

na—not applicable. Southern Leyte contains no areas classified as urban.

a Standard: age structure and marital composition of seven provinces combined.

usual dichotomy between "low urban" and "high rural" fertility is an oversimplification, at least as far as the seven study provinces are concerned. The widely oscillating figures for the semi-urban populations may suggest the existence of particular types of social forces at work in municipal *poblaciones* that are different from those operating in strictly urban populations. When differences between stratum rates are examined in more detail, the low proportions of married women in semi-urban areas emerge as the factor most responsible for the low semi-urban rates. For example, in Nueva Ecija and Pangasinan, two agriculturally thriving provinces, fewer than half of all semi-urban women of ages 15–54 were currently married in 1975, compared with 55 percent of urban women and 60 or more percent of rural women in these provinces.

Crude birth rates are influenced by such community characteristics as age structure, health and living standards, extent of in- or out-migration, and marriage customs, to mention only the most important ones. Age-specific and marital age-specific rates, taken singly or summarized for the reproductive life span of a woman (total fertility rate), control for some of these influences and point toward fertility differentials between "average" individual women of different populations. Total fertility rates for the seven provinces and their strata are presented in Table 11. (For detailed age-specific rates, see Appendix Tables A8–A14.) Whereas the crude rates identify Capiz as the most prolific provincial population, Table 11 identifies the women of Southern Leyte as the reproductively most active in 1975, having borne, on the average, one-half child more than their counterparts in, e.g., Capiz. —

Figure 2 describes variations in the fertility behavior of women residing in the different strata of each province. Differences between urban and rural women are clear-cut and substantial. Not only did urban women keep their fertility at lower levels than rural ones, they also started childbearing later in life and more slowly and terminated it earlier. The urban pattern of timing of childbirths is of some importance because it reinforces the effect of reduced fertility levels on the rate of population growth. The fertility behavior of semi-urban women seems to reflect the transitional situation that exists in basically still agricultural (and traditional) environments, which are increasingly exposed to urbanizing influences in the form of facilities and services. In Laguna and Negros Oriental, semi-urban fertility

TABLE 11 1975 total fertility rates for all women 15-49, by province and stratum: Seven Provinces Survey, 1976

Province	All strata	Urban	Semi-urban	Rural
Laguna	4.58	3.82	3.82	5.16
Nueva Ecija	6.16	5.41	4.43	6.42
Pangasinan	5.39	5.30	4.41	5.56
Capiz	6.16	3.31	4.50	6.46
Negros Oriental	5.46	2.99	3.69	5.78
Southern Leyte	6.59	na	4.88	6.99
Misamis Oriental	5.49	3.73	5.33	5.76

na—not applicable. Southern Leyte contains no areas classified as urban.

patterns approximated urban ones, whereas in Capiz and Negros Oriental a similarity to the rural pattern is evident.

In the other provinces, semi-urban patterns were between urban and rural ones. If it is correct that fertility responds to influences of modernization and concomitant changes in social values, differences between urban and rural fertility patterns and the location of the semi-urban pattern relative to the urban may be taken as an indication of the degree of demographic modernization that a population has undergone. When we apply such a standard, Figure 2 shows that, in 1975, Laguna was clearly ahead of the other provinces, whereas Capiz, which contains only one small urban area, and Southern Leyte, which contains none, were clearly behind.

Most children are born within wedlock. Of all births estimated for the seven provinces in 1975, only 3.4 percent had been to mothers who were "not currently married" at the time of the survey (January 1976). How many of these births were illegitimate cannot be exactly determined. Differences between provinces and strata in proportions of all 1975 births contributed by currently not married women were small: They tended to be more numerous in urban areas, and also more numerous in the Visayas than the Luzon and Mindanao survey provinces (Table 12).

Earlier studies have reported sizeable regional and provincial differences in total fertility rates but pointed out that most of these differences were the results of variations in nuptiality behavior such as timing and degree of universality of marriage, and that the fertility of married women regardless of place of residence differed relatively

FIGURE 2 Age-specific fertility patterns, by stratum: Seven Provinces Survey, 1976

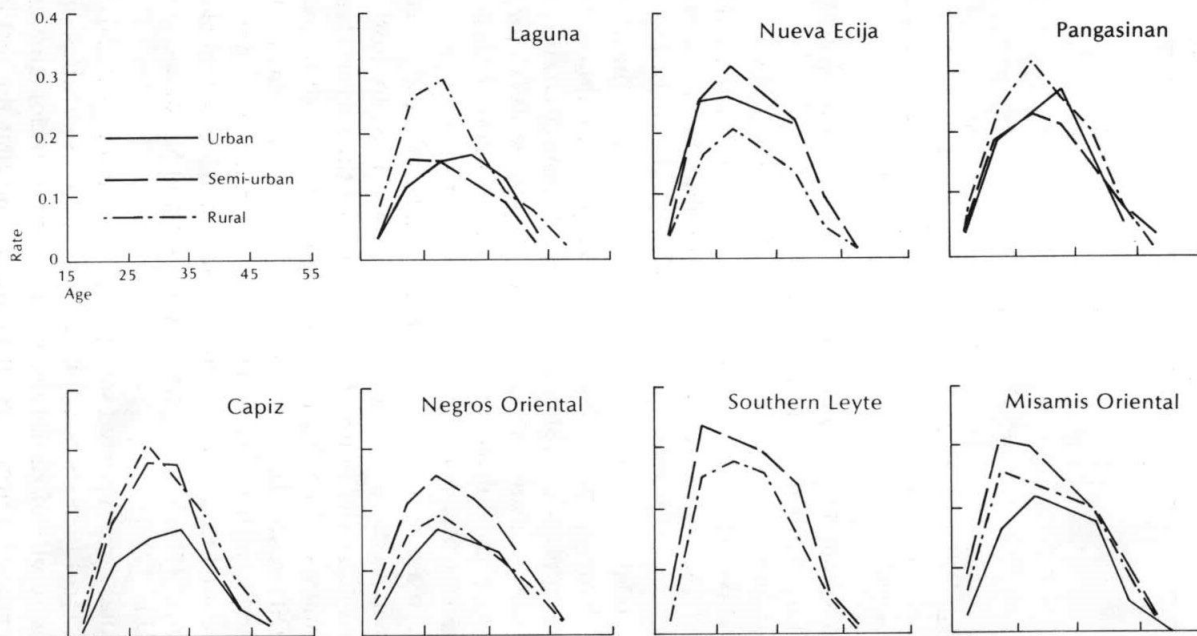


TABLE 12 Percentage of all 1975 births reported by women who were not married at the time of the survey, by province and stratum: Seven Provinces Survey, 1976

Province	All strata	Urban	Semi-urban	Rural
Laguna	4.2	7.5	3.3	4.3
Nueva Ecija	2.1	1.9	3.0	2.0
Pangasinan	2.0	2.0	2.5	2.1
Capiz	4.6	8.4	6.3	4.4
Negros Oriental	4.9	4.0	1.2	5.2
Southern Leyte	4.3	na	5.2	11.2
Misamis Oriental	3.4	4.2	3.5	3.3

na—not applicable. Southern Leyte contains no areas classified as urban.

little (Smith, 1975a:50; Flieger, 1975:108). That this situation still applied to Capiz and Negros Oriental in 1975 has been reported elsewhere (Vandeportaele and Flieger, 1976). According to Table 13, these provinces were no exception among the seven. Not only were stratum differences between total marital fertility rates significantly smaller than corresponding differences between fertility rates for all women in the seven provinces, but also in the case of Laguna the urban marital rate exceeded the rural one, and in Pangasinan married semi-urban women displayed highest fertility. These latter differences, no doubt, are indicative not of a desire on the part of rural women to have fewer children than urban ones but of the concentration of

TABLE 13 1975 marital total fertility rates for currently married women 15–49, by province and stratum: Seven Provinces Survey, 1976

Province	All strata	Urban	Semi-urban	Rural
Laguna	8.42	10.20	8.04	8.49
Nueva Ecija	10.16	9.03	9.67	10.19
Pangasinan	9.23	9.96	10.99	9.09
Capiz	10.79	9.98	9.21	10.99
Negros Oriental	10.13	8.92	9.04	10.30
Southern Leyte	10.36	na	9.41	10.42
Misamis Oriental	8.45	7.93	8.69	8.92

na—not applicable. Southern Leyte contains no areas classified as urban.

health and other services and the presence of better sanitation in larger population concentrations.

The fertility situation that existed in the seven survey provinces in 1975 can be summarized as follows:

1. Most of the seven provinces displayed crude birth rates somewhat lower than the average 1970–75 annual intercensal growth rate of the country would suggest. Apparent differences are spurious in part because of underreporting or misplacements of births during the 1976 survey. However, the differences may also be indicative of a slight fertility decline during the last three or four years.

2. Substantial fertility differences existed between provinces and the various strata within provinces.

3. Existing province and stratum differences were largely the result of variations in age and marital composition of the populations involved.

4. Semi-urban fertility patterns appeared somewhat unsettled but with a tendency to approximate urban ones.

5. The fertility of rural women was not uniformly higher than that of urban ones.

6. Married women, regardless of place of residence (stratum), differed relatively little in their fertility behavior.

In high-fertility countries that are attempting to curb their population growth, the most important question for population policy planners is not so much what the exact level of fertility is but what the general trend of the birth rate is. Experience in such Asian countries as Taiwan and South Korea has taught that the most important aspect of the endeavor to lower the birth rate is the ability to surpass the threshold of maximum fertility, a feat which, according to Hauser (1967:407), depends on certain economic and social prerequisites. Once these prerequisites have been met and permitted fertility to pass its zenith, the subsequent decline tends to gather momentum. In the initial phases of social and economic change, fertility decline may be minimal and difficult to measure, and consequently the significance of the decline may be overlooked.

Earlier studies of Philippine fertility trends have not been optimistic about an impending fertility decline. After a comparison of 1960 total fertility rates estimated by Smith (1971:164) with rates for the decade of the 1960s obtained from the 1968 NDS, Flieger (1975:107)



pointed out that probably a slight fertility decline had taken place for the country as a whole even though it was not in evidence in all of its geographic regions. On the basis of an examination of marital fertility, however, Flieger furthermore stated that

the basic reason for this [decline in the overall fertility level of the country] is not decreasing fertility of individual mothers but increasing age at marriage. Rates standardized for age and marriage indicate that marital fertility in the strict sense is on the upswing. There are fewer married women under 20 years of age today than there were a decade ago, but those who are married tend to have more children sooner than their predecessors (Flieger, 1975:122).

Recent provincial estimates of age-specific, marital age-specific, and total fertility rates for the years 1960 to 1968 prepared by Engracia et al. (1978) on the basis of unadjusted 1970 census data for own children yielded relatively stable total fertility trends for the women of the three Luzon study provinces and Capiz (Figure 1), and slightly declining trends for the remaining three of the seven provinces. Marital total fertility rates covering the same period display somewhat increasing trends for the first group of four provinces, and steady ones for the others. For Laguna, Nueva Ecija, Pangasinan, and Capiz, the census estimates agree basically with the NDS estimates of Flieger, whereas for the three southern provinces the census figures suggest a leveling of marital fertility, a trend that the 1968 NDS (which dealt with regional populations only) was not able to discover.

From pregnancy rosters of all women 15–54 years old in 1975, fertility estimates for the seven provinces similar to those of Engracia et al. are available for the years 1971 to 1975. Trends of total fertility rates for the period point uniformly downward for all seven provinces, as Table 14 shows (cf. also Figure 1). This general trend implied in the 1976 survey data is duplicated in rates obtained from pregnancy histories collected in a second survey of the seven provinces in 1977. (The second survey round used the same general sampling frame as the 1976 survey but a newly chosen set of households.)

Though fertility changes over a short period are difficult to measure and apparent variations in rates for successive years may be the result of sampling and other errors, a comparison of provincial fertility patterns for the years 1972 and 1974 (Figure 3) seems to indicate that no basic changes in these patterns occurred. Younger women (under 25) as well as older ones (35 and above) around 1974 appear to have followed the same paths as women who were of the same ages two years

TABLE 14 Two independent estimates of total fertility rates for 1971–75, by province: Seven Provinces Survey, 1976 and 1977

Province and date	Period <sup>a</sup>				
	1970–72	1971–73	1972–74	1973–75	1974–76
LAGUNA					
1976	5.5	5.3	4.9	4.8	
1977	5.3	4.5	4.3	3.9	4.0
NUEVA ECIJA					
1976	7.0	6.6	6.1	5.9	
1977	6.5	6.4	6.0	5.5	5.2
PANGASINAN					
1976	6.8	6.5	6.3	5.7	
1977	5.9	5.6	5.4	5.1	5.0
CAPIZ					
1976	6.6	6.4	5.8	5.8	
1977	7.5	6.9	6.4	6.0	6.0
NEGROS ORIENTAL					
1976	6.0	5.4	5.2	5.2	
1977	6.2	6.3	6.0	5.8	5.2
SOUTHERN LEYTE					
1976	7.3	7.0	6.6	6.5	
1977	6.7	6.9	6.5	6.2	5.6
MISAMIS ORIENTAL					
1976	6.7	6.6	6.2	5.8	
1977	6.5	6.4	6.1	5.7	5.4

a Rates are averages for the three-year periods indicated.

earlier. What may be happening is that women in their prime child-bearing years (25–34) are lowering their peak fertility somewhat. A longer observation period is needed to establish more definite patterns.

Retrospective age-specific and total fertility rates presented so far are largely dependent upon the proportions of women who were married. Most of the fertility decline in the Philippines that past surveys and censuses have been able to discover was traced back to an increase in the age at first marriage and a corresponding decrease in the proportions of younger women who were married. The 1968 NDS in particular had demonstrated that there was a tendency among present-day women to delay marriage, but that this delay was not accompanied by a curtailment of marital fertility, an observation which the own-children estimates of marital fertility rates by Engracia et al. confirm.

**FIGURE 3 1972 and 1974 age-specific fertility patterns: Seven Provinces Survey, 1976**  
 (Rates shown represent three-year averages)

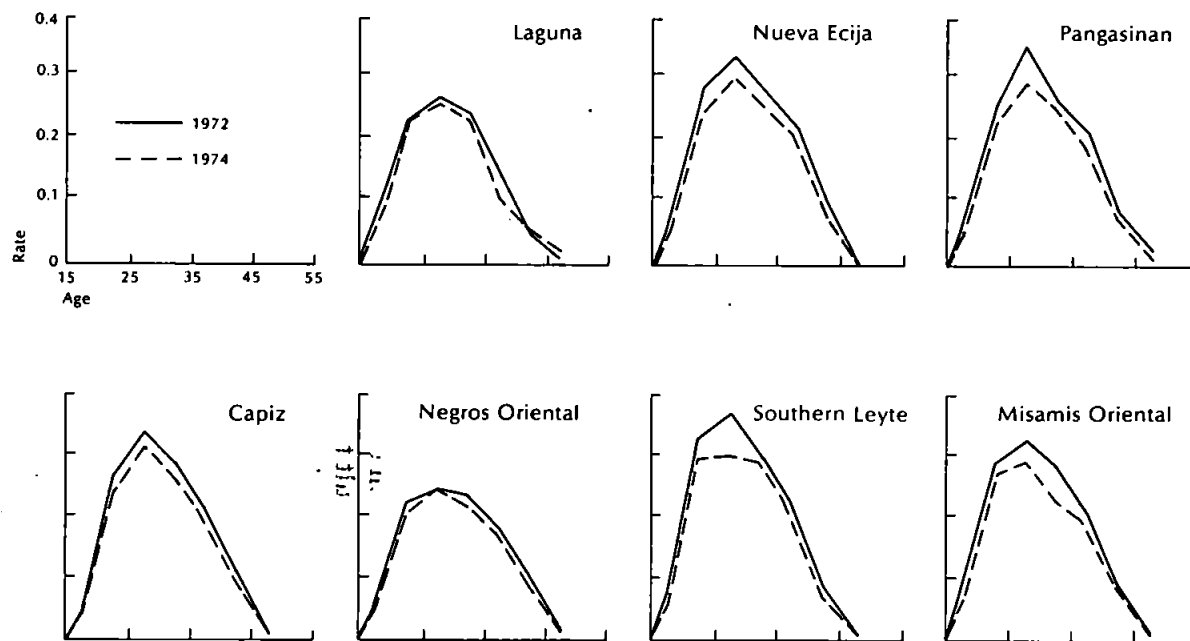


TABLE 15 Total marital fertility rates of currently married women for 1971–75, by province: Seven Provinces Survey, 1976

Province	Period <sup>a</sup>				
	1970–72	1971–73	1972–74	1973–75	1975
Laguna	9.8	7.9	8.6	7.6	8.4
Nueva Ecija	9.9	10.1	9.3	8.4	10.1
Pangasinan	9.4	9.6	9.4	8.7	9.2
Capiz	10.5	9.8	8.7	8.9	10.8
Negros Oriental	9.1	8.8	9.8	8.5	10.1
Southern Leyte	12.1	10.2	8.5	9.1	10.4
Misamis Oriental	10.0	9.5	9.9	8.3	8.5

a All rates shown except those for 1975 are averages for the three-year periods indicated.

In the Philippines, as in most other countries, marital fertility constitutes 95 or more percent of the total fertility. The question is whether the fertility decline that Philippine data indicate for the years 1971–75 was caused entirely by changes in marriage patterns or whether it was accentuated by changes in the fertility behavior of individual women. To answer the question, marital fertility has to be examined. Total marital fertility rates extracted from pregnancy rosters of currently married women are given in Table 15. The rates shown do not warrant the conclusion that marital fertility in the seven provinces during the first half of the 1970s was basically different from that of the country a decade earlier; they do not suggest that marital fertility in any of the seven provinces increased during recent years as it had done at least in parts of the country until 1970. Whether or not a minimal marital fertility decline is hidden behind the large annual fluctuations of the provincial rates is difficult to discern. The only province where such a decline may be indicated is Laguna. The safest statement that can be made on the basis of the data at hand is that marital fertility levels appear to have stabilized in recent years.

#### FERTILITY DETERMINANTS

The question “What have investments in population growth control activities bought so far?” is *the* question to which the government and funding agencies want and need an answer. The final answer to this question cannot be simply deduced from acceptor rates or indicators of contraceptive prevalence, which say nothing about use effectiveness. The crucial measurement that tells what population programs are

buying is the birth rate itself. The latter is the result of many interrelated factors—personal, demographic, and social. On the following pages an attempt is made to identify some of the demographic and social factors, and to sort out their individual contributions to the birth rates obtained from the data collected in the seven provinces in 1976.

### **Effects of age, marital composition, and contraception on the crude birth rate**

One of the most commonly used methods to assess the impact of demographic and social factors on the crude birth rate is standardization. In this report, simultaneous standardization by three factors is applied: age, marital composition, and current family planning use. In standardization, the results are relative to the standards applied and do not represent absolute measurements of the forces that the controlled factors exert. The method tells us which variables enhance or depress the crude birth rate and which of them are more effective than others. As far as contraceptive practice is concerned, the method indicates how effective family planning is in one population compared with another. The standards applied in this investigation are the average age composition, average marital composition (proportions of women currently married), and average contraceptive prevalence (proportions of currently married women currently using any family planning method) for all seven provincial populations combined (Table 16). The average crude birth rate for this conglomerate in 1975 was 34.78 per thousand population.

Table 17 shows, for every province and for each stratum of the province, the crude birth rate, its deviation from the standard rate, and the contributions to the deviation arising from differences in age structure, marital composition, and contraceptive prevalence between the population under investigation and the standard (combined) population. A plus sign (+) means that the factor had an enhancing effect on the crude birth rate, a minus sign (–) means it had a depressing one.

Table 17 identifies five of the seven provinces as having had higher than average fertility in 1975, either in their entirety (Nueva Ecija, Capiz, Negros Oriental) or in some of their strata (Laguna and Pangasinan). The two southernmost provinces (Southern Leyte and Misamis Oriental) were below the average in all of their strata, a finding that may have been caused in part by underestimation. In four of the five

TABLE 16 Standards used for simultaneous standardization by age, marital composition, and contraceptive prevalence: Seven Provinces Survey, 1976

Age group	Percentage of all women in age group	Percentage of women in age group currently married	Percentage of currently married women in age group currently using contraception
15-19	11.6	11.4	11.2
20-24	7.9	52.8	19.7
25-29	6.3	76.6	28.0
30-34	5.5	86.8	32.2
35-39	5.2	87.1	28.7
40-44	4.1	85.2	19.9
45-49	3.3	80.4	8.2
50-54	2.3	83.8	0.8
15-54	45.9	60.4	22.0

provinces with higher than average birth rates, high fertility existed in the rural sector, which, in all provinces, had the largest population. One province not fitting this pattern was Pangasinan, where the urban population displayed the highest crude birth rate. The only explanation that the data at hand offer for this deviation is the fertility-enhancing age structure of the urban Pangasinan population, which is similar to that of another "Central Luzon" population, Nueva Ecija. Both of these urban age structures contrast sharply with those in the provinces of Laguna, Capiz, Negros Oriental, and Misamis Oriental.

As far as the influences of age structure and marital composition on the crude birth rate are concerned, Table 17 displays understandable patterns. In-migration provinces (Laguna and Nueva Ecija) or in-migration strata (urban strata of Pangasinan, Capiz, and Misamis Oriental) have sizeable proportions of their women in the childbearing ages, in contrast to the out-migration province of Southern Leyte and to out-migration strata (rural strata of Pangasinan, Capiz, and Misamis Oriental). That Negros Oriental does not follow this general pattern may result from the earlier mentioned peculiar social structure of this province (sugar *haciendas* or ranches), which keeps young women at home and unmarried for a longer period than is customary in most other areas of the Philippines. The marital patterns emerging from Table 17 correspond to the general picture described in detail

TABLE 17 Crude birth rates and effects of selected factors on the rates, by province and stratum: Seven Provinces Survey, 1976

Province and stratum	Crude birth rate	Total difference from standard rate <sup>a</sup>	Difference caused by specified factor			
			Age structure	Marital composition	Contraceptive prevalence	Other factors
LAGUNA	33.17	-1.61	+3.10	+30	-41	-4.60
Urban	27.22	-7.56	+4.19	-8.37	+2.50	-5.88
Semi-urban	24.50	-10.28	+3.93	-6.71	+32	-7.82
Rural	35.72	+94	+1.65	+3.02	-46	-3.27
NUEVA ECIJA	39.21	+4.43	+1.48	+34	+57	+2.04
Urban	36.40	+1.62	+3.09	-1.41	-2.04	+1.98
Semi-urban	31.26	-3.52	+3.81	-7.22	+57	-.68
Rural	40.13	+5.35	+92	+1.27	+1.91	+1.25
PANGASINAN	33.79	-.99	-.05	+50	+3.17	-4.63
Urban	36.94	+2.16	+3.93	-6.28	+61	+3.90
Semi-urban	29.65	-5.13	+2.05	-8.57	+1.24	+1.15
Rural	34.09	-.78	-.78	+1.75	+86	-2.52
CAPIZ	35.56	+78	-2.61	-2.06	+1.04	+4.41
Urban	21.80	-12.98	+2.36	-13.63	+3.93	-5.64
Semi-urban	27.36	-7.42	-1.02	-4.53	-.78	-1.09
Rural	36.47	+1.69	-3.67	-1.14	+1.37	+5.13
NEGROS ORIENTAL	36.04	+1.26	+1.69	-2.46	-.54	+2.57
Urban	23.57	-11.21	+5.44	-10.01	-.82	-5.82
Semi-urban	25.16	-9.62	+1.84	-6.18	-1.04	-4.24
Rural	37.27	+2.49	+83	-1.45	-.61	+3.72
SOUTHERN LEYTE	32.78	-2.00	-9.75	+3.14	-.96	+5.57
Semi-urban	25.56	-8.22	-4.35	-6.74	-4.17	+7.04
Rural	33.43	-1.35	-11.94	+5.55	-.31	+5.35
MISAMIS ORIENTAL	30.47	-4.31	-4.93	+2.67	-1.08	-.97
Urban	26.03	-8.75	+3.04	-6.87	-.44	-4.48
Semi-urban	30.80	-3.98	-2.42	-1.48	-1.17	+1.09
Rural	31.16	-3.62	-6.44	+4.25	-2.72	+1.29

a Standard rate = 34.78. Standard = age structure, marital composition, and contraceptive prevalence; all seven provinces combined.

elsewhere (Smith, 1975a). Urban populations have the smallest proportions of married women, and rural ones the largest. For most populations shown in the table, the influence exerted on the crude birth rate by the age structure is counterbalanced by nuptiality behavior. In in-migration areas with their sizeable proportions of eligible women, marriage is less frequent than in rural areas with their relatively small proportions of young women. The fertility-depressing effect of the marital composition of populations with many young women far outweighs the fertility-enhancing potential implied in the age structures of these populations.

The effects of contraceptive prevalence on the crude birth rates shown in Table 17 have to be interpreted with some caution. In nine of the 20 stratum populations listed, contraceptive practice is characterized as a "fertility enhancing" factor. This is not to be understood in an *absolute* sense—that is, that contraceptive use actually increases fertility. The figures must be read in a *relative* sense; i.e., the effect of contraceptive use is measured relative to the average amount of contraceptive use in all seven provinces. A plus sign simply signifies that, for the particular population under consideration, contraceptive use is to a lesser extent associated with a downward movement of the birth rate than it is on the average in the seven provinces combined.

The surprising result of the figures shown is that in 1975 contraception was more effective in the Visayas (Capiz excepted) and Mindanao than in the Luzon provinces. Southern Leyte and Misamis Oriental stand out particularly. When we consider that the Visayas and Mindanao have, because of lack of economic development, a decidedly lower standard of living than areas in central and southern Luzon, the data point to an inverse relationship between development and contraceptive use. The two provinces in which contraceptive use was least effective are Pangasinan and Nueva Ecija, both of which have relatively well developed agricultural economies. With this specification, the findings support an earlier one deduced from the 1968 National Demographic Survey (NDS), namely, that

Socio-economic development in general did not show any clear relationship to fertility levels. Regions which preserved their agricultural base likewise preserved high fertility levels regardless of development (Central Luzon and Bicol). Only Greater Manila and Southern Luzon, which form the industrial center of the country, displayed slightly decreasing fertility trends, thereby pointing toward a relation between industrialization and fertility *but not necessarily between development in general and fertility* [emphasis added] (Flieger, 1975:123).



The present study suggests not only that the economic structures of Pangasinan and Nueva Ecija remained unchanged from 1968 to the time of the survey, they also seem to confirm the often repeated statement that fertility decline through family planning is difficult to attain as long as the basic socioeconomic situation is retained.

An obvious question that arises in this connection is: Why should contraceptive use have a greater effect on the birth rate in economically poor agricultural areas, like Negros, Leyte, or Misamis, than in more developed areas? It can hardly be assumed that the social structures in these provinces have changed recently. Is it poverty that makes people more inclined to accept remedial measures regardless of what they are? Are incentives that family planning agents may offer more enticing to the poor and less educated? The data from this study offer no obvious answers to these or similar questions, but such answers would not only be enlightening, they should be of strategic importance for family planning policies.

The amount of the total difference between crude and standard rates that contraceptive prevalence accounts for is difficult to assess because only seldom do all three forces controlled for in the standardization process used pull in the same direction. When we take two of the three populations in which this is the case, we find that the higher fertility of Nueva Ecija was to only 13 percent accounted for by a relative absence of contraceptive use, whereas in semi-urban Capiz with its low-fertility population, above-average contraceptive practice accounted for 10.5 percent of the difference by which the stratum rate was below the standard rate. In most instances, age structure and marital composition were more important factors for depressing fertility than was contraceptive prevalence. In the eight stratum populations in which contraceptive effectiveness was above average and marital composition had a negative effect on the crude rate, the influence of marital composition was between 1.3 (semi-urban Misamis) to 15.6 times (urban Misamis) stronger than the effect exerted by contraceptive practice. The only exception was in urban Nueva Ecija, where the effect of contraceptive use outweighed that of marital composition.

Marital composition depressed fertility in the urban and semi-urban strata of all seven provinces as well as in the rural strata of Capiz and Negros Oriental. Although the behavior that underlies fertility-unfavorable marital composition is postponement of marriage and childbirth, the main reasons for such postponements are probably different in the

urban populations, where they are likely to be prolonged education and nonagricultural job opportunities, than in the rural populations of Capiz and Negros, where they appear to be the need to stay at home and help the families on the sugar *haciendas*.

The measurements considered so far are relative ones and have to be assessed in the light of the standards used. The absolute effect of contraceptive practice on the crude birth rate can be estimated through the calculation of a hypothetical birth rate that would have occurred if none of the women had used any family planning method. In the absence of exact knowledge as to the number of births that women would have had without contraception, we can assume that the age-specific rates of the contraceptive users would have been identical to those of the nonusers. In reality, this assumption may not be entirely correct. Moore (1963:101) has pointed out that "at the very earliest stage of family limitation, the women practicing contraception are likely to have higher fertility than the general average." If this hypothesis holds, the equating of age-specific fertility of family planning users to that of nonusers may somewhat underestimate the true effect of contraceptive use on the crude birth rate. On the other hand, it may not be correct to assume that decreased fertility of contraceptive users is only and exclusively the result of family planning; social, economic, psychological, physiological, and situational factors may play important mitigating roles. However, in view of the still extremely high fertility levels in the seven provinces regardless of the absence or presence of contraception (total marital fertility rates of 8.5 for current users and of 10.0 for nonusers), biases in either direction, which may be present in the data, are probably rather small.

Table 18 compares actual crude birth rates for the study provinces with those that would have occurred under the assumption stated. Without contraception, the average rate for the combined provincial populations would have been 7.3 percent higher than it was in actuality. When individual provinces are examined, Table 18 shows that contraception was effective in all seven provinces, but to different degrees: its influence was least marked in Central Luzon, and most pronounced in the Southern Visayas and Mindanao. When the hypothetical rates are applied to the 1975 provincial mid-year populations (Table 2) and the resulting births compared with the actual births estimated by the survey, the calculation yields a total of 13,660 "prevented" births in all seven provinces for calendar year 1975.

TABLE 18 Actual crude birth rates, birth rates that would have occurred if current contraceptive users had the same age-specific fertility as nonusers, and differences between rates, by province: Seven Provinces Survey, 1976 (per thousand population)

Province	Crude birth rate		Difference between rates (percent)
	Actual	If all women had nonuser fertility	
Laguna	33.17	35.69	-7.6
Nueva Ecija	39.21	41.58	-6.0
Pangasinan	33.39	35.91	-6.3
Capiz	35.56	37.89	-6.6
Negros Oriental	36.04	38.96	-8.0
Southern Leyte	32.78	36.62	-11.7
Misamis Oriental	30.47	33.56	-10.1
All provinces	34.78	37.32	-7.3

Despite the crudeness of the measurements used, the data definitely document that by 1975 family planning in the seven provinces had begun to take effect. How much time was needed and how many investments were made to bring about this effect cannot be determined within the scope of this study. Succeeding surveys will have to show whether the family planning effect on the crude birth rate increases and, if so, at what speed.

The national family planning program aims at a net reproduction rate of unity (that is, one surviving daughter per woman) by the year 2000. When the approximate net reproduction rate of 2.6 girls per woman (regardless of marital status) extant in the seven provinces combined in 1975 is compared with this target, the task ahead means that the average woman will have to curtail her number of live births by some 70 percent within the next 20 years. It has been estimated (PREPF 1977:7) that, to make this possible, 45 percent of all married women of reproductive age will have to practice contraception by 1985, and 70 percent by the year 2000. If "reproductive age" is defined as ages 15-44, the average contraceptive prevalence rate of the seven provinces stood at 25 per 100 women, ranging from a low of 19 in Capiz to a high of almost 34 in Southern Leyte (Table 19).

Table 19 demonstrates not only why family planning effects were

TABLE 19 Contraceptive prevalence rates of currently married women 15–44, by province and stratum: Seven Provinces Survey, 1976 (rates per 100 women)

Province	All strata	Urban	Semi-urban	Rural
Laguna	30.0	37.6	34.3	28.6
Nueva Ecija	22.0	34.1	24.5	21.0
Pangasinan	20.3	33.3	31.5	18.8
Capiz	18.7	47.4	31.8	16.6
Negros Oriental	32.4	50.7	53.2	29.8
Southern Leyte	33.5	na	41.9	32.2
Misamis Oriental	30.4	35.0	32.5	29.8
All provinces	25.3	37.6	34.6	23.7

na—not applicable.

relatively small in Nueva Ecija, Pangasinan, and Capiz (because of the low prevalence rates in the dominant rural population segments), but also what population agencies will have to accomplish if they wish to reach the target for 1985: The proportions of contraceptive users in rural Pangasinan and Capiz will have to be tripled, and in all other provinces, approximately doubled.

### **Nondemographic determinants of fertility**

Although the demographic variables discussed in the preceding section, taken together, account for a sizable amount of variation in the observed 1975 fertility rates, they leave much unexplained (cf. last column of Table 17). In addition, they do not answer the question of how the particular demographic constellations existing in the investigated populations came about—why marriages were more frequent and entered into at earlier ages in some populations than in others; why women of one area desired or had borne more children than those in other places; of why some women were more likely than others to accept modern contraceptive methods. The usually cited answer is that regional and urban-rural differences in culture, life style, and prevailing social and economic conditions, among others, are at the root of these variations. A number of Philippine studies, using earlier data and covering either the entire country or geographical regions, have provided some clues as to these “whys.” Smith (1975a, 1975b, 1975c) has listed various factors that have influenced marriage perception and

marriage practices, among them ethnic background, characteristics of a woman's family of origin, her education and labor force participation, and type of residence. Pascual (1971), Pullum (1975a), and Concepción et al. (1975) have delineated fertility differentials for ever married and currently married women using similar cultural and socioeconomic variables.

Encarnación (1975:191) has investigated the relationship between fertility and family living standards and advanced the hypothesis that below-subsistence income, which causes poor health and nutritional deficiencies, tends to suppress fertility, that "rising income from very low levels results in higher birth rates," and that fertility decline can be expected only after a sufficient proportion of the population is receiving incomes that exceed a particular "threshold level." Family planning practices were found to be related to such factors as a woman's education, her husband's occupation, family income, and the degree of modernization of the area of residence (Pullum, 1975b). All of the studies quoted used data obtained through the 1968 National Demographic Survey (NDS). Between the 1968 NDS and the time the Seven Provinces Survey was conducted, seven years had elapsed, and an obvious question was: How does the 1975 situation in the study provinces compare with the 1968 national situation? No explicit comparison between the two surveys will be attempted in this paper; however, clues provided by the 1968 NDS will be followed.

The basic tool used in the following investigation is Multiple Classification Analysis (MCA), a type of analysis of variance that calculates, for one or more independent variables, the deviations of subgroup means from the grand mean and the amount of variation in the dependent variables that the independent variables explain. This kind of procedure, which permits the use of nominal scale variables as explanatory factors, is particularly appropriate because most of the non-demographic information obtained through the Seven Provinces Survey and used to explain variations in demographic characteristics is of this type. Furthermore, MCA permits the use of a series of nonmetric variables that are interrelated with each other, a case which more often than not holds when the variables involved are of the socioeconomic variety.<sup>1</sup> The Statistical Package of the Social Sciences (SPSS) version of MCA indicates the degree of such relationships and

1 MCA analysis, while it allows nonmetric variables to be interrelated, assumes that these variables do not interact in respect of the dependent variable.

calculates the "net effect of each variable when the differences in the other factors are controlled for" (SPSS:409).

The results yielded by the following MCA are not directly comparable to those obtained through direct multiple standardization presented in the previous section. The crude birth rate is a fertility measure of a community, whereas children ever born (CEB), used in this section, is a fertility measure of individual women. Furthermore, the effects of the demographic variables that explain part of the fertility variations between stratum and province populations have not been removed from the data subjected to MCA. In the latter procedure, nuptiality is taken into account as a control variable (covariate), though somewhat differently defined as before, and its effect is assessed once again.

The 1976 round of the Seven Provinces Survey estimated a total of 1,183,461 women 15–54 years old for all study areas combined. Of these, 707,890, or 59.8 percent, were currently married and included in the following analysis. (These estimates differ slightly from those used in the standardization procedure, which was based only on women with complete pregnancy records.) The variable used for measuring fertility differences among the women is total number of children ever born alive (CEB). No distinction was made as to whether the live births had occurred to the currently married women within, or outside of, marriage. For the combined provincial samples, the mean number of CEB per woman stood at 4.49. Because the number of births to a woman depends on her age and length of marriage, these two variables were built into the analysis as controls (covariates).

The choice of explanatory variables utilized in this study was dictated by clues provided by earlier studies and by the type of information collected. In all, four such variables were formulated: province, life style, female status, and family planning behavior. Each one of these four represents an entire array of factors. For example, the variable "province" denotes more than geographical differences. On the basis of the extensive analysis of the 1968 NDS, Flieger (1975) has identified the Bicol and Northern Mindanao regions as "high fertility" areas, Central Luzon and the Visayas as "medium fertility," and the Ilocos region and the Manila Metropolitan Area and neighboring provinces as "low fertility" areas. Smith (1975a, 1975b, 1975c) has traced these geographical variations to ethnic, social, and economic characteristics specific to each region. Unadjusted provincial

TABLE 20 Unadjusted and adjusted province deviations from the sample grand mean of children ever born: Seven Provinces Survey, 1976

Province	Percentage of combined sample population	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents & covariates
Laguna	17.6	-0.35	-0.31	-0.17
Nueva Ecija	22.0	-0.07	0.05	0.08
Pangasinan	27.9	0.00	0.05	0.00
Capiz	5.1	0.23	0.26	0.05
Negros Oriental	13.7	0.13	-0.13	-0.10
Southern Leyte	4.8	0.17	-0.04	-0.03
Misamis Oriental	8.9	0.46	0.38	0.29
Eta & beta		0.08	0.07	0.05

NOTE: Sample grand mean = 4.49. Independents = life style, female status, family planning behavior. Covariates = age at first marriage, marriage duration.

deviations from the grand mean of CEB for the seven study areas follow the 1968 patterns: The estimated mean is lowest for Laguna, a province bordering Metro Manila, highest for Misamis Oriental in northern Mindanao, and the means for the Central Luzon and Visayan provinces fall in between. When provincial differences in the socioeconomic and demographic characteristics listed above are adjusted, the same pattern prevails; only the relative position within the latter group of provinces changes slightly (Table 20). These changes are in line with the 1968 finding that the women in the agricultural heartland of the Philippines had relatively high, and in the Visayan provinces, probably because of less favorable socioeconomic conditions, somewhat lower fertility.

Stratum variations in fertility were substantive, as shown in the previous section. When stratum is introduced as explanatory variable into the MCA procedure, the expected deviations from the sample grand mean of CEB emerge (Table 21). However, the pattern changes when stratum means adjusted for socioeconomic characteristics are compared; the latter affect urban and rural women in opposite ways, and semi-urban women appear as the most fertile. The fertility of the last group of women is the net result of two sets of factors. It is depressed by such modernizing forces as education and nonagricultural

TABLE 21 Unadjusted and adjusted stratum deviations from the sample grand mean of children ever born: Seven Provinces Survey, 1976

Stratum	Percentage of combined sample population	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents & covariates
Urban	4.4	-0.45	-0.11	-0.16
Semi-urban	13.0	-0.16	0.11	-0.08
Rural	82.6	0.05	-0.01	0.02
Eta & beta		0.04	0.02	0.01

NOTE: Sample grand mean = 4.49. Independents = province, life style, female status, family planning behavior. Covariates = age at first marriage, marriage duration.

labor force participation (which tend to delay marriage and childbirth), and enhanced by the still traditional (rural) outlook toward childbearing and probably also improved health and related conditions that tend to accompany urbanization.

A shortcoming of the stratum variable as defined in this study, which is accentuated even more when reduced to the customary urban-rural dichotomy, is that its components are difficult to disentangle. "Urban" women were distinguished from "rural" ones on the basis of the area in which they resided and not according to the characteristics summarized by Wirth (1938) under the term "urbanism." A good portion of urban Philippine women live in farm households and hardly differ from rural women except that they are geographically closer to specialized services that are concentrated in larger settlements. Therefore, a new variable, "life style," was created, which incorporates up to four dimensions: (1) urban/rural residence, (2) occupation of household head, (3) education of household head, and (4) socioeconomic household status. The first of these is identical with the stratum variable as originally defined for this study. The second variable, occupation of household head, which tends to be highly correlated with his or her education and largely determines the "living standard" of a household, distinguishes between fishing, farming, blue-collar, and white-collar occupations. The education variable is divided into four categories: no education, elementary education only, high school, and more than high school education. Socioeconomic household status (SES), finally, is determined by the presence or absence of



FIGURE 4 Life style classifications: Seven Provinces Survey, 1976

Stratum	Occupation of household head	Education of household head	Household SES	Life style category
All strata	Fishing			1
	Farming	None		2
		Elementary or more	Low	3
			High	4
		High school or more		5
Semi-urban and rural	Blue collar	None or elementary		6
		High school or more		7
Urban and semi-urban	White collar			8

such modern facilities as electricity, private water supply, and solid construction materials of dwelling unit. Households having none of these facilities are classified as having low SES, those with one or more as high SES households. Using either all or some of these dimensions (depending on their degree of redundancy), we defined an eight-point classification of "life style" (Figure 4).

The majority of women sampled, with the exception of those in Laguna, lived in farm households; and these, in turn (with Central Luzon women forming the exception) belonged to low socioeconomic statuses. Table 22, which presents unadjusted and adjusted deviations of life style group means from the CEB grand mean, describes the effect of life style, via nuptiality, on fertility. Women living in low SES farm and fishing households (categories 1 and 2) displayed highest fertility regardless of socioeconomic characteristics because of their fertility-enhancing nuptiality behavior. Urban and semi-urban women (category 8) with husbands in white-collar occupations would have had more children owing to better socioeconomic conditions were it not for their fertility-depressing nuptiality pattern. Urban life style coupled with education (of the household head) tended to lower fertility despite adherence to traditional nuptiality norms (category 7). In general, education appears as a more potent fertility-depressing factor than urban residence or nonfarm occupation of head of household, as can be seen from a comparison of life style categories 5 and 6. The

TABLE 22 Unadjusted and adjusted life style group deviations from the sample grand mean of children ever born and relative fertility ranks of life style groups: Seven Provinces Survey, 1976

Life style category	Un-adjusted deviation	Fertility rank	Deviation adjusted for independents	Fertility rank	Deviation adjusted for independents and covariates	Fertility rank
1	0.49	2	0.39	2	0.07	2
2	0.93	1	0.57	1	0.07	2
3	0.15	3	0.09	3	0.03	1
4	0.05	5	-0.12	7	-0.07	6
5	-0.06	6	0.04	4	0.06	4
6	0.09	4	0.02	5	0.05	5
7	-0.57	7	-0.26	8	-0.12	7
8	-0.59	8	-0.10	6	-0.31	8
Eta & beta	0.13		0.08		0.05	

NOTE: See text for definition of life style categories. Sample grand mean = 4.49. Independents = province, female status, family planning behavior. Covariates = age at first marriage, marriage duration.

potentially highest fertility group was the low SES farm population (category 3). If we assume that elementary education of household head raises household SES somewhat above the mere subsistence level, i.e., that families belonging to category 3 were better off than those in category 2, the figures in Table 22 can be interpreted as being in accordance with Encarnación's (1975, 1977) "threshold hypothesis."

1968 NDS data had indicated that women's education affects their fertility performance, as does female labor force participation, though to a lesser degree (Concepción et al., 1975; Pullum, 1975a). Data for the seven provinces show the same, though the pattern for work status of women is not a clear one, a finding presumably related to the definition of this variable. The Seven Provinces Survey classified women with respect to their ever or never having worked outside the household during the past five years. If only younger women and most recent fertility were considered, a clearer picture would probably emerge. Because nonagricultural and nondomestic female labor force participation can be presumed to be a function of a woman's education, and domestic labor force participation is likely for women in low SES households,

all three of these dimensions have been combined to form the variable "female status" (Figure 5). The definition of household SES applied is identical to the definition used for the life style classification.

The proportion of currently married women with outside work experience during the five years preceding the survey was relatively high in Laguna and the Visayan province of Capiz (about 40 percent), and low in Nueva Ecija, Southern Leyte, and Misamis Oriental (about 15 percent). The reason for these differentials is the variation in the respective economic structures of the provinces. In Capiz and Negros, approximately one-half of all working women had been engaged in agricultural jobs. Both of these provinces have extensive sugar *haciendas*, which often employ all members of the family capable of working. By contrast, about 40 percent of the Laguna women had held jobs related to manufacturing. In Southern Leyte, economically probably the poorest of the seven provinces, one-third of all working women had held domestic jobs. In educational attainment, Visayan women ranked lowest. Combined, only 18 percent of all currently married women had received a high-school education or more; in the Luzon provinces, the proportion was 8 percentage points higher. Surprising is the high proportion of high school-educated women in Misamis Oriental, which was on a par with that found in Laguna: 29 percent.

Table 23, which shows the deviations of group means of total number of live births for women belonging to the various female status categories from the sample grand mean, reveals expected patterns. The difference in CEB between uneducated women without labor force

FIGURE 5 Female status classifications: Seven Provinces Survey, 1976

Labor force participation of woman during past five years	Education of woman	Household SES	Female status category
None	None		1
	Elementary only	Low	2
		High	3
	High school or more		4
At some time or current	None or elementary		5
	High school or more		6

TABLE 23 Unadjusted and adjusted female status group deviations from the sample grand mean of children ever born: Seven Provinces Survey, 1976

Female status category	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents and covariates
1	1.60	1.35	0.30
2	0.11	-0.01	0.12
3	0.30	0.28	0.14
4	-0.90	-0.78	-0.20
5	0.37	0.30	-0.10
6	-1.23	-0.90	-0.44
Eta & beta	0.22	0.19	0.07

NOTE: See text for definition of female status categories. Sample grand mean = 4.49. Independents = province, life style, family planning behavior. Covariates = age at first marriage, marriage duration.

participation and women with high school education and labor force participation amounted to almost 3 children: The first had an average of a little over six live births, the latter only a little over three. The second lowest fertility group was that of nonworking women with high education, a finding that suggests again that education was a far more effective fertility-depressing factor than labor force participation. The role of nuptiality behavior becomes clear, as in the case of life style, when group means adjusted for socioeconomic variables only and socioeconomic and nuptiality factors together are compared. Both lack of education and nonparticipation in the labor force tend to support the traditional marriage pattern and high fertility.

The relatively small general effect of current contraceptive practice on most of the provincial and stratum crude birth rates, on account of the relatively low prevalence rates, has been documented earlier. A quite different question in this connection is: What did contraception do for individual women who had used it or were using it? Had it reduced their family sizes? Was it more than a stopgap measure for women who had already exceeded average total fertility? Was it used as a means to reduce total fertility or as a device for spacing births more evenly throughout the reproductive period without affecting the total desired number of children? Acceptance and rejection of family planning depends on a variety of factors. Without going into such

factors at this time, it can be postulated that populations go through several stages with respect to interest in, and practice of, modern contraceptive technology (Moore, 1963: 10). The term "modern" is used advisedly because knowledge and use of traditional contraceptive methods has to be assumed on account of the existing differences between natural and actual fertility levels in the Philippines, which Pullum (1975b) has documented.

The stages of family planning interest and contraceptive use can be conceptualized as follows: Initially, people know nothing about modern contraception because information has not reached them. In view of the massive informational campaigns and various outreach programs of POPCOM and individual family planning agencies, such a situation exists in the Philippines probably only in remote, poor, and relatively inaccessible areas with limited communication facilities. A large portion of Filipino women, especially those in cities and towns, who claim not to have been exposed to family planning information, most likely are just not interested. It is this group that has to be considered the "hard-core" resisters. Then there are those who admit to exposure to family planning information without ever having made use of it. Some of them may have to be added to the hard-core opponents, while others, particularly those who sought family planning information because of some personal interest, can be assumed to be less negatively disposed toward contraception. The segment of women who have ever used contraception can be divided into (1) those who have given up practice for a variety of reasons, such as social pressure (including objections from husbands), conflict of conscience, or the experience or fear of side effects, and (2) current users. The latter group is composed of both women who began using contraception late in life after having reached an average or above-average family size in line with traditional cultural norms, and others who started using it at a more or less early stage of their childbearing careers. Obviously, the size of the group of early starters is one of the prime indications of the success of a family planning program.

The data at hand permit us to delineate only in a somewhat crude fashion groups of women representing the various family planning behavior stages. Exactness is impaired because family planning campaigns and availability of modern contraceptives are of relatively recent date and older women had little opportunity to be exposed and affected. This time gradient, which is built into the data, swells the proportion

of women who started family planning late, although this lateness is not necessarily an indication that all of the late starters considered contraception as a stopgap measure only after they had complied with traditional fertility norms. A restriction of the analysis to younger women, however, would severely curtail the data base and restrict the reliability of the sample estimates. A second limitation arises from the lack of information about (1) whether women had sought family planning information because of personal interest or because they happened to be exposed to it; (2) social, psychological, and situational factors that motivated women to translate the information they had obtained into practice or inhibited them from doing so; and (3) the intended use of contraception for spacing purposes only. Utilizing the information available, we defined eight categories of family planning behavior (Figure 6).

Provincial differences in family planning behavior were considerable.

FIGURE 6 Family planning behavior classifications: Seven Provinces Survey, 1976

Contra- ceptive use	Expo- sure to family planning infor- mation	Willing- ness even- tually to try contra- ception	Time contra- ception was started	Reasons for giving up contra- ception	Family planning behavior category
Never	No				1
	Yes	No			2
		Yes			3
At some time, but given up				No longer needed	4
				All other reasons	5
Currently			After sixth child		6
			Between third and sixth child		7
			Before third child		8

Laguna, the family planning "test province" of the country, contained the smallest proportion who claimed never to have received any information about contraceptives. At the other end of the spectrum were the agricultural Luzon provinces. Willingness among nonusers ever to try family planning was extremely low in Southern Leyte and Misamis Oriental. The striking difference in attitudes toward contraception between this pair of provinces and the five others may have been factual, or it may, on the other hand, merely suggest an absence of "courtesy responses" in the southernmost provinces caused by more extensive probing during the interviewing process. Positive attitudes among never-users were more in evidence in the Western and Central Visayan provinces than in Luzon, probably because family planning was more of a novelty for Visayan women. Previous users who had stopped practicing for good were most numerous in Laguna with its "experienced" population.

The extent to which rural (*barrio*) women trailed behind their urban counterparts in knowledge of family planning, contraceptive practice, and early practice becomes apparent from Table 24. One-third of the former, compared with a little more than one-fifth of the latter, had never received any explanation, with an additional 12 percent showing resistance to ever getting involved. What shows up clearly is the urban-rural gradient in early current practice: 29 percent of the city women had started practicing family planning before the birth of their sixth child, in contrast to only 18 percent of the rural ones.

TABLE 24 Currently married women 15–44, by family planning behavior and stratum: Seven Provinces Survey, 1976 (weighted percentage of women)

Family planning behavior category <sup>a</sup>	Urban	Semi-urban	Rural	All strata
1	22.3	23.4	32.8	31.4
2	10.2	12.0	12.0	11.9
3	13.6	12.9	16.4	15.9
4	2.4	2.2	0.9	1.1
5	14.5	15.7	14.5	14.6
6	8.3	8.8	6.6	6.9
7	15.4	13.2	9.1	9.8
8	13.3	11.8	7.8	8.4
All categories	100.0	100.0	100.0	100.0

a See Figure 6 for definition of family planning behavior categories.

TABLE 25 Unadjusted and adjusted family planning behavior group deviations from the sample grand mean of children ever born: Seven Provinces Survey, 1976

Family planning behavior group	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents and covariates
1	-0.21	-0.37	-0.38
2 and 3	-0.05	-0.09	0.06
5	0.22	0.29	0.27
6	3.10	3.11	1.33
7	-0.16	-0.01	-0.01
8	-2.06	-1.67	-0.51
Eta & beta	0.38	0.37	0.17

NOTE: Sample grand mean = 4.49. Independents = province, life style, female status. Covariates = age at first marriage, marriage duration. Never-users unwilling and willing eventually to try contraception were combined. Women who gave up contraception because it was no longer needed were excluded.

Table 25 describes the effects of family planning behavior on fertility. The unadjusted deviations in the total number of live births from the sample grand mean display extreme variations, showing that women who had adopted contraception after their sixth child had an average of 7.5 children—that is, five children more than women who had started practice before the arrival of their third child. This interpretation is somewhat misleading, however. The figures are distorted because of both the way in which family planning behavior groups have been delineated, and the unequal chances of using modern contraceptives that older and younger women had. The women who started practicing after their sixth child formed, by definition, a high-fertility group that contained a disproportionately large number of “old” women (74 percent being 35 years or older). The group of earliest contraceptors, i.e., the women who had started practicing before their third child, was dominated by women below 30 years of age (64 percent). The mean deviations adjusted for nuptiality give a more realistic assessment of family planning influences on fertility, though even here the completed family size built into the group of late users results in a bias. If this group is disregarded, subgroup mean deviations (adjusted for independents and covariates) from the grand mean are relatively small. There was little difference in cumulative



fertility between uninformed never-users (category 1) and early starters (category 8), both of whom displayed the lowest fertility among all the subgroups, though for opposing reasons. Most early starters (62 percent) were living in low SES households.

Low SES exercises a double effect on fertility: Because it is usually accompanied by poor health and related conditions, it tends to keep the natural fertility level low, but actual fertility close to the natural level. The first of these tendencies explains the relatively low fertility of the uninformed never-users, and the second, the movement of the adjusted deviations which identifies SES and nuptiality as fertility-enhancing factors. Most of the early starters were residing in high SES households (70 percent), and for them SES and nuptiality (late marriage) kept actual fertility low. Relatively high fertility, regardless of SES and marriage behavior, was displayed by women who had given up family planning practice. Women belonging to this category were not overrepresented in any particular age or status group but were evenly distributed throughout the sample universe.

Elsewhere (Vandeportaele and Flieger, 1976:274) it has been suggested that Philippine women, like others, who were using or previously had used family planning were characterized by higher cumulative fertility than women who had never practiced contraception. This seems to hold true for the seven-province women: The average number of children ever born for never-users was 4.30, that for stoppers 4.75. A disconcerting implication of this for family planners is that high-fertility women most in need of birth control appear to be the most likely to discontinue practicing it.

The analysis so far has attempted to trace separately the influence on fertility behavior of four sets of factors, which we have summarized under the variable names of province, life style, female status, and family planning behavior. The four variables are temporally as well as causally interrelated: A woman is born into a particular culture (province) and family, both of which exert a *strong influence* on the sort of family of procreation (life style) she can found and the social status (female status) she can attain. The last, in turn, is highly deterministic of her fertility attitude and behavior (family planning behavior). The combined net effect of all these variables on the fertility behavior of the women of the study provinces as well as the relative influence of each individual variable within the causal chain are indicated in the summary table of results of the MCA analysis to which the data have been subjected (Table 26).

TABLE 26 MCA summary table of effects of SES and family planning behavior on number of children ever born: Seven Provinces Survey, 1976

Source of variation	Percentage of variance explained <sup>a</sup>		Significance level of <i>F</i> <sup>b</sup>
	Gross	Net	
INDEPENDENT VARIABLES			
Main effects	19.3		<.001
Province	0.5	0.4	<.001
Life style	0.4	0.3	<.001
Female status	2.7	2.4	<.001
Family planning behavior	13.3	13.5	<.001
COVARIATES			
Main effects	45.5		<.001
Age at first marriage	0.1		<.001
Marriage duration	42.6		<.001
TWO-WAY INTERACTIONS			
Main effects	1.8		<.001
Province—life style	0.3		0.048
Province—female status	0.2		0.206
Province—family planning behavior	0.1		0.703
Life style—female status	0.2		0.163
Life style—family planning behavior	0.3		0.004
Female status—family planning behavior	0.3		<.001
Total variance explained ( <i>r</i> <sup>2</sup> )	66.6		<.001

a SS (CEB), based on 582,615 weighted cases

b Based on 9,012 unweighted cases.

The effects of the variables are measured by the proportions of the total variance in CEB (Total SS) for which they account. Independent and control variables combined explain 66 percent of the entire variation. Two-thirds of this is the result of marriage duration, a finding that is hardly surprising. The combined net effect of the four independent variables accounts for 19.3 percent of the total variation in CEB. The relative importance of each of the four variables is given in two forms, their *gross* and their *net* effects. The gross effect is the total variation that one variable explains by itself, disregarding all the

others; the net effect is the amount of variation explained while the others are controlled. A comparison between the two types of effects shows little difference between them, indicating that the four variables are relatively independent of each other. That some amount of correlation exists is indicated, first, by the difference between the combined net effect of the four variables (19.3) and the sum of their individual gross effects (16.9), and, secondly, by significant two-way interactions between family planning behavior and life style as well as female status. The MCA result of no significant interaction between province and life style, female status, and family planning behavior does not contradict the earlier observation that provinces differ significantly in their compositional characteristics with respect to those variables; the MCA result implies that women within the same life style, status, or family planning categories behave alike regardless of province of residence.

If we assume the correctness of the temporal ordering of the effects as outlined above which the four variables have on fertility behavior, the combined influence of culture (province) and life style appears to be small. This is not to say that these influences were insignificant, but rather that they were relatively similar throughout the survey areas and that, regardless of the initial cultural conditions into which a woman was placed, status level achieved through education was the more important fertility determinant. Family planning behavior emerges as the single most important explanatory variable among the four. This finding implies (1) that contraceptive use was an effective device to keep fertility low for those who had accepted it, (2) that it was used for more than just spacing of births, and (3) that resistance to modern contraceptive practice, accompanied by continued high fertility, was still extremely strong.

#### CHARACTERISTICS OF CONTRACEPTIVE USERS AND NONUSERS

The results of the previous section on demographic and nondemographic determinants of fertility can be summarized by the statement that, up to 1975, contraception in the seven provinces had caused but a small dent in the continually high though slightly declining levels of fertility; that contraceptives had proven to be an effective tool for lowering fertility for women who used them, but that a majority of women so far had shown little inclination to accept these tools. Of all

presently married women 15–44 years old in the seven provinces, only one-fourth were current users. Several questions arise in this connection: (1) What type of woman was most favorably disposed toward contraceptive practice? (2) What had caused the resistance to contraception among the majority of women? and (3) How do women who use contraception go about it? An answer to the first of these questions will be sought by considering the explanatory power of cultural and economic background variables defined in the previous section and factors related to child mortality. Verbalized reasons for nonuse by the sampled women will be scrutinized for clues to the second question.

### **Social and demographic characteristics of current users**

Among the socioeconomic factors identified in this study as explaining differentials in actual fertility performance, family planning behavior emerged as the most important. If we accept the hypothesis that the family planning behavior categories outlined earlier represent successive attitudinal and behavioral family planning stages through which populations move, they can be considered as forming a scale, or continuous variable, ranging from definite rejection of family planning to practice early in reproductive life, viz.:

Family planning behavior	Scale score
Contraception never explained and never used	1
Contraception explained but never used	2
Contraception given up for reasons other than menopause	3
Current contraceptive user; started after sixth child	4
Current contraceptive user; started between third and sixth child	5
Current contraceptive user; started before third child	6

The mean score for the entire sample population was 2.67. Though this figure is admittedly an artificial one, it indicates that, on the average, women of childbearing ages stood somewhere between nonaccep-

tance and reluctant acceptance of family planning. To identify the cultural, social, and economic characteristics that distinguish women on the family planning behavior scale, we applied MCA analysis once again. On the basis of available data and our findings that (1) fertility differed according to women's socioeconomic status (Table 22), (2) contraception was more favored among the better situated than among others, and (3) family planning behavior was significantly related to fertility performance (Table 26), we have employed the same explanatory variables that were used for the explanation of fertility differentials: province, life style, and female status. Added to these is the experience of fetal or child losses by individual women. This last variable is included because of findings that such losses, under particular conditions, tend to be positively related to fertility (Heer, 1975:266). To adjust for age of woman and past fertility experience, we have included the number of live births that a woman has had in the analysis as control factor.

Provincial (cultural) differences in family planning behavior, measured as deviations of the provincial means from the sample grand mean, are described in Table 27. Family planning attitudes were most favorable in Laguna (+0.39), and least favorable in the agricultural heartland of the country, Pangasinan (-0.31) and Nueva Ecija (-0.18). This pattern persists regardless of other socioeconomic factors except that in the three Visayan provinces favorable attitudes were somewhat suppressed by adverse socioeconomic conditions, which probably left comparatively large proportions of women uninformed. Provincial deviations were, in general, small and imply that women in all of the seven provinces, when considered together, can be classified as no more than reluctant acceptors.

In contrast to provincial differences, life style and female status differences in family planning behavior were more pronounced (Tables 28 and 29). They divided women into two groups, irrespective of other socioeconomic factors. Nonacceptance of contraception predominated among the low SES, farm, and less educated women, whereas those more favorably disposed towards family planning were concentrated among the better educated with high SES.

As in the case of fertility, lesser educated women's work experience outside the home and the farm, most of which had probably been acquired in the service sector, had little effect on their family planning attitudes, in contrast to that of the better educated who had worked

TABLE 27 Unadjusted and adjusted province deviations from the sample grand mean of family planning behavior: Seven Provinces Survey, 1976

Province	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents and covariate
Laguna	0.39	0.25	0.26
Nueva Ecija	-0.18	-0.21	-0.21
Pangasinan	-0.31	-0.33	-0.33
Capiz	-0.01	0.08	0.07
Negros Oriental	0.25	0.45	0.45
Southern Leyte	0.25	0.34	0.34
Misamis Oriental	0.14	0.13	0.12
Eta & beta	0.17	0.18	0.18

NOTE: Sample grand mean = 2.67. Independents = life style, female status, child loss.  
Covariate = number of children ever born.

outside of the farm or domestic sector. On the whole, formal education outweighed work experience in importance for creating a favorable climate for family planning. A further conclusion that can be drawn from the relatively small group mean deviations from the

TABLE 28 Unadjusted and adjusted life style group deviations from grand mean of family planning behavior: Seven Provinces Survey, 1976

Life style category	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents and covariate
1	-0.21	-0.18	-0.19
2	-0.70	-0.60	-0.61
3	-0.32	-0.18	-0.18
4	-0.20	-0.11	-0.11
5	0.12	0.12	0.12
6	0.03	0.03	0.03
7	0.55	0.39	0.39
8	0.68	0.34	0.34
Eta & beta	0.22	0.15	0.15

NOTE: See Figure 4 for definition of life style categories. Sample grand mean = 2.67.  
Independents = province, life style, child loss. Covariate = number of children ever born.

TABLE 29 Unadjusted and adjusted female status group deviations from the sample grand mean of family planning behavior: Seven Provinces Survey, 1976

Female status category	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents and covariate
1	-0.74	-0.58	-0.59
2	-0.33	-0.25	-0.24
3	-0.11	-0.04	-0.04
4	0.52	0.39	-0.40
5	-0.13	-0.15	-0.16
6	0.82	0.53	0.55
Eta & beta	0.23	0.16	0.17

NOTE: See Figure 5 for definition of female status categories. Sample grand mean = 2.67.  
Independents = province, life style, child loss. Covariate = number of children ever born.

sample mean for the higher life style and status group women despite the concentration of women with favorable family planning attitudes in these groups is that the latter were not uniform in their attitudes and that within-group variations were considerable and skewed toward the lower (unfavorable) end of the family planning behavior scale.

Childbearing is an important event in the life of every woman, certainly in that of the Filipina, and is accompanied by deep-seated emotions. Conversely, the loss of a fetus or a child is likely to create emotional disturbances. If this is so, and if women desire a specified number of children (regardless of whether the number is high or low), fetal or child losses should result in increased reproductive activity and may, as a consequence, negatively affect the willingness to practice contraception. To measure the existence and the extent of such an effect, the variable of child loss was introduced into the analysis. Of all women 15-44 years old in the (weighted) sample, 44.2 percent had experienced such losses. Guided by the assumption that the traumatic experience accompanying the loss of a child increases with the length of the time mother and child had been together, we classified women into those without any fetal or child losses, with fetal losses only, with stillbirths, with children who had died at less than one year of age, and with children who had died at ages one to four:

As Table 30 indicates, average deviations of the scale score on

TABLE 30 Unadjusted and adjusted child loss group deviations from sample grand mean of family planning behavior: Seven Provinces Survey, 1976

Child loss category	Percentage of combined sample population	Unadjusted deviation	Deviation adjusted for independents	Deviation adjusted for independents & covariate
No fetal or child loss	55.8	0.11	0.05	0.07
Fetal loss(es) only	14.7	-0.01	-0.01	-0.01
Stillbirth(s)	1.6	0.13	0.04	0.05
Deceased child(ren) under age 1	16.8	-0.16	-0.06	-0.09
Deceased child(ren) aged 1 to 4	11.1	-0.31	-0.16	-0.21
Eta & beta		0.09	0.04	0.06

NOTE: Sample grand mean = 2.67. Independents = province, life style, female status.  
Covariate = number of children ever born.

family planning attitudes from the sample mean for women within the various child loss categories were extremely low, but they point in the hypothesized direction. Women who had experienced child loss were somewhat less favorably disposed toward contraception than those who had not, and women who had lost a child older than one year scored lowest on the family planning scale. Puzzling is the positive deviation for women with stillbirths. The most plausible explanation is that the small numerical base for this group (136 sampled women) does not allow a reliable measurement.

Table 31 summarizes the gross and net effects that the independent variables of province, life style, female status, and child loss, singly and combined, exercise on family planning attitudes. None of them explains much of the total variation in family planning behavior, but all of them, except child loss, are significantly related to the sampled women's attitudes about family planning. That child loss does not appear to have appreciably influenced contraceptive behavior can probably be explained as follows: The majority of the women (55 percent) did not experience it, and those who did were rather evenly distributed among the various subgroups of the population, as the relatively small differences between life style, female status, and provincial group means indicate.



TABLE 31 MCA summary table of effects of SES and child loss experience on family planning behavior: Seven Provinces Survey, 1976

Source of variation	Percentage of variance explained <sup>a</sup>		Significance level of <i>F</i> <sup>b</sup>
	Gross	Net	
INDEPENDENT VARIABLES			
Main effects	10.1		<.001
Province	3.0	3.0	<.001
Life style	1.6	1.6	<.001
Female status	1.9	1.8	<.001
Child loss	0.2	0.2	0.056
COVARIATE			
Main effects	0.1		0.168
Number of children ever born alive	0.1		0.168
TWO-WAY INTERACTIONS			
Main effects	3.1		0.026
Province—life style	1.5		<.001
Province—female status	0.2		0.991
Province—child loss	0.3		0.656
Life style—female status	0.4		0.651
Life style—child loss	0.3		0.840
Female status—child loss	0.2		0.835
Total variance explained ( <i>r</i> <sup>2</sup> )	14.2		<.001

a SS (family planning behavior), based on 582,615 weighted cases.

b Based on 9,012 unweighted cases.

Although child loss does not seem to have a significant effect on family planning attitudes directly, it influences fertility behavior in some way and, via this route, exercises an indirect influence on family planning attitudes. Table 32 shows average intervals between pregnancy terminations of all types for all women in the sample. The mean interval between two live births, disregarding intermittent nonlive birth terminations that may have occurred, was 28.6 months. After a premature termination, couples apparently attempted to make up for a loss, as indicated by the relatively short average interval of only 19.7 months until the next live birth. The average interval between two successive premature terminations was only 13.7 months.

TABLE 32 Average intervals between pregnancy terminations of ever married women 15–44: Seven Provinces Survey, 1976

Type of pregnancy interval	Average length of interval (in months)	Standard deviation (in months)
Between two pregnancy terminations of any type	27.6	12.5
Between two live births	28.6	12.9
Between a premature termination and a live birth	19.4	11.9
Between two premature terminations	13.7	10.2

Cultural differences implied in the variable of province were the most important determinants of family planning attitudes among the four sets of factors investigated. Resistance to modern contraception was strongest in the well-off agricultural provinces of Central Luzon, and least in evidence in Laguna, the most urbanized of the sample provinces. Although Table 31 points to the influence of socioeconomic background on family planning attitudes, nothing can be deduced from the data concerning the effects that the heavy saturation of family planning services in Laguna had on the population of that province over and above the modernizing influences emanating from industrialized neighboring Metro Manila. If a positive effect existed, it would justify the simple strategy of saturating an area with contraceptive services and waiting for them to take their course. The pattern displayed by the data, however, i.e., the strong resistance to contraception in Central Luzon and the more favorable family planning attitudes near the metropolis, lends support instead to another finding (Flieger, 1975:121), that industrialization with its concomitant institutional changes, to which Laguna has been most exposed, brings about modifications of traditional fertility behavior and attitudes, and that, conversely, attitudinal changes are difficult to achieve where the agricultural way of life persists and institutional changes are not immediately required. In cities and urbanizing areas such changes have taken place because of the concentration of educational and nonagricultural employment opportunities, which promote labor mobility and thereby lead to a weakening of traditional family bonds. They have probably likewise occurred in agriculturally poor areas where lack of livelihood opportunities have forced traditional family organizations to disband (cf. out-migration from the Visayan provinces). When

and where such push or pull factors do not exist or are less pronounced, as in the case of Central Luzon, traditional attitudes tend to persist.

The total variation in family planning attitudes explained by the four independent variables is small, amounting to only 14 percent. But even though this amount is small, three of the variables—province, life style, and female status—are of significance for contraceptive acceptance. They describe some of the basic dimensions of the life spaces of the sample populations and point toward broad aspects of the social structure that have to be altered before behavioral changes can be expected. The particular constellations that these dimensions form for local communities, families, or individual women vary, but the variations are not taken into account in the measurements employed in this study. This lack of precision is responsible for the low  $R^2$ . In-depth studies conducted in the seven provinces during the summer of 1976 revealed some of the situational factors that influence fertility attitudes: prospect of a good harvest, opportunity for a better job for the husband, need for children to help perform the basic livelihood activities of the family, and age and number of children presently in school. In only a few instances did respondents in the Visayan provinces give unequivocal answers to the question of whether or not they wanted another child; most of them mentioned factors like those enumerated and simply stated: We do not know yet. Both situational factors and personality characteristics will have to be taken into account before more satisfactory explanations can be obtained.

Using the results extracted from the data thus far, one can characterize women most favorably disposed toward contraception as those who enjoyed an above-average standard of living (life style), had an above-average education, participated in nonagricultural economic activities, and resided in areas where traditional social institutions were undergoing change. As for average demographic characteristics, they can be said to have been of middle age (32.2 years), slightly older than nonusers (31.2 years), and to have somewhat more children than nonusers (4.6 versus 4.4 live births).

The data thus suggest that the norm concerning completed family size in the sample areas, for contraceptive users and nonusers alike, was not a "small" family with two or three children at the most but a larger one. Numerous family planning surveys have inquired into the number of children that couples consider to be "ideal," as an indica-

tion of family-size norms. "Ideal" number of children desired has proven to be a biased and unreliable measurement, however, because of its usually strong correlation to actual family size. Probably a better indicator of family-size norm is the average total number of children that women of completed fertility have borne (total fertility rate). In Table 33, the percentages of currently married women desiring more children are cross-classified with the women's actual fertility, which is categorized according to whether it was below, equal to, or exceeding the total fertility rate of the province in which the women were residing in 1975.

Encouraging to family planners must be the finding that one-half of the women with families below the average size of 5.5 children did not want more children. But this figure has to be interpreted with caution because it applies predominantly to younger women in the early stages of their childbearing careers, whose answers may represent hypothetical preferences that disregard such imponderables as the eventually desired sex composition of the family, social pressures from relatives, and future child mortality. It seems more significant that 50 percent of all women whose families had not yet reached average size wanted more children and, in addition, that 15 percent of women with an average family size and 9 percent of those with above-average size still wanted more children.

TABLE 33 Percentage of currently married women 15–44 who desired more children, by attained number of live births and province: Seven Provinces Survey, 1976

Province	Average completed family size (TFR)	Percentage desiring, by attained number of live births		
		Below average	Equal to average	Above average
Laguna	4.6	54.4	11.1	6.8
Nueva Ecija	6.2	45.9	10.6	7.2
Pangasinan	5.4	49.7	17.0	9.0
Capiz	6.2	52.9	11.8	8.3
Negros Oriental	5.5	54.5	22.4	11.5
Southern Leyte	6.6	40.0	3.1	5.4
Misamis Oriental	5.5	43.5	20.9	11.7
All provinces	5.5	49.3	15.2	9.2

TFR—total fertility rate of all women 15–54.

Answers to the question of why relatively large families continued to be considered desirable in 1975 are complex. In a 1976 study of 90 families residing in Southern Leyte and Misamis Oriental, Madigan and Almonte (1976) found substantial (though not unanimous) agreement among the families interviewed that for "support for parents in old age, contribution to family income, augmentation of the family work force, cementing of kin and friendship ties, continuance of family name and possibilities for social mobility, more children are better than less." Their findings imply not only that procreative activities are largely rational but also that rational arguments go beyond purely economic considerations (cf. also Bulatao, 1975:102 ff.) which family planning advertisements have tended to emphasize.

If, for the reasons similar to those outlined by Madigan and Almonte, four, five, or six children were desired by a good proportion of families

TABLE 34 Probabilities that specified numbers of pregnancies to ever married women 15-54 would result in four surviving children, by stratum: Seven Provinces Survey, 1976

Number of pregnancies/live births having specified result	Probability	
	Urban/semi-urban	Rural
Number of pregnancies resulting in four live births		
4	.758	.790
5	.952	.942
6	.986	.977
7	.949	.997
8	1.000	1.000
Number of live births resulting in four surviving children <sup>a</sup>		
4	.777	.768
5	.950	.898
6	.983	.965
7	.998	.976
8	1.000	.984
Number of pregnancies resulting in four surviving children <sup>a</sup>		
4	.589	.607
5	.904	.846
6	.969	.943
7	.997	.973
8	1.000	.984

a Surviving to survey date.

in the survey provinces, an examination of fetal wastage and child loss in those provinces makes clear that the number of pregnancies and live births had to be even larger to reach those numbers. When we take into account the cumulative experience of all ever married women 15–54 years old as it is reflected in their pregnancy histories, Table 34 shows that, under existing conditions of fetal and child loss, women could have expected fewer than three surviving children from four pregnancies, and they needed six pregnancies to make reasonably sure that four children would be alive when the women reached menopause.

The chances that the live-born children of younger women survive are probably greater than they have been for older women because of continued improvements in mortality conditions since World War II. But whether or when these improved chances will enter into the consciousness of young women and induce them to change their fertility habits is difficult to tell at this time.

### **Reasons for nonacceptance of contraception**

Of the 710,000 currently married women aged 15–54 in the seven provinces, two-thirds were estimated never to have practiced any form of contraception except occasional abstinence. For individual provinces, this proportion ranged from a low of 54 percent in Laguna to a high of 71 percent in Pangasinan. Demographers and other social scientists for a long time have been trying to isolate the social forces that must become effective and enter the consciousness of a population before a majority of couples are willing to adopt contraception. If the widely accepted assumption is correct that in modern societies birth rates tend to be lower than in traditional ones, the problem lies in defining a threshold of modernization, the point at which fertility will begin to decline. Some aspects of this threshold, defined as “a checklist of essential characteristics of modernization that will reliably identify a population in which fertility is ready to fall” have been outlined by Coale (1973). More recently, additional kinds of thresholds have been suggested, e.g., by Encarnación (1975, 1977), whose income-level threshold was referred to earlier, and by Caldwell (1976, 1977). Caldwell links the threshold of fertility decline to the notion that “fertility is determined by social conditions, primarily the direction of the intergenerational wealth flow” (1976:355). Traditional societies have been characterized by a flow of wealth from children to parents. In

such a situation, children are wealth or wealth creating. They lose this quality when the flow of wealth is reversed. A reversal tends to occur when the family is largely nucleated, both emotionally and economically.

On the basis of rather limited and impressionistic data from the provinces of Southern Leyte and Misamis Oriental, Madigan (1976) agrees that the "incipient transition" from high to low fertility in these two provinces may have "followed a reversal in direction of wealth flows from children to parents" and that this reversal may be "attributable to the emotional nucleation of the family of procreation." However, Madigan doubts that the reversal of net intergenerational wealth flows triggered by family nucleation alone is a sufficient condition for fertility decline, at least in the Philippines, where fertility increased until the early 1970s but where "the nucleated family as an individuated economic and emotional unit appears to have been common since 1950, at least." Our survey data do not permit us to test Encarnación's and Caldwell's hypotheses, which certainly suggest worthwhile avenues for continued inquiries.

What the data do provide are nonusers' principal reasons for not accepting contraceptives. The reasons listed in Table 35 were precoded in the survey questionnaire largely on the basis of information that family planning agencies wished to have for logistic purposes. That this precoding procedure was not a helpful one became obvious when 40 percent of all answers given turned up in the "other reasons" category.<sup>2</sup> One large component of answers in this category probably came from women who refused contraception because of fear of side effects, the reason most often cited by fecund women who stopped using contraceptives altogether after a short period of practice. The large variety of reasons for nonuse, however, appears to indicate that the issue is a rather involved one and that many respondents found it difficult to be precise in expressing their sentiments.

The most frequent answer given by nonusers from all seven provinces except Capiz, which accounted for one-fourth of all answers, was simply that they wanted more children. The second most often cited reason, that respondents saw no need for family planning practice, is also

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2 Similar difficulties emerged with other largely attitudinal questions discussed in this section. Although the respondents were not asked to answer using precoded responses, their verbatim recorded answers were later, during the data coding, assigned to the preconceived categories.

TABLE 35 Percentage distribution of currently married women 15–54 who had never used contraception, by main reason for nonuse and province: Seven Provinces Survey, 1976

Reason for nonuse	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Want more children	24.2	27.3	23.1	19.4	30.6	23.7	23.9	24.8
No need for family planning	25.3	17.1	20.6	30.0	22.4	22.9	17.1	21.4
No time; too much trouble	1.8	3.9	6.5	8.9	6.8	8.3	12.7	6.3
Religious and moral reasons	1.6	2.2	1.3	0.4	4.4	6.5	7.5	2.7
Too difficult to learn	0.8	1.6	1.2	2.4	1.2	5.5	6.1	2.0
Travel difficulties	0.1	0.9	0.4	1.7	2.0	1.3	1.8	0.9
Too expensive	0.2	1.2	0.4	0.4	1.2	1.4	2.2	0.9
Other reasons	45.0	44.2	44.9	35.5	31.4	30.4	26.3	39.7
No response	1.0	1.6	1.6	1.3	0.0	0.0	2.4	1.3
All reasons	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	60,286	85,242	145,233	41,875	60,525	20,580	43,661	457,402



a relatively clear one. The 21 percent of women who gave this response were past menopause, prematurely sterile, or living without husband. Care was taken by coders that no answers of women were included in this category who, for personal reasons, saw no need for using contraceptives. Of some interest is the small proportion of women (2.7 percent) who referred to religious or moral reasons for not using contraception. As Table 35 shows, religious or moral sentiments against contraception were strongest in the southern provinces; but even in Misamis Oriental, which reported the largest proportion of conscientious objectors, only 7.5 percent of nonusers cited their religious beliefs or moral values. In Capiz, the proportion was almost nil. That religion, and the Catholic religion in particular, has been the main cause of anti-contraceptive attitudes and behavior in the Philippines has been a standard argument for a long time, even though no Philippine fertility or KAP (family planning knowledge, attitudes, and practices) survey addressing itself to the question has been able to substantiate it directly (e.g., Concepción and Flieger, 1968:728). This is not to say that religious beliefs play no role or only a minimal one in the shaping of family planning attitudes but, rather, whatever influences they exert cannot be separated from others. In traditional societies, religion does not form a life segment to which one attends between eight and nine o'clock on Sunday mornings, but permeates, and is intertwined with, all aspects of life all the time. As part of the individual's value system, it can be changed only within the framework of, and together with, that system. It is probably safe to assume that religious motivations of some sort underlay many of the other answers provided by the respondents as explanations for their negative family planning attitudes, particularly the desire for more children. From the viewpoint of the family planning official, concentrating on attempts to dissuade religious leaders from campaigning against contraception, or to persuade couples to overcome their religious objections to contraception, does not appear to be a sound strategy as long as social and cultural values consonant with traditional religious beliefs remain unaltered. This contention is supported by the observation that many aspects of religious practice, especially Catholic religious practice, have been officially redefined or given different emphases in the last decade, but the changes have gone unheeded by a majority of the rural population for the reason that they are prescribed irrespective of the religious-cultural context in which they were to occur.

Problems relevant to family planning strategy, e.g., that the use of contraceptives is too time-consuming or troublesome, that contraception is too difficult to learn or too expensive to use, or that reaching contraceptive supply points involves too much travel, emerged as relatively unimportant. Answers of these types accounted for only 13 percent of all answers given. The frequency of these responses suggests not so much that few logistical problems existed in the family planning delivery system (such problems were of somewhat greater magnitude in the southern Visayas and northern Mindanao than in Luzon, as Table 35 indicates), but rather that they were considered of minor importance compared with other reasons for not adopting contraception. Filipinos in general are willing to learn new things or to assume burdens like traveling or expenses when they perceive the results from such sacrifices to be advantageous to themselves. Answers of this kind seem to imply lack of motivation more than anything else.

Never-users among the sample were asked about the possibility of using contraception in the future if it were made available at no expense. Slightly fewer than half conceded that such a possibility existed (Table 36). This proportion is somewhat diluted because it includes women who had no further need for contraceptive practice. In the three Luzon provinces, the proportion who indicated possible flexibility of attitude was around one-half, in Capiz and Negros Oriental around two-thirds. But only 4 to 5 percent of Southern Leyte and Misamis Oriental women conceded the possibility of persuasion. There is no apparent reason why such substantial differences in flexibility should exist between them and women in other parts of the country. One possibility is that in the interpretation of answers, MCPS personnel may have applied different criteria from those used in the two other research centers, or that more probing of answers was performed by the Mindanao-based interviewers to weed out courtesy responses. Courtesy responses result from a tendency of respondents "to give the answer which they believe is desired by the interviewer," a tendency that is "believed to derive from a highly developed sense of courtesy" (Hendershot, 1968:160). Though Hendershot (1968) did not find courtesy responses to have been so prevalent in a Manila KAP survey as to have distorted its conclusions, he acknowledged that they may operate in subtle ways that are difficult to detect. When taken at face value, Table 36 suggests that, except in the two southern provinces, many women were flexible about contraceptive acceptance and that

**TABLE 36** Percentage of currently married women who had never used contraception, by possibility of persuasion and province: Seven Provinces Survey, 1976

Province	Percentage who might be persuaded
Laguna	50.5
Nueva Ecija	52.3
Pangasinan	53.5
Capiz	68.8
Negros Oriental	61.9
Southern Leyte	5.4
Misamis Oriental	3.7
All provinces	47.7
Number	457,402

the persuading techniques used by family planning agents so far apparently had not struck the right cords.

The question of why people resist contraception is as difficult to answer as the question of what factors lead to acceptance. The answers provided by the present survey are suggestive at best, certainly not definitive. Future surveys will have to obtain more relevant and specific information by avoiding the pitfall of planting preconceived categories in the minds of people that either obscure the true reasons or are meaningless. The information to be collected must make it possible to unearth the real sentiments that are hidden under the verbalized rationalizations.

### **Contraceptive knowledge and practice of users**

According to survey estimates, one-third (35.6 percent) of respondents had ever used contraceptives. Where did they obtain the information that eventually led to their first practice of contraception? As Table 37 indicates, medical, paramedical, and other hospital or clinic personnel had played the most important role as information source; almost 80 percent of all ever-users became acceptors through contacts with such persons. The most often referred to segment among those informants were family planning clinic personnel. The extent to which private physicians or other clinics or hospitals had served as informants was apparently a function of the living standards of a province or the

TABLE 37 Percentage distribution of currently married women 15–54 who had ever used contraception, by main source of information about first method used and province: Seven Provinces Survey, 1976

Main source of information	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Family planning clinic personnel	48.0	46.8	58.3	52.2	66.6	73.2	55.8	55.8
Other clinic or hospital	20.2	20.9	9.5	13.8	12.7	6.7	19.1	15.3
Private physician	8.1	8.3	9.6	7.8	2.7	3.7	10.0	7.6
Husband	9.7	9.0	12.1	15.3	8.8	*	1.9	8.9
Friends or relatives	10.8	8.6	5.7	6.1	3.8	8.7	7.3	7.3
Mass media	2.2	2.2	2.5	2.8	0.7	1.4	1.3	1.9
Other sources	1.0	4.2	2.3	2.0	4.7	6.2	4.6	3.2
All sources	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women <sup>a</sup>	51,401	40,216	57,446	17,892	38,424	15,191	28,112	248,682

\* Less than 0.1 percent.

<sup>a</sup> Table excludes women who did not supply this information.

closeness of urban centers, because such agents and agencies were mentioned most often in the richer and more urbanized Luzon provinces, and in Misamis Oriental with its relatively large urban center of Cagayan de Oro. Husbands, who were mentioned as the primary information source by some 9 percent of all respondents, were mentioned by hardly any respondents in Southern Leyte and Misamis. It is possible that this deviation from the pattern observed in the other provinces, like the resistance of respondents in Southern Leyte and Misamis Oriental to the idea of using contraception in the future, may be attributable to the manner in which the survey was conducted. Table 37 suggests that the influence of the mass media on the spread of family planning information was negligible, but it should be borne in mind that respondents were indicating their *main* source of information about family planning. In matters related to health and family welfare, people tend to be extremely cautious and normally do not act on only impersonal communication via the mass media. They consult with others first, preferably relatives or technical persons who ought to know. The role of the mass media is to arouse attention, which in turn leads to further inquiries. The data do not reveal in how many instances the media were influential as initial contact points, causing respondents to seek confirmation from their main sources of information, but the media probably acted as catalysts for the information process.

The four contraceptive methods first used by most ever-users (92 percent altogether) were pills, natural methods (like withdrawal and abstinence), rhythm, and IUDs (Table 38). Taken singly, pills alone were used as starters by approximately one-half to two-thirds of all users in the various provinces. In descending order of importance, the next most widely adopted initial contraceptive techniques were natural methods (15 percent), rhythm (all types, 13 percent), and IUDs (10 percent). Few women (0.5 percent in all seven provinces combined) indicated that they originally had used a combination of methods, most commonly rhythm together with withdrawal; the majority had begun by relying on a single method. If relative rather than absolute use frequencies of the four main starting methods are compared between provinces, Laguna women can be characterized as the most ardent pill users, the women in Nueva Ecija, Pangasinan, and Capiz as relatively strong adherents of natural methods, and southern Filipino women as the main advocates of the rhythm method. IUD use was

TABLE 38 Percentage distribution of currently married women 15–54 who had ever used contraception, by first method ever used and province: Seven Provinces Survey, 1976

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Method	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
SINGLE METHODS								
Pills	62.8	52.0	57.5	46.1	48.3	53.3	45.8	54.0
Natural methods	9.0	20.3	20.1	19.7	13.6	8.1	8.9	14.8
Rhythm								
Calendar	9.9	6.3	6.4	14.0	15.0	24.3	18.8	11.5
Temperature	0.9	0.8	0.6	1.0	3.1	4.1	4.1	1.7
IUD	10.2	9.8	7.5	13.9	11.8	4.5	13.2	10.0
Condom	1.4	3.9	3.3	3.3	4.8	1.8	3.5	3.1
Sterilization								
Female	2.7	5.5	3.1	0.8	1.7	0.6	3.0	2.9
Male	0.2	0.0	0.0	0.2	0.8	0.0	0.4	0.2
Foam devices	0.2	1.0	1.0	*	0.2	1.4	0.8	0.6
Other single methods	1.7	0.0	0.5	1.0	0.7	0.5	0.6	0.7
COMBINED METHODS								
Rhythm and others	0.9	*	*	0.0	0.0	1.4	0.5	0.4
Condom and others	0.1	0.4	0.0	0.0	0.0	*	0.4	0.1
All methods	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women <sup>a</sup>	52,070	40,306	58,137	17,892	38,414	15,287	28,414	250,520

\* Less than 0.1 percent.

a Table excludes women who did not supply this information.

most prevalent in Capiz and Misamis Oriental. As should be expected, female sterilization was not a popular starting method except among older women who had borne a large number of children; male sterilization was hardly used at all. Condoms likewise, which were used mostly in Negros Oriental, were not high on the list.

Before 1976, experimentation of contraceptive users with different methods was uncommon. Aside from 9 percent of all ever-users who, by the time of the survey, had changed more or less permanently to some method different from the one originally used, only 5.1 percent mentioned a second method they had tried, and a mere 0.6 percent a third method. The majority of the experimenters came presumably from among those who initially had relied on natural methods because the "second" methods used were pills (33.3 percent), IUDs (21.7), rhythm (16.5 percent), and condoms (15.2 percent)—i.e., methods on which the majority of women had relied in the first place. Women who had experimented with a third method mentioned rhythm, foam devices, and condoms in 72 percent of all cases.

Timing of first contraceptive use was reported in the survey not by definite dates but by pregnancy intervals. It should be emphasized, in this connection, that modern contraceptive techniques are rather new for most Filipino women, and that many who were nearing the end of their reproductive lives in 1975 had little chance to learn about or apply them. That is why so many women (about 30 percent of all ever-users) had started practice only after their sixth pregnancy (Table 40). With the passing of time, the distribution will undoubtedly shift the onset of family planning toward the earlier pregnancy intervals.

As conspicuous in Table 39 as the concentration of first users among high-parity women is the almost complete absence of contraception before the conception of the first child. Brandewie (1973) explains this phenomenon by pointing to the particular structure of the Filipino family, which may be residentially nucleated but which functions within a system of bilateral kinship extensions. Marriage is a group affair that creates family alliance. The latter is symbolized by the union of a representative couple and sealed by the birth of a first child.

From the bilaterally extended family situation come strong pressures to produce children. These promptings are phrased and applied in various ways. When the wife visits her parents or her in-laws, the mother might rub her stomach, asking as she does so whether she "is already conceiving." If the answer is "no," then the

TABLE 39 Percentage distribution of currently married women 15–54 who had ever used contraception, by timing of first use: Seven Provinces Survey, 1976

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Timing of first use	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Before 1st pregnancy	1.5	3.0	3.0	3.4	1.7	1.5	2.2	2.3
Between 1st & 2nd pregnancy	18.9	18.1	8.8	17.7	13.0	15.4	14.1	14.7
Between 2nd & 3rd pregnancy	14.8	17.3	18.2	12.4	13.5	15.2	14.2	15.6
Between 3rd & 4th pregnancy	16.0	17.6	16.2	16.0	13.3	12.0	14.2	15.5
Between 4th & 5th pregnancy	11.4	13.9	15.8	12.7	14.5	9.5	9.0	13.0
Between 5th & 6th pregnancy	10.2	9.0	11.0	10.6	11.1	8.0	9.1	10.1
After 6th pregnancy	27.2	21.1	27.0	27.2	32.9	38.4	37.2	28.8
All pregnancy intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women <sup>a</sup>	51,927	40,306	57,984	17,891	38,416	15,287	28,392	250,247

a Table excludes women who did not supply this information.



husband may be accused of running around with "bad" women, i.e., finding his sexual pleasure-outlet elsewhere than with his wife as should be the case. Otherwise, surely the wife would already be pregnant. Or the accusation and the suspicion are present that perhaps the husband is somewhat effeminate, a *bayot*. They will wonder if the man is capable of performing the act. Or else the parents of the newly-weds will ask for a grandchild, expressing their eagerness to see their grandchildren before they are too old, before they die. They insist that they would like to have grandchildren to adopt, as it were, to look after and cuddle. And they put pressure on the newly-weds to have a child as soon as possible. And since there are two sets of grandparents, it is very likely that the couple will try to have at least two children, as soon as possible. One will be "given" to one set of grandparents, and the other to the other set of grandparents (Brandewie, 1973:13).

No patterns are evident in the data that would indicate that contraception was adopted by any large proportion of couples at any particular phase of their family building cycles; as many women had first used contraceptives after their first pregnancy as after their second, third, or fifth. This configuration is explainable, as is the case of the numerous late starters, by the relatively recent introduction of modern forms of contraception in all but one of the seven predominantly rural provinces. More time is required before clearer patterns can crystallize. If we take the average timing distribution of women in all seven provinces and compare it with the provincial ones, we could perhaps say that Laguna and Capiz women tended to be "early" starters, those in Negros, Southern Leyte, and Misamis Oriental "late" ones, and that the Central Luzon women were somewhere in between.

The desire to have no more children and to space future births are the two main reasons why couples resort to contraception. It can be assumed that the large number of women in the seven Philippine provinces who started using contraceptives late in their reproductive lives and after having achieved high parities did so because they wanted no more children. But what about young, low-parity women? If the small-family ideal had taken hold, many of them presumably would have practiced contraception to prevent further pregnancies. That this apparently was not the case is strongly suggested in Table 40, which presents the answers of ever-users to the question of why they had become pregnant the last time around. Two-thirds of them stated that their pregnancies had been intentional, thereby indicating that their basic reason for using contraception was to space births, not necessarily to have a small family. Admittedly, this interpretation would be somewhat conjectural were it based solely on the data presented in

TABLE 40 Percentage distribution of currently married women 15–54 who had ever used contraception, by reason for last pregnancy and province: Seven Provinces Survey, 1976

Reason for last pregnancy	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Got pregnant on purpose	81.6	69.0	59.7	80.1	58.6	62.8	57.3	67.8
Took a chance	8.2	11.9	6.4	4.0	7.5	11.1	10.0	8.4
Contraceptive method failure	9.5	9.0	13.4	15.3	31.2	22.7	29.9	15.7
Cannot remember	0.7	10.1	20.5	0.6	2.7	3.4	2.8	8.1
All reasons	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women <sup>a</sup>	51,445	39,914	57,231	17,892	15,239	15,287	27,517	224,525

a Table excludes women who did not supply this information.

Table 40. However, when taken in conjunction with the persisting high fertility levels and the continued absence of other factors hypothesized (e.g., by Madigan, 1976) to be necessary or sufficient concomitants of fertility decline, the conclusion appears to be rather well-founded.

Table 40 also reveals that one-sixth (15.7 percent) of all ever-users claimed that their last pregnancies were the result of method failures. Method failures tend to vary by type of method and length of method use. According to the 1974 National Acceptor Survey (Laing, 1977: 33), the "by far highest incidence of method failure was found among rhythm users," whereas "pill and IUD users showed the lowest incidence." Tabulations of method differentials in failure rates for the seven provinces are not available, but when the overall failure rate of the seven provinces for all methods and regardless of length of use is compared with the rates obtained by the 1974 NAS for 18-month rhythm users (23.3) and condom users (14.6), they do not seem excessively large. There were, however, some substantial provincial differences in the incidence of reported method failures; they were three times as frequent in the southernmost provinces of Negros Oriental, Southern Leyte, and Misamis Oriental as in Laguna or Nueva Ecija (9 percent versus 30 percent). The only possible explanation for this divergence, in the absence of additional information, is that family planning services were introduced in the south later than in the areas surrounding Manila and that, consequently, the south lagged behind the north in contraceptive information, training, and expertise.

Among the more reliable indicators of the success of a family planning program, aside from the decline of the birth rate due to contraceptive use, are the family planning prevalence and continuation rates. The prevalence rate represents the proportion of women in the child-bearing ages currently using contraceptives, and the continuation rate is a measure of "the probability that acceptors who start using a method will still be using it after a given number of months without becoming pregnant during the period" (Laing, 1977:34). Both kinds of rates are customarily calculated on a method-specific basis.

For the Seven Provinces Survey, no information is available that specifies the time element (date of starting the method) called for by the definition of the continuation rate or that permits the exclusion of women who either had become pregnant since the start of practice or who had temporarily interrupted use for other reasons. What the data

TABLE 41 Percentage of currently married women 15–54 who had ever used contraception, by current status of use and province: Seven Provinces Survey, 1976

Province	Ever-users		Previous users who stopped use		Current users		Current users who continued first method		Current users who switched methods	
	Num-ber	% of all women	Num-ber	% of ever-users	Num-ber	% of ever-users	Num-ber	% of ever-users	Num-ber	% of ever-users
Laguna	52,397	46.5	22,817	43.5	29,580	56.6	24,373	46.5	5,207	10.1
Nueva Ecija	40,697	32.3	15,915	39.1	24,782	60.9	21,813	53.6	2,969	7.3
Pangasinan	58,967	28.9	22,824	38.7	36,143	61.3	33,761	57.3	2,382	4.0
Capiz	18,088	30.2	9,114	50.4	8,974	49.6	8,176	45.2	798	4.4
Negros Oriental	38,417	38.8	10,219	26.6	28,198	73.4	24,033	62.6	4,165	10.8
Southern Leyte	15,287	42.6	5,923	38.7	9,364	61.3	7,375	48.2	1,989	13.1
Misamis Oriental	28,999	39.9	10,035	34.6	18,964	65.4	13,174	45.4	5,790	20.0
All provinces	252,852	35.6	96,847	38.3	156,005	61.7	132,705	52.5	23,300	9.2

NOTE: Table excludes women who did not supply this information.

are able to provide are close approximations of some types of continuation rates.

Table 41 shows, for every province, the December 1975 status of contraceptive practice for all currently married women of ages 15–54. About 36 percent of the women had ever used contraceptives, and of these, in turn, two-thirds were still users at the time of the survey. Provincial prevalence rates (the product of the percentage of ever-users among the currently married and the percentage of current users among ever-users) varied from a high of 28.5 percent in Negros Oriental to a low of 15 percent in Capiz. For all seven provinces combined, the prevalence rate was 22 percent. These rates are somewhat lower than those presented in Tables 19, 42, and 43, because the rates shown in them exclude older women between the ages 45 and 54. Since for considerations of family planning strategy women beyond the age of 44 are of little importance because of their relatively small contributions to fertility, the following examination of current users and women who had terminated their practice of contraception is confined mostly to women of ages 15–44.<sup>3</sup>

A comparison of methods used by current users (Table 42) with those of first users (Table 38) indicates little change. Most current users had continued to rely on the first method they had accepted; only 9 percent had switched methods (Table 41). Pills, natural methods, rhythm, and IUDs were still the predominant techniques, used by nearly 87 percent of all current users, against 92 percent of first users. The provincial use patterns outlined earlier for first users basically also held for current users.

As for stratum differences (Table 43), concentration on the four main methods was somewhat more pronounced among rural women (88 percent) than among urban ones (79 percent). The latter, together with semi-urban women, showed a slight tendency toward more effective methods like female sterilization. Although the number of sterilized urban and semi-urban women in the region was still extremely small (around 3,000), they represented 10 percent of all current urban and semi-urban contraceptors. Among rural women, the proportion of current users who had submitted to ligation was only half as large. Rhythm likewise was more of an urban than a rural method, as were

3 Currently married women 45–54 years old, who represented some 18 percent of currently married women in the childbearing ages (15–54), accounted for only 3.9 percent of all current contraceptors.

TABLE 42 Contraceptive prevalence rates of currently married women 15–44, by current method and province; Seven Provinces Survey, 1976 (rates per 100 women)

Current method	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Pills	13.6	8.6	8.6	4.4	12.5	11.2	10.0	9.9
Natural methods	3.2	5.8	5.5	5.8	4.9	2.3	2.9	4.7
Rhythm								
Calendar	4.8	2.0	1.9	3.7	6.1	12.7	7.9	4.2
Temperature	0.3	0.2	0.1	0.4	0.4	1.7	1.6	0.4
IUD	4.0	1.8	1.7	2.7	4.1	1.2	3.5	2.7
Condom	0.3	1.1	1.2	0.5	2.3	2.5	1.8	1.2
Sterilization								
Female	2.7	2.1	0.9	0.5	1.0	0.7	1.9	1.5
Male	0.1	0.0	0.3	0.1	0.7	0.0	0.4	0.2
Foam devices	0.3	0.0	0.1	0.2	0.1	0.1	0.1	0.1
Other single methods	0.2	0.1	0.0	0.4	0.3	0.3	0.2	0.2
Rhythm and others	0.5	0.2	0.0	0.0	0.0	0.8	0.1	0.2
Condom and others	*	0.1	0.0	0.0	0.0	0.0	0.0	*
All methods	30.0	22.0	20.3	18.6	32.4	33.4	30.4	25.3
Number of women <sup>a</sup>	90,815	106,714	166,972	45,944	80,013	26,911	57,679	575,066

\* Less than 0.1 percent.

a Table excludes women who did not supply this information.

TABLE 43 Contraceptive prevalence rates of currently married women 15-44, by current method and stratum: Seven Provinces Survey, 1976

Current method	Urban	Semi-urban	Rural	All strata
Pills	10.8	11.5	9.7	9.9
Natural methods	6.3	5.2	4.6	4.7
Rhythm				
Calendar	7.7	6.6	3.8	4.2
Temperature	1.0	0.8	0.4	0.4
IUD	3.9	4.8	2.4	2.7
Condom	2.3	1.1	1.2	1.2
Sterilization				
Female	3.8	3.4	1.2	1.5
Male	0.2	0.5	0.2	0.2
Foam devices	0.6	0.6	*	0.1
Other single methods	0.6	*	0.1	0.2
Rhythm and others	0.2	0.1	0.1	0.2
Condom and others	0.2	*	*	*
All methods	37.5	34.6	23.7	25.3
Number of women <sup>a</sup>	19,601	61,683	494,175	575,459

\* Less than 0.1 percent.

a Table excludes women who did not supply this information.

condoms. In general, the data do not indicate any substantial differences in method use by stratum; whatever differences are apparent in Table 43 exist with respect to the extent rather than the type of contraceptive usage.

A summary measure of contraceptive continuation among ever-users is the "all method cumulative continuation rate," which indicates "the probability that acceptors of any method will be using any method of contraception after a specified period of time following acceptance without any intervening pregnancy" (Laing, 1977:40). The data from the seven provinces yield a similar rate, which is the proportion of first users of any method (regardless of starting date, intervening pregnancies, or use interruptions) who were still using a method at survey time. These rates are presented for individual provinces and strata in Tables 44 and 45. One should exercise caution in interpreting the rates for the last four methods or method combinations listed,

TABLE 44 Percentage who were still using any contraceptive method at survey time among currently married women 15-44 who had ever used contraception, by first method ever used and province: Seven Provinces Survey, 1976

First method	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Pills	47.8	51.8	50.3	27.4	65.9	51.2	53.8	51.0
Natural methods	76.8	75.6	79.6	85.3	92.7	65.2	92.0	81.0
Rhythm								
Calendar	78.4	87.7	82.7	73.4	85.6	83.3	61.1	79.5
Temperature	43.0	63.6	100.0	100.0	34.8	59.8	72.2	58.1
IUD	70.5	61.4	57.4	63.1	78.9	55.0	73.1	68.2
Condom	49.6	65.6	82.8	23.9	81.6	61.1	83.0	71.2
Sterilization								
Female	100.0	100.0	89.5	100.0	100.0	100.0	99.0	96.9
Male	100.0	nc	nc	100.0	100.0	100.0	75.8	94.7
Foam devices	100.0	0.0	42.7	0.0	65.6	48.4	56.5	35.8
Other single methods	41.5	nc	100.0	100.0	100.0	100.0	53.1	76.9
Rhythm and others	63.8	nc	0.0	nc	nc	100.0	43.1	74.3
Condom and others	100.0	100.0	nc	nc	nc	0.0	40.5	76.4
All methods	57.0	61.8	61.0	51.3	74.3	63.6	65.4	62.3

NOTE: Table excludes women who did not supply this information.

nc—no cases in this category.



TABLE 45 Percentage of ever-users of any contraceptive method among currently married women 15–44 who were still using a method at survey time, by first method ever used and stratum: Seven Provinces Survey, 1976

First method	Urban	Semi-urban	Rural	All strata
Pills	60.5	57.1	49.7	51.0
Natural methods	82.5	72.7	82.2	81.0
Rhythm				
Calendar	76.4	81.6	79.4	79.5
Temperature	73.3	68.0	55.3	58.1
IUD	75.7	74.9	66.4	68.2
Condom	78.4	74.1	70.3	71.2
Sterilization				
Female	94.8	100.0	96.3	96.9
Male	63.0	100.0	100.0	94.7
Foam devices	65.4	89.3	24.9	35.8
Other single methods	70.0	42.0	82.9	76.9
Rhythm and others	34.5	50.0	78.2	74.3
Condom and others	100.0	63.2	66.2	76.4
All methods	70.4	67.1	61.1	62.3

NOTE: Table excludes women who did not supply this information.

which have rather small numerical bases. The rates for all methods follow in their magnitudes the pattern of the corresponding prevalence rates for the three strata but not for the provinces. In Nueva Ecija and Pangasinan, for example, where prevalence rates were low, continuation rates were higher than in Laguna with its relatively high prevalence rate. The likely explanation for this finding is that in areas where resistance to contraception is strong, as in Central Luzon, acceptors are recruited from among the few highly motivated, and it is this strong motivation that guarantees perseverance. Both tables suggest that continued contraceptive usage is correlated with the starting method. Aside from acceptors of sterilization, which is a virtually irreversible method, first users of natural methods offered the highest probability of continued family planning use in some form, and pill users the lowest. Even users of the temperature method of rhythm, a relatively cumbersome procedure, were more likely to continue than pill users, with the exception of women in Laguna and Negros Oriental. The high

continuation rate of couples who started family planning with natural methods may imply that this group of users included those who would have resorted to these methods even in the absence of the official family planning movement. (The difference between natural and actual fertility of Filipino women suggests that natural methods of contraception were known and used before modern methods were propagated [Pullum, 1975b:177].) To give an exact interpretation of the rates is difficult because of the lacking time referent, but they seem to be in the vicinity of (precisely defined) 18-month all-method cumulative continuation rates for the nation as a whole in 1974: IUD, 80 percent; rhythm, 56 percent; and pills, 52 percent (Laing, 1977: 41).

The figures in Tables 46 and 47, which refer to the proportions of ever-users who were still using their first method at the time of the survey, approximate the first-method continuation rate. The first-method continuation rate indicates "the probability that contraceptors who start using a method will still be using it after a given number of months without becoming pregnant during the interim" (Laing, 1977:34). The rates shown here are subject to the same limitations as the approximations of the all-method cumulative continuation rate. They provide an indication of the popularity of individual methods and their probable continued use. Among the five most popular impermanent methods—pills, natural methods, rhythm, IUDs, and condoms—pills were not only the contraceptive devices adopted by most users (Table 42) but also the ones most likely to be dropped. This finding was true for women in all provinces and strata. Conversely, the methods with the greatest probability of continued use were natural methods and rhythm. IUDs had a 50:50 chance to be retained. In general, differences in first-method continuation rates were small among provinces, and hardly existent among strata, where they hovered consistently around 53 percent.

The differences between the continuation rates of ever-users who were still using any method at survey time (Tables 44 and 45) and the rates of ever-users who were continuing their first methods (Tables 46 and 47) represent the proportions of ever-users who had switched methods. In all, switchers accounted for 9.5 percent of all ever-users aged 15–44, and for 15 percent of all current users of the same age. The proportion of ever-users 15–44 who had stopped practicing altogether at the time of the survey was one-third (37.7 percent). Whereas

TABLE 46 Percentage of ever-users among currently married women 15–44 who were still using their first method at survey time, by method used and province: Seven Provinces Survey, 1976

First method	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Pills	37.7	43.2	44.1	24.3	54.7	38.1	34.4	41.3
Natural methods	57.7	73.3	79.5	83.0	85.8	42.2	60.2	74.0
Rhythm								
Calendar	77.6	79.3	82.7	65.6	75.6	73.0	59.6	73.0
Temperature	43.0	61.0	100.0	100.0	23.3	57.9	52.9	49.2
IUD	54.7	39.8	55.6	51.8	63.3	42.4	39.2	51.0
Condom	50.0	65.6	74.3	21.9	58.9	61.1	46.5	58.9
Sterilization								
Female	98.2	100.0	89.5	100.0	100.0	100.0	99.0	96.9
Male	100.0	0.0	0.0	100.0	100.0	100.0	75.8	94.8
Foam devices	100.0	0.0	42.7	0.0	45.9	4.6	25.0	25.9
Other single methods	20.5	0.0	100.0	100.0	100.0	100.0	53.1	62.3
Rhythm and others	63.8	0.0	0.0	0.0	0.0	100.0	16.1	66.1
Condom and others	100.0	100.0	0.0	0.0	0.0	0.0	0.0	62.5
All methods	46.9	54.5	57.0	46.7	63.1	49.5	44.6	52.8

NOTE: Table excludes women who did not supply this information.

TABLE 47 Percentage of ever-users among currently married women 15–44 who were still using their first method at survey time, by method used and stratum: Seven Provinces Survey, 1976

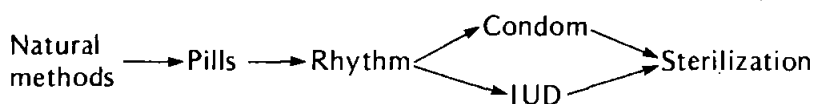
First method	Urban	Semi-urban	Rural	All strata
Pills	39.9	40.9	41.5	41.3
Natural methods	76.7	65.8	75.2	74.0
Rhythm				
Calendar	64.3	78.2	72.8	73.0
Temperature	66.3	60.1	45.9	49.2
IUD	56.6	62.8	48.2	51.0
Condom	67.1	58.5	58.5	58.9
Sterilization				
Female	94.8	100.0	96.1	96.9
Male	53.8	100.0	100.0	94.8
Foam devices	65.4	73.8	14.9	25.9
Other single methods	70.0	3.9	71.8	62.3
Rhythm and others	0.0	50.0	70.3	66.1
Condom and others	100.0	63.2	55.1	62.5
All methods	55.3	55.0	52.3	52.8

NOTE: Table excludes women who did not supply this information.

initial pill users were the most likely to terminate the use of contraceptives (49 percent), followed by temperature rhythm users (42 percent), the most numerous method changers were women who had used IUDs as their first method (17.2 percent) or condoms (12.2 percent). The proportionally fewest method switchers came from among initial calendar rhythm users (6.4 percent). The age at time of first use among ever-users was scarcely related to their continuation status. Among stoppers mean age at acceptance was 31.6 years; continuers, 32.1 years; and switchers, 33 years. Corresponding median ages were almost identical with the mean ages. This finding contrasts with that of the 1974 NAS, which found that, for the nation as a whole, age at time of acceptance was “an important determinant of continuation, higher age being associated with higher continuation rates” (Laing, 1977:59). What the data do imply is a correlation between family life style (Figure 4) and continuation status, which is similar to the relation between life style and contraceptive acceptance. Discontinuation rates (exclud-

ing switchers) were highest in fishing families (life style category 1, 44 percent), intermediate for farming and blue-collar families (life style categories 2 through 7, 36 to 40 percent), and lowest in urban and semi-urban white-collar families (life style category 8, 26 percent).

In Table 48, method switchers are categorized by first method and current method used. Most women who had replaced one contraceptive with another came from among the pill users (57.6 percent), the group to which most first users belonged, and from original IUD users (18.2 percent). The methods to which most switchers turned were calendar rhythm (25 percent) and pills (16.6 percent), followed in order of prevalence by natural methods, IUDs, and condoms. According to the data, there was more of an interchange of methods than a change in one particular direction. However, if only the most frequently occurring types of change are taken into account (marked with a † in Table 48) and it is assumed that withdrawal and abstinence as well as other natural methods were relatively widely used before the start of the modern family planning program, the following predominant sequential order of method changes suggests itself:



Contraceptive methods vary in their degree of effectiveness. Theoretically, natural methods and rhythm, which demand a strong motivation every time they are applied, are less effective than such chemical methods as the pill; and these, in turn, are less safe than barrier methods such as condoms and IUDs. In practice, this ordering does not always hold because of other factors that affect contraceptive practice. With the exception of sterilization and abortion, which form one end of the method-effectiveness scale, a standardized ordering of other contraceptive methods according to effectiveness is difficult to establish. If we assume the approximate validity of the theoretical effectiveness scale just outlined, the predominant order of method changes shown in the above diagram implies a movement from relatively less effective to more effective methods. In Table 48, current methods are arranged in this assumed order of effectiveness, from least to most effective. Changes indicated by percentages in the upper right portion of the table (above the diagonal blank line) represent movements from less to more effective methods, and those in the lower left portion

TABLE 48 Percentage distribution of currently married women 15-44 who had switched contraceptive methods, by first and current methods used: Seven Provinces Survey, 1976

First method	Current method									All methods	
	Natural methods	Foam devices	Calendar rhythm	Temperature rhythm	Pills	Condom	IUD	Female sterilization	Male sterilization	%	Number of women
Natural methods		0.0	26.1†	0.0	52.3†	4.8	12.3	4.5	0.0	100.0	2,082
Foam devices	52.4		47.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0	126
Calendar rhythm	13.6	2.3		8.3	9.1	30.8†	7.6	26.6†	1.7	100.0	1,664
Temperature rhythm	13.6	0.0	28.4		13.6	33.8†	10.1	0.0	0.5	100.0	367
Pills	17.0	2.9	29.5†	2.9		14.1	20.2†	11.7†	1.7	100.0	12,268
Condom	19.6	1.3	37.3	0.0	35.3		6.5	0.0	0.0	100.0	911
IUD	10.4	0.0	16.4	0.0	49.5†	7.8		9.4	6.5	100.0	3,867
All methods	14.1	1.9	24.9	2.3	16.6	13.0	13.9	11.0	2.3	100.0	21,285
Number of women	3,009	412	5,295	496	3,525	2,762	2,954	2,341	491		

NOTE: Table excludes women who had used or were currently using other single methods or method combinations, as well as women who did not supply this information.

† Most numerous changes.

represent movements in the opposite direction. When the absolute frequencies of all changes shown in both parts of the table are considered, the data make clear that the predominant moves toward safer methods, as of 1975, were still offset by equally frequent though more scattered moves toward less safe ones.

Most switchers in the seven provinces had changed to their current methods rather recently. In 41 percent of all cases, the current methods had been adopted during 1975, another 16 percent had made the last change in 1974, and the same proportion one year before that. Only 5 percent of all switchers reported that they had used their current method continuously since before 1970.

For most women who, at one time or another, had adopted contraception but then decided to give it up again, the practice was of short duration. The majority had stopped in the same pregnancy interval in which they had started. The likelihood of such an early termination increased the later in their childbearing careers that women had begun contraception:

Pregnancy interval	% who had started and stopped contraception during same pregnancy interval
Before first pregnancy	56.3
Between first and second	70.2
Between second and third	72.6
Between third and fourth	76.3
Between fourth and fifth	78.9
Between fifth and sixth	75.2

Almost all who had terminated contraception had afterward had more children, as the average number of live births per stopper indicates:

Pregnancy interval in which contraception was terminated	Average number of live births per stopper
Before first pregnancy	1.1
Between first and second	1.7
Between second and third	2.5
Between third and fourth	3.6
Between fourth and fifth	4.7
Between fifth and sixth	5.5

Though the desire to have more children was a rather strong reason for giving up contraception (as it was for not using contraceptives at

all; cf. Table 35), it was not the most frequently cited one. The reason given by more than half (54 percent) of all stoppers was that they had experienced side effects. This finding tallies with that of the 1974 NAS which, in addition, found that reasons for termination "varied considerably depending on the methods," that fear of side effects was most widespread among women who had used pills and IUDs as their first methods, and that the problem of side effects was important also "in reducing husbands' support for family planning" (Laing, 1977:36). Table 49, which shows the main reasons for dropping out separately for each of the seven provinces, includes women aged 45-54. The answers of the majority of stoppers belonging to the older age range are included in the category "no further need for contraception." As with reasons for not using contraception at all (Table 35), reasons for stopping neither differed much between provinces nor revealed that inconvenience, expense, or conscience had been principal reasons for the decision to stop.

#### SOME EVALUATIVE COMMENTS ABOUT FAMILY PLANNING IN THE SEVEN PROVINCES

In addition to the relationship between contraception and the social and behavioral characteristics of those who elect to use or not use it, attention needs to be focused on the family planning program itself. Does the program reach the ideal target population and thereby maximize its returns, or does it dissipate its efforts by concentrating on peripheral groups of women? Sirageldin (1975:301 ff.) has proposed that

for the purpose of evaluating a family planning program we would, ideally, seek answers to the following questions:

1. What are the existing patterns of fertility and family planning among the target population?
2. To what extent do program activities reach target couples?
3. What are the present and expected intermediate and final effects of program activities on target couples?
4. What are the reasons for differential program effects?

The data available from the seven provinces, which are limited to women only, cannot precisely answer all of these questions, but they can provide some hints.



TABLE 49 Percentage distribution of currently married women 15–54 who gave up contraception for good, by main reason for termination and province: Seven Provinces Survey, 1976

Reason for termination	Laguna	Nueva Ecija	Pangasinan	Capiz	Negros Oriental	Southern Leyte	Misamis Oriental	All provinces
Felt side effects	54.4	53.9	57.3	53.3	44.1	53.9	54.8	53.8
Wanted more children	11.4	12.8	11.1	7.6	14.2	20.6	14.6	12.4
No further need for contraception	6.2	8.3	5.8	10.3	12.4	5.4	4.8	7.3
Too much trouble	2.2	7.0	3.9	3.3	4.0	1.3	3.2	3.7
Too expensive	0.7	0.0	0.8	1.1	0.0	1.3	1.5	0.7
Conscience bothered	0.0	0.3	0.1	0.0	1.0	2.6	2.8	0.6
Other reasons	25.1	17.7	21.0	24.4	24.3	14.9	18.2	21.5
All reasons	100.0	100.0	100.0	100.0	100.0	100.0	99.9	100.0
Number of women	22,817	15,736	22,824	8,922	10,219	5,923	9,978	96,446

NOTE: Table excludes women who did not supply this information.

### The target population

Generally speaking, the target population of a family planning program is women in the childbearing ages. In this paper, the target population has been defined as currently married women 15–54 or 15–44 years old. The most common indicator of the extent to which the target population is being reached is the family planning prevalence rate (Tables 10, 42, and 43). When only married women of 15–44 are considered, the rate stood at 25.3 percent in 1975. However, not all women in the generally defined target population were contributing to fertility equally and, consequently, were not equally in need of family planning. The most fertile ages are the twenties and early thirties. But age-specific prevalence rates (for currently married women in all seven provinces) indicate that contraceptive practice was concentrated among women between the ages 25 and 39:

Current age	Percentage of currently married women using contraception
15–19	11.2
20–24	19.7
25–29	28.0
30–34	32.2
35–39	28.7
40–44	19.9
15–44	25.3

(For more prevalence rates by province and stratum, see Appendix Tables A8a to A14d.)

To obtain a better indicator of contraceptive “need” than simply age, Sirageldin (1975:294) recommends as a first step in the family planning evaluation process “an assessment of the relative fecundity of wives.” Following his procedure, we have divided married women 15–44 into three fecundity groups on the basis of current age of woman, age of youngest child, and pregnancy status:

1. High-fertility target population: Women of ages 15–39, not pregnant, and with (at least) one child under five years of age.
2. Future target population: Nonpregnant childless women less than 20 years of age and pregnant women less than 40.

3. Less fertile group: Nonpregnant women of ages 20–39 with a youngest child at least five years old, and women in their forties.

The assumptions underlying the definition of the “high-fertility target population” are that women under age 40 are in the middle of their childbearing careers, that most of them have relatively recently borne a child (youngest child under five) and, therefore, can be assumed to be highly fecund, and that, because of their nonpregnant status, they are currently exposed to the risk of pregnancy. In the seven provinces, this high-priority target group, which contained fewer than two-thirds of all women 15–44, contributed 90 percent of all births in 1975.

Table 50, which divides the three broadly defined fecundity groups into subgroups, reveals that nonpregnant women in their twenties with a youngest child under age five accounted for half of all 1975 births even though they represented less than one-third of all childbearing women. In their individual fertility contributions, these women were still outdone by the numerically few teenage wives who had married only recently and who, in 1975, had borne one of their first children. The group-specific 1975 fertility rate of this latter group (not shown in Table 50) was 792 live births per 1,000 women, compared with a rate of 483 for high-priority target women in their twenties, and 340 for women of ages 30–39.

The 1975 fertility contributions of “future” and “low-priority” target populations were minor. But it has to be remembered that currently married women under age 40 who had no immediate need for family planning services because they were pregnant were actually high-priority women who were shifted into the future target group only for a little longer than the duration of their pregnancies. It is noteworthy that women in their twenties and thirties who had borne their last child five or more years before did not contribute a single live birth in 1975. Since two-thirds of all live-birth intervals had been between 16 and 40 months in duration (Table 32), the probability that women who had borne their last child four or more years before would have another one was relatively remote. The termination of reproduction by women in their middle thirties is a trait of Western low-fertility societies. The data from the seven provinces suggest that a similar trend may be emerging in the Philippines, and that this trend seems to be spearheaded by urban women.

To define the high-priority target population more precisely,

TABLE 50 1975 live births to currently married women 15-44 as a percentage of all 1975 live births, by type of target population and stratum: Seven Provinces Survey, 1976

Target population	Urban		Semi-urban		Rural		All strata	
	% of all currently married women 15-44	Live births as % of all live births	% of all currently married women 15-44	Live births as % of all live births	% of all currently married women 15-44	Live births as % of all live births	% of all currently married women 15-44	Live births as % of all live births
<b>HIGH PRIORITY</b>								
Women under 20, not pregnant, with child	2.6	6.1	1.9	6.8	3.2	8.1	3.0	7.9
Women 20-29, not pregnant, youngest child under 5	29.9	50.6	27.6	48.6	30.0	47.6	29.8	47.8
Women 30-39, not pregnant, youngest child under 5	29.5	32.1	30.1	34.6	30.4	34.3	30.3	34.2
<b>FUTURE PRIORITY</b>								
Women under 20, no child	0.0	0.0	*	0.0	*	0.0	*	0.0
Women under 40, currently pregnant	12.4	5.6	13.2	5.8	14.7	4.7	14.4	4.9
<b>LOW PRIORITY</b>								
Women 20-39, no child or youngest child over 5	9.7	0.0	8.8	0.0	6.4	0.0	6.8	0.0
Women 40-44	15.9	5.6	18.4	4.2	15.3	5.3	15.7	5.2
All groups	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women <sup>a</sup>	19,233	5,391	60,027	16,459	482,608	147,431	561,868	169,281

\* Less than 0.1 percent.

<sup>a</sup> Table excludes women who did not supply this information.

Sirageldin (1975:295) has suggested an examination of the "extent of wives' desires for additional children compared to the actual number of living children (reality) and to some expression of ideal family size." In Table 33 we classified currently married women who desired more children by their average completed family size and the average completed family size of their province of residence; in doing so we assumed average completed family size (total fertility rate) to express some ideal of family size. The figures in Table 51 are based on the same procedure, but women are classified by target population. In all survey provinces, 63 percent of the currently married women 15-44 years old reported a desire for one or more additional children. Like

TABLE 51 Percentage of currently married women 15-44 who desired more children, by attained number of live births and type of target population: Seven Provinces Survey, 1976

Target population	Percentage desiring, by attained number of live births			
	Below average <sup>a</sup>	Equal to average <sup>a</sup>	Above average <sup>a</sup>	All numbers of live births
<b>HIGH PRIORITY</b>				
Women under 20, not pregnant, with child	78.9	0.0	0.0	78.9
Women 20-29, not pregnant, youngest child under 5	54.5	27.1	28.7	52.9
Women 30-39, not pregnant, youngest child under 5	31.6	9.2	6.3	20.0
<b>FUTURE PRIORITY</b>				
Women under 20, no child	95.0	0.0	0.0	95.0
Women under 40, currently pregnant	76.6	51.6	42.8	70.2
<b>LOW PRIORITY</b>				
Women 20-39, no child or youngest child over 5	37.9	13.0	12.6	32.3
Women 40-44	17.9	6.4	4.2	8.8
All groups	49.3	15.2	9.2	37.1

NOTE: Table excludes women who did not supply this information.

a "Average" refers to the provincial total fertility rates of all women 15-54.

Table 50, Table 51 points to nonpregnant women under age 30 and with a child under age five as the prime target for family planning. In addition, it clearly identifies the "future" target populations: childless wives under 20 and currently pregnant women under 40. The fertility potential of the latter is obvious from the large proportion of these women who wanted more children, regardless of the family size they already had attained.

If expressions of "desire" not to have more children can be taken at face value, Table 52 not only identifies women most in need of contraception but also those who probably were most prepared to accept it if they had not already done so. Forty-five percent of nonpregnant women in the 20–29 age group who were high-priority targets for family planning and had had a lower than average number of live births desired no more children. Among women ten years older, the potential for contraceptive use was even greater. The same does not hold for two other immediate or future high-priority target groups, teenage wives with or without children, of whom some 80 percent expressed the wish to start or enlarge their families. Nevertheless, it should be encouraging to family planning agencies that the numerically largest groups of high-priority target women also seem to offer the best chance for contraceptive acceptance.

Table 52 discloses that these potentials are only partly being realized. Of the high-priority target women in the 20–29 age group, of whom 53 percent desired more children (Table 51), only 30 percent were current users; and of the women 30–39, among whom 80 percent had expressed no desire for more children, only 35 percent were using contraception. Moreover, one-third of all women in these two groups who had ever tried contraception had stopped for reasons other than menopause. What Table 52 makes even clearer than the apparent inability of family planning efforts to reach a large proportion of women who seem to offer the greatest potential for becoming acceptors is that contraception has hardly caught on among the women of future priority. Some 42 percent of the newly-married teenagers claimed that they had not even heard about contraception, and 80 percent had never practiced it. A similar situation existed among women under 40 who were currently pregnant: 70 percent of them had never used contraceptives, and of those who had tried them, 85 percent had discontinued. The only positive indication for family planning agencies revealed by Table 52 is that early use of contracep-

TABLE 52 Percentage distribution of currently married women 15–44, by family planning behavior and type of target population: Seven Provinces Survey, 1976

Target population	Family planning behavior							All behaviors % Number of women
	Contra- ception never ex- plained, never used	Contra- ception explained but never used	Contra- ception given up for rea- sons other than meno- pause	Current user, started after 6th child	Current user, started between 3rd and 6th child	Current user, started before 3rd child		
HIGH PRIORITY								
Women under 20, not pregnant, with child	41.2	39.0	2.6	0.0	0.2	17.0	100.0	16,899
Women 20–29, not pregnant, youngest child under 5	29.3	26.8	14.2	1.0	11.2	17.5	100.0	167,223
Women 30–39, not pregnant, youngest child under 5	24.0	25.4	15.2	13.4	15.6	6.4	100.0	170,206
FUTURE PRIORITY								
Women under 20, no child	91.9	8.1	0.0	0.0	0.0	0.0	100.0	186
Women under 40, currently pregnant	32.9	37.2	25.5	0.4	2.1	1.9	100.0	81,196
LOW PRIORITY								
Women 20–39, no child or youngest over 5	34.2	25.2	12.7	6.8	14.3	6.8	100.0	38,087
Women 40–44	42.9	25.1	10.8	14.5	4.8	1.9	100.0	88,071
All groups	31.0	27.9	15.2	7.2	10.1	8.6	100.0	561,868

tives (before the third child) is becoming more prevalent among younger women.

The inability of the existing family planning program to reach the majority of the "potentially ready" women or to direct its effort toward the most fecund ones is accentuated by a comparison of stratum populations. Table 53, which shows the immediate and future high-priority target groups, reveals sizable differences in contraceptive knowledge and practice between urban and rural women. Ten percent more rural than urban women (regardless of type of target group) claimed that family planning had never been explained to them, and the proportion of current users among rural women was 20 percent below that of urban ones. One aspect in which women of all strata seemed to be similar was their dropout rates, which hovered around 15 percent. Even here differences become apparent; however, when the rates are computed not as percentages of all women but as proportions of all ever-users. Of the women who had ever tried contraceptives, some 30 percent had stopped using them in urban and semi-urban areas, compared with more than 38 percent in rural areas. The only point in which urban and rural women did not differ was in the insignificant proportions (4.5 percent) of the most fecund women (currently pregnant, under 40) who were currently practicing contraception. The implications of the urban-rural differences for fertility reduction are underscored by the finding that 86 percent of all women eligible for contraception were residing in rural areas.

An examination of the method mix among current users of the various target populations indicates that the more effective methods, particularly IUDs and sterilization, were being used by more older and low-priority women (30-39) than younger, high-priority women (under 20). The figures in Table 54 confirm similar findings of the 1974 NAS (Laing, 1977) that as women become older they tend to use more effective contraceptives, presumably because they are interested in terminating childbirth. The prevalent starting methods for newlyweds, who tend to be interested in spacing births, were pills and natural methods because their use is easier to regulate than, for example that of IUDs. Natural methods were the most widely used among currently pregnant women under 40, most of whom apparently refused to try more effective methods, including even the pill. The only contraceptive method used with equal frequency by women of all target groups was rhythm. Sterilization, as expected, was used



TABLE 53 Percentage distribution of high-priority target women, by family planning behavior, type of target population, and stratum: Seven Provinces Survey, 1976

Target population	Family planning behavior				All behaviors	
	Never explained	Never used <sup>a</sup>	Given up	Current user	%	Number of women
URBAN						
Women under 20, not pregnant <sup>b</sup>	32.6	64.7	0.4	34.9	100.0	495
Women 20–29, not pregnant	18.5	39.8	16.2	44.0	100.0	5,760
Women 30–39, not pregnant	16.8	36.3	10.6	53.1	100.0	5,671
Women under 40, pregnant	25.7	55.5	39.7	4.8	100.0	2,388
All urban groups	22.4	46.5	15.1	38.4	100.0	14,314
SEMI-URBAN						
Women under 20, not pregnant <sup>b</sup>	21.9	59.6	11.9	28.5	100.0	1,130
Women 20–29, not pregnant	22.6	45.9	13.5	40.6	100.0	16,559
Women 30–39, not pregnant	17.0	38.4	15.5	46.1	100.0	18,054
Women under 40, pregnant	21.6	63.5	32.4	4.0	100.0	7,903
All semi-urban groups	22.6	47.9	16.6	35.5	100.0	43,646
RURAL						
Women under 20, not pregnant <sup>b</sup>	43.6	82.6	1.9	15.5	100.0	15,460
Women 20–29, not pregnant	30.5	58.0	14.2	27.8	100.0	144,904
Women 30–39, not pregnant	25.1	51.3	15.4	33.3	100.0	146,481
Women under 40, pregnant	34.5	71.3	24.3	4.4	100.0	70,905
All rural groups	32.5	60.8	15.0	24.2	100.0	377,750

a Includes women to whom family planning had never been explained.

b Includes immediate-priority and future-priority women.

TABLE 54 Percentage distribution of currently married women 15–44 who were currently using contraceptives, by method used and type of target population: Seven Provinces Survey, 1976

Target population	Method used								All methods
	Natural meth-ods	Rhythm	Foam devices	Pills	Con-dom	IUD	Female sterili-zation	Male sterili-zation	
HIGH PRIORITY									
Women under 20, not pregnant, with child	32.3	16.4	0.0	33.7	11.5	6.1	0.0	0.0	100.0
Women 20–29, not pregnant, youngest child under 5	15.6	18.6	0.2	47.5	5.6	9.9	1.6	1.0	100.0
Women 30–39, not pregnant, youngest child under 5	19.1	18.6	0.3	36.8	5.1	10.7	8.8	0.6	100.0
FUTURE PRIORITY									
Women under 20, no child	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Women under 40, currently pregnant	54.2	18.7	0.6	21.2	1.5	2.5	1.0	0.3	100.0
LOW PRIORITY									
Women 20–39, no child or youngest over 5	15.1	14.1	1.0	34.7	2.6	19.6	12.5	0.4	100.0
Women 40–44	19.9	18.7	2.2	34.0	7.1	10.3	7.0	0.8	100.0
All groups	18.8	18.3	0.5	39.6	5.4	10.7	6.0	0.7	100.0

NOTE: Table excludes "other single methods" and method combinations, which accounted for 1.7 percent of all methods used. Table also excludes women who did not supply this information.

mostly by women in their late or middle childbearing years who had decided at a relatively early time that their families were completed. Male sterilization enjoyed little popularity among couples of any target group. It may be suggested that vasectomy does not fit the Filipino culture with its "emphasis on manliness" (Lapuz, 1973:149), where "each sexual activity, particularly intercourse, is held to be an affirmation and confirmation of one's sexual powers," through which a man reinforces "his superiority over the woman" (p. 151). "The high premium on masculinity," for which "the genital function, in a literal sense, is the exclusive criterion, fosters a touchiness about it" (p. 150) which, for a majority of men, precludes any tampering with it and, consequently, shifts the burden of preventing pregnancies to the woman.

Urban and rural high-priority (immediate and future) target women differed not only in their contraceptive knowledge and practice but also in their method mix. In general, urban and semi-urban women—both groups behaved in a relatively similar fashion—used somewhat more effective methods than their rural counterparts. This becomes evident when women in the high-priority groups are separated by stratum and when the methods are classified as least effective (natural methods, rhythm, foam devices), moderately effective (pills, condoms), and most effective (IUDs, sterilization). The figures reveal no stratum differences in the use of the least effective methods, but substantial ones in the use of the most effective methods.

Stratum	% of high-priority target women using		
	Least effective methods	Moderately effective methods	Most effective methods
Urban	39.8	39.1	21.1
Semi-urban	35.7	38.4	25.9
Rural	38.3	47.7	14.0

On the basis of the evidence presented so far, the answer to Sirageldin's question "To what extent do program activities reach target couples?" can be summarized as follows:

1. The family planning program in the seven survey provinces up to the end of calendar year 1975 had its greatest successes among older and low-priority women; it had not succeeded in persuad-

ing significant numbers of newlyweds to accept contraception at the beginning of their family-building careers, and it had found few acceptors among the most fecund women, those presently pregnant.

2. The program's relative inability to reach high-priority target women was most evidently manifested in the substantial gap between the proportions of such relatively young high-priority women who had stated expressly that they desired no more children and those among them who were practicing contraception.
3. By the end of 1975, the family planning program had not succeeded in bringing contraceptive knowledge in rural areas to the same level as that found among urban people. Unfamiliarity with contraceptive practice was especially widespread among young rural women who had only recently married.
4. Current contraceptive practice among rural women lagged significantly behind that of urban ones; in proportions of current users among high-priority target women, the difference amounted to 20 percent. In addition, rural women were less likely than urban ones to continue family planning after they had accepted it.
5. The relatively few contraceptors in the rural areas showed little inclination to use the more effective methods available; instead, 80 percent of them relied on the less effective methods of withdrawal, abstinence, rhythm, and the pill.

The reasons behind these findings are probably manifold and cannot be explored on the basis of the data collected in the survey areas. Independently of the data, it may be hypothesized that one reason for the concentration of the program on low- rather than high-priority women is the structure of the Philippine family planning program itself. Its execution is entrusted to a host of agencies whose activities are not always well coordinated. Preliminary investigations undertaken by the Office of Population Studies in the Central Visayas have disclosed that the spirit prevailing between field workers of various agencies was one of competition rather than cooperation, which led field workers to resort to "acceptor grabbing" in order to meet agency quotas for new acceptors. As long as numbers have priority over quality, field efforts can be expected to concentrate on women who are relatively easy to convince and not on women who are most in need of contraception.

**Family planning effects on fertility**

The effects of the family planning program can be measured in various ways. The most widespread practice is to look at family planning coverage through acceptor or prevalence rates or to gauge, through continuation rates, the extent to which contraception is becoming a well-established behavior. It is more difficult to measure the effect of the family planning program on fertility. Techniques have been devised to estimate the number of "births averted," an especially useful procedure when short-term effects of family planning practices on fertility are to be assessed that are not immediately noticeable in the movements of the birth rate. Because of the relative newness of organized family planning in most areas of the Philippines, particularly rural areas, we are dealing with such short-term effects in the seven provinces. However, the manner in which the collected data were coded does not permit this type of analysis. Instead, a more direct but less sensitive approach will be taken: a comparison of birth rates of present contraceptive users with those of nonusers.

Earlier in this paper we estimated that in all seven provinces taken together contraceptive practice depressed the 1975 crude birth rate by approximately 7 percent. This calculation was based on the assumption that, without contraception, all women would have borne children at age-specific rates identical to those of current nonusers. The overall effect of contraception on the fertility level of the population was small because only one-fourth of all eligible women in the survey areas were practicing contraception in 1975, agency efforts did not sufficiently concentrate on high-priority target women, and the methods used tended to be of the less effective types. Admittedly, the measurement procedure is a crude one, not only on account of the already mentioned assumption but also because it neglects noncontraceptive factors that affect fertility.

The available data provide in some detail summary measures of the effect that contraception had on the fertility not of the entire population but of groups of couples currently using any method. When we compare total marital fertility rates of current users and nonusers for all provinces and strata combined, we find that the rate for current users (8.58) was 14.5 percent lower than that for nonusers (10.04). This means that, under current fertility conditions, users would have 1.5 fewer children than nonusers at the end of their childbearing periods. Although 8.5 births per married woman still imply extremely

high fertility, a reduction to that level by all women would have resulted in 7 to 8 percent fewer live births in the survey areas in 1975. Since contraception was more prevalent among urban than rural women, the difference in total marital fertility rates between urban users and nonusers was more than twice as large as the corresponding difference for their rural counterparts: 38 versus 15 percent. For individual provinces, differences ranged from approximately 30 percent in Nueva Ecija, Pangasinan, and Capiz to zero in Negros Oriental (Table 55). No conclusion can be drawn here that differences in total fertility between users and nonusers were exclusively the result of contraception. Other factors involved in bringing about differences, such as rural-urban residence, life style, and female status, have already been discussed.

Table 55 shows, however, several exceptions to the rule that total fertility of contraceptors was lower than that of nonacceptors. Total marital fertility rates for current users of the urban and semi-urban strata (all provinces combined) and for some strata in the provinces of Laguna, Pangasinan, and Negros Oriental were higher than those for nonusers. Two reasons for this can be advanced.

The first presupposes that the figures in Table 55 are reasonably reliable estimates of current fertility, and it is backed by findings from other countries that such a phenomenon is fairly common. For example, Knodel and Prachuabmoh (1974:446-47) have reported that Thai women in the reproductive ages who were using contraception were characterized by higher cumulative fertility than women who had never practiced contraception. Similar observations were made in India and Colombia. Moore (1963:101) hypothesized that "at the very earliest stage of family limitation the women practicing contraception are likely to have higher fertility than the general average, as they will be women who already have too many children. The planning of family size from the beginning is a somewhat later development." Because of the rather recent introduction of organized family planning, a large proportion of contraceptors in the seven provinces had resorted to contraception relatively late in their family-building processes (more than 50 percent after the birth of their fourth child; cf. Table 39), and a good number of these "older" women had had their most recent birth in 1975 (45 percent of all 1975 live births came from women 30 and older; cf. Table 50). In consequence, the cross-sectional total fertility rates shown in Table 55, which are

TABLE 55 1975 total marital fertility rates of currently married contraceptive users and nonusers, by province and stratum: Seven Provinces Survey, 1976

Province and stratum	Total marital fertility rates	
	Users	Nonusers
LAGUNA	8.98	8.69
Urban	3.56	11.73
Semi-urban	9.21	7.85
Rural	9.09	8.78
NUEVA ECIJA	7.80	10.75
Urban	4.23	11.39
Semi-urban	8.86	10.14
Rural	8.47	10.88
PANGASINAN	7.11	9.71
Urban	7.47	10.23
Semi-urban	12.90	10.24
Rural	5.93	9.68
CAPIZ	8.14	11.36
Urban	8.71	8.09
Semi-urban	5.85	10.22
Rural	8.35	11.53
NEGROS ORIENTAL	10.39	10.60
Urban	10.75	8.61
Semi-urban	10.10	9.10
Rural	10.51	10.72
SOUTHERN LEYTE	9.32	11.15
Semi-urban	6.68	10.20
Rural	9.22	11.21
MISAMIS ORIENTAL	8.38	9.48
Urban	7.39	8.32
Semi-urban	6.93	9.63
Rural	9.67	9.53

summaries of age-specific fertility rates, incorporate the large rates of the "older," high-fertility women and obscure the relatively small rates of the few young women who had started family planning early. Though this argument is plausible, it cannot be verified at this time with the data at hand, nor is it entirely satisfactory. For verification purposes, *cohort* effects of contraception will have to be measured; and to obtain the needed cohort data, a longer observation period is

needed. The argument is unsatisfactory because it does not explain why fertility differences between users and nonusers existed in some populations and not in others.

A more likely explanation is related to the reliability of the age-specific fertility rates. When these rates for users and nonusers are scrutinized (cf. Appendix Tables A8a to A14d), large fluctuations across age ranges as well as among province and stratum populations become evident, which mirror the large variances of the rates. These variances, which are translated into coefficients of variation in Appendix Tables A15a to A15d, were particularly large for the urban and semi-urban rates of users and nonusers (on the average, coefficients of variation were as large as 40 percent) because these rates were extracted from relatively few sample cases. The number of such cases ranged from a low of 74 for urban women in Capiz to 416 for semi-urban women in Negros Oriental. Statistical tests of the differences in total fertility between current users and nonusers ( $TFR_{users} - TFR_{nonusers}$ ) performed on unweighted rates for the *barangays* of the individual strata of Capiz and Negros Oriental confirm this hypothesis. In all cases, where estimated TFRs of users were higher than those of nonusers (urban Capiz, urban and semi-urban Negros Oriental), differences are not statistically significant. By contrast, wherever user rates were lower than nonuser ones, the differences are statistically significant (Table 56).

Statistical significance of average differences in total fertility between groups of *barangay* couples who were or were not contraceptors is not to be confused with significant effectiveness of contraception. That contraceptive effectiveness was minor in a good number of the stratum subpopulations of the seven provinces in 1975 becomes clear from a comparison of most of the estimated rates of users and nonusers shown in Table 55.

On the basis of the results obtained, which show (1) that total fertility differences between contraceptive users and nonusers were relatively small in most strata of the surveyed provinces, (2) that the effects of contraception on the crude birth rate were minor because of the low prevalence of contraceptive usage, and (3) that the prime cause of the incipient fertility decline which is discernible was change in marital behavior, it would be premature to state with certainty that the family planning movement in the seven provinces up to 1975 had appreciably brought down the birth rate of any particular subpopula-



TABLE 56 F-ratios obtained through two-way analysis of variance testing differences between total fertility rates of users and nonusers and between *barangays*: Capiz and Negros Oriental

Province and difference	Stratum		
	Urban	Semi-urban	Rural
CAPIZ			
Between users and nonusers	0.0052	10.15*	20.06**
Between <i>barangays</i>	0.5046	0.62	1.39
NEGROS ORIENTAL			
Between users and nonusers	0.0781	0.0720	17.72**
Between <i>barangays</i>	1.1454	0.3783	3.19**

NOTE: Based on unweighted data.

\* Significant at 0.05 level.

\*\* Significant at 0.01 level.

tion even though some measurable effect exists. However, the above statement does not tell the entire story. First, in 1975, family planning on a large and coordinated scale was a relatively recent operation in all seven survey provinces except Laguna and still in the process of establishing itself. There had been little time for younger couples to get into the act, and it is still unknown how early adoption of contraception will affect the completed fertility of presently young couples. Second, it has been pointed out before that the most important aspect of the endeavor to lower the birth rate is the ability to pass the threshold of maximum fertility, a feat which, according to Hauser (1967), depends on certain economic and social prerequisites. Data of some 15 years ago had provided little reason for optimism that this threshold was being approached because marital fertility was on the upswing (Flieger, 1975) and overall total fertility at best stable (Engracia et al., 1978). The 1975 data from the seven provinces indicate a decline of overall, and at least a stabilization of marital, fertility. Both of these phenomena suggest that the threshold may have been reached and perhaps already surpassed. What contributions organized family planning has made to preparing the requisite social climate mentioned by Hauser is impossible to measure. If the above conclusion and Hauser's statement are correct, viz., that contraceptive technology is an effective tool not necessarily for initiating fertility decline but for speeding it up once it

has started, it should be expected that the decline in the seven provinces will gather momentum in the years ahead and that family planning efforts will play an increasingly weightier role in this development. Furthermore, if the experiences of other Asian countries like Taiwan, the Republic of Korea—on which Hauser's statement is partly based—and, more recently, Thailand exemplify a general phenomenon, the prospects that the prognosis will hold are encouraging.

#### IMPLICATIONS

The Philippine population program, as it evolved prior to 1976, underwent a significant shift: from a somewhat narrowly defined family planning service approach to a more broadly conceived integrated-development orientation. It is probably not entirely coincidental that during the time while this shift was being engineered, the first signs of an impending fertility decline appeared. That this decline, though still small, was most noticeable in areas that had undergone economic and socio-cultural transformations and was spearheaded by women who had been exposed to modernizing influences, particularly increased education and nonagricultural labor force participation, seems to suggest strongly that changes in reproductive behavior are tied to such occurrences in some way. Whether or not these transformations and influences by themselves are both necessary and sufficient prerequisites for a fertility decline may be debatable, as is the question concerning the nature of the critical threshold (cf. Encarnación, 1975, and Caldwell, 1976) that has to be surpassed. In the seven provinces, a link obviously exists. Earlier in the paper we characterized the family planning program up to 1975 as having caused only a small decline in the seven provinces' high levels of fertility, and contraception as having proven to be an effective tool for lowering the fertility of couples who used it; but we cautioned that a majority of women so far had shown little inclination to accept these tools. Contraception was effective where adopted, but it was adopted primarily by educated women residing and working in urbanized areas. So far, women of this kind form only a small minority of the Philippine population. Family planning was still facing relatively strong resistance in the agricultural heartland of the country where people had not been compelled to change their traditional ways of life, and among the rural majority elsewhere who lacked the means of effecting any change. The implication is that the shift of emphasis in the Philippine population program

toward a more broadly conceived approach has been a move in the right direction and that efforts along this line ought to be more fully investigated.

A comparison of fertility trends observed in the country ten to 15 years ago with those that have crystallized from the 1976 Seven Provinces Study has led us to the conjecture that the areas under investigation have passed their zenith of fertility. If this hypothesis holds, the answer to the question of what the government's investment in family planning has bought so far must be a qualified one. In measurable fertility decline, until 1975, it bought relatively little, but in laying the groundwork for future developments, the investment may have been worthwhile. At the least it has helped to clarify some of the conditions under which fertility decline is likely to occur in the Philippines and to demonstrate that, given such conditions, family planning can be an effective tool toward that end. Conversely, the experiences of the past suggest that a pure family planning service program, operating prior to, and independently of, other developmental schemes in rural areas where traditional ways of life persist unaltered, faces a relatively resistant population.

Aside from implications of the Seven Provinces Survey findings for the overall population program of the country, the findings draw attention to problems associated with ongoing family planning activities. By way of summing up, let us repeat these points:

1. Family planning prevalence in the seven study provinces in 1975 was low, particularly in the rural areas, which contain the potentially most fertile women and 90 percent of the entire eligible population.
2. The low contraceptive prevalence can be traced to: the persistence of a large family-size ideal, particularly, but not exclusively, among rural women; lack of sufficient family planning information and education, specifically in the rural areas and among the youngest (newlywed) women; widespread fear of contraceptive side effects; and high dropout rates among users.
3. Contraceptive practice is viewed primarily as a means for spacing births (there is little evidence that newlywed couples are seriously considering planning for a "small" family from the very beginning); is characterized by low continuation rates, especially among rural women and pill users, who constitute the largest group among all users; is limited largely to women who started using

any method relatively late in their reproductive lives; and relies predominantly on the less effective methods. Moreover, contraceptors show little willingness to experiment with new methods. The tendency is either to continue the first method accepted or to stop contracepting entirely. (The small number of women who were willing to experiment, however, showed a slight inclination to switch to more effective methods.)

4. Family planning program activities have concentrated mostly on (or succeeded mainly among) older and other low-priority women; have been unsuccessful in reaching a majority of the theoretically "most ready" women, i.e., women under the age of 30 who had stated that they did not desire any more children; have apparently failed in sufficiently informing and instructing rural women through available mass communication channels.

The above points do not represent new insights. Most of them have been stated in similar form on the basis of other studies, particularly the National Acceptor Survey of 1974. They are enumerated here to underscore the persistence of old problems and to emphasize that the difficulties existing in the seven provinces are similar to those found elsewhere in the country. With the permission of John E. Laing, we quote or paraphrase (adding italics for emphasis) recommendations from the "Final Report on the 1974 National Acceptor Survey" that have relevance to the findings from the present study (Laing, 1977: 17–21):

1. The relatively low levels of *acceptance* and effectiveness in the rural areas suggest the need for providing better educational and motivational efforts and follow-up services in these areas.
2. "The strong relationship between educational attainment of acceptors and the effectiveness with which they practice family planning suggests the need to make special efforts to improve the motivation and practice of the less-educated. Communications should be specially designed for such persons to make the advantages of family planning more relevant to their situation. Training of clinic and field personnel should attempt to provide guidelines for making communications more acceptable and understandable for such persons."
3. *Concerned officials in Laguna and Capiz particularly* should be alerted to the unusually *high dropout rates* in their provinces

and should seek to identify the causes and propose special ways to overcome them.

4. *Because of the high dropout rates among pill users*, it is important that program personnel devote special attention to the follow-up at home of pill clients who fail to report on time for resupply. During such follow-up visits, efforts should be made to provide clients with fresh pill supplies or with alternative methods if they have decided to stop using the pill.
5. *In view of the relatively widespread use of rhythm* and its apparent superiority to *other methods like* condoms, it is important to ensure that field personnel are well trained in teaching clients how to use the rhythm method properly.
6. "The distribution system of family planning information, education, and communication (IEC) materials should be reviewed and, if possible, revised to ensure broader distribution. Communications should be directed not only to motivating potential acceptors but [also] to instructing new acceptors and to informing, reassuring, and re-motivating continuing users and drop-outs as well."
7. "IEC materials should attempt to deal explicitly with counteracting the prevalent misconceptions about the various methods, especially those concerning the more effective ones."



TABLE A1a Total live births to cohorts of ever married women by time period before survey: Laguna

Age of women at survey date (January 1976)	Total births per thousand women in yearly periods before survey					
	0-4	5-9	10-14	15-19	20-24	All periods <sup>a</sup>
15-19	105					105
20-24	805	122	3			930
25-29	1,260	759	179	2		2,200
30-34	1,173	1,562	1,037	163		3,935
35-39	840	1,460	1,564	882	155	4,910
40-44	581	1,205	1,687	1,610	894	6,115
45-49	173	757	1,232	1,514	1,295	6,115
50-54	12	173	1,036	1,371	1,549	6,737
All ages (total fertility)	4,949	6,038	6,738	5,542	3,893	

a Including births that occurred more than 25 years before survey.

TABLE A1b  $Y(x, T)$  for cohorts of ever married women in specified years before survey: Laguna

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	25
15-19	-1.3486					
20-24	-.5267	-1.3084				
25-29	.1930	-.5156	-1.2006			
30-34	.9356	.2926	-.4573	-1.2743		
35-39	1.7828	1.0334	.2230	-.5390	-1.2718	
40-44	3.2675	1.9809	.9583	.1308	-.5973	-1.3426
45-49	6.0208	3.4696	1.7873	.8239	.0816	-.5179
50-54		6.3295	3.5811	1.6096	.7221	.0474

TABLE A1c  $\beta$  and  $Y(1, T)$  estimates for intervals ending in specified years before survey: Laguna

Age of women at survey date (January 1976)	Years before survey					$Y(1, T)$
	0	5	10	15	20	
15-19						-1.3488
20-24	.8541					-1.3084
25-29	.8788	.7484				-1.2006
30-34	.7863	.9300	.8927			-1.2743
35-39	.7579	.9910	.9451	.8006		-1.2718
40-44	.8333	1.0341	1.0119	.9031	.8144	-1.3426
45-49	.9470	1.0897	.9743	.9077	.7436	-1.1967
50-54		1.0202	1.2770	.8975	.8250	-1.2157

TABLE A2a Total live births to cohorts of ever married women by time period before survey: Nueva Ecija

Age of women at survey date (January 1976)	Total births per thousand women in yearly periods before survey					
	0-4	5-9	10-14	15-19	20-24	All periods <sup>a</sup>
15-19	75	4				79
20-24	823	177	12			1,012
25-29	1,406	990	127			2,523
30-34	1,523	1,659	953	95		4,230
35-39	1,279	1,582	1,502	861	195	5,430
40-44	817	1,372	1,753	1,625	951	6,653
45-49	242	925	1,510	1,568	1,319	6,646
50-54	14	178	637	1,072	1,209	4,739
All ages (total fertility)	6,179	6,887	6,494	5,221	3,674	

a Including births that occurred more than 25 years before survey.

TABLE A2b  $Y(x, T)$  for cohorts of ever married women in specified years before survey: Nueva Ecija

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	25
15-19	-1.4841					
20-24	-.6568	-1.2827				
25-29	.0135	-.5885	-1.3801			
30-34	.7358	.0774	-.6282	-1.4528		
35-39	1.6568	.7779	.0627	-.5976	-1.2420	
40-44	3.1626	1.7525	.8179	.0618	-.6178	-1.3711
45-49	6.0887	3.2349	1.6329	.6582	-.0201	-.5974
50-54		5.8230	3.1854	1.6487	.6680	-.0656

TABLE A2c  $\beta$  and  $Y(1, T)$  estimates for intervals ending in specified years before survey: Nueva Ecija

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	$Y(1, T)$
15-19						-1.4841
20-24	.6839					-1.2827
25-29	.7466	.8650				-1.3801
30-34	.8051	.8752	.9010			-1.4528
35-39	.8888	.8746	.8189	.7041		-1.2420
40-44	.9134	.9451	.9247	.8427	.8232	-1.3711
45-49	1.0593	1.0377	.9857	.8296	.7158	-1.1923
50-54		.9790	.9954	.9918	.8972	-1.4560



TABLE A3a Total live-births to cohorts of ever married women by time period before survey: Pangasinan

Age of women at survey date (January 1976)	Total births per thousand women in yearly periods before survey					
	0-4	5-9	10-14	15-19	20-24	All periods <sup>a</sup>
15-19	87					87
20-24	881	146	18	7		1,052
25-29	1,379	747	150	13	4	2,295
30-34	1,455	1,622	989	114	5	4,094
35-39	1,204	1,678	1,643	998	152	5,702
40-44	730	1,357	1,462	1,520	780	6,012
45-49	284	809	1,257	1,440	1,336	6,141
50-54	54	328	898	1,505	1,477	6,390
All ages (total fertility)	6,074	6,687	6,326	5,597	3,754	

a Including births that occurred more than 25 years before survey.

TABLE A3b  $Y(x, T)$  for cohorts of ever married women in specified years before survey: Pangasinan

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	25
15-19	-1.4459					
20-24	-.6078	-1.2956				
25-29	.0503	-.6255	-1.2696			
30-34	.7582	.1101	-.5863	-1.3934		
35-39	1.6430	.8426	.1081	-.5716	-1.2959	
40-44	2.8602	1.6782	.7264	.0516	-.6469	-1.2988
45-49	4.7183	2.8774	1.5851	.7107	.0314	-.5927
50-54		4.7692	2.7864	1.4981	.5578	-.0949

TABLE A3c  $\beta$  and  $Y(1, T)$  estimates for intervals ending in specified years before survey: Pangasinan

Age of women at survey date (January 1976)	Years before survey					$Y(1, T)$
	0	5	10	15	20	
15-19						-1.4459
20-24	.7515					-1.2956
25-29	.8382	.7037				-1.2696
30-34	.7925	.8637	.8819			-1.3934
35-39	.8095	.8982	.8430	.7915		-1.2959
40-44	.7656	.9625	.8251	.8663	.7123	-1.2988
45-49	.6833	.8370	.8842	.8307	.7740	-1.2781
50-54		.7360	.8344	.9509	.7983	-1.4917

TABLE A4a Total live births to cohorts of ever married women by time period before survey: Capiz

Age of women at survey date (January 1976)	Total births per thousand women in yearly periods before survey					
	0-4	5-9	10-14	15-19	20-24	All periods <sup>a</sup>
15-19	68					68
20-24	706	49				755
25-29	1,530	854	146		8	2,538
30-34	1,508	1,606	986	111	26	4,238
35-39	1,152	1,464	1,452	952	247	5,281
40-44	806	1,538	1,722	1,702	1,025	7,059
45-49	252	937	1,483	1,654	1,430	6,806
50-54	4	314	1,121	1,526	1,473	6,517
All ages (total fertility)	6,026	6,762	6,910	5,945	4,209	

a Including births that occurred more than 25 years before survey.

TABLE A4b  $Y(x, T)$  for cohorts of ever married women in specified years before survey: Capiz

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	25
15-19	-1.5005					
20-24	-.7189	-1.5659				
25-29	.0393	-.6338	-1.3253			
30-34	.7810	.1078	-.5794	-1.3564		
35-39	1.6405	.8210	.1303	-.5097	-1.1635	
40-44	3.1370	1.8039	.8052	.1037	-.5552	-1.2005
45-49	7.3172	3.2598	1.6467	.6947	-.0101	-.6257
50-54		7.3955	2.9952	1.3883	.4993	-.1332

TABLE A4c  $\beta$  and  $Y(1, T)$  estimates for intervals ending in specified years before survey: Capiz

Age of women at survey date (January 1976)	Years before survey					$Y(1, T)$
	0	5	10	15	20	
15-19						-1.5005
20-24	.9255					-1.5659
25-29	.8347	.7556				-1.3253
30-34	.8232	.8524	.8490			-1.3564
35-39	.8287	.8447	.7937	.7144		-1.1635
40-44	.8635	1.0099	.8579	.8171	.7052	-1.2005
45-49	1.5061	1.0448	.9628	.8620	.7634	-1.1429
50-54		1.6334	1.0408	.8989	.7736	-1.2368

TABLE A5a Total live births to cohorts of ever married women by time period before survey: Negros Oriental

Age of women at survey date (January 1976)	Total births per thousand women in yearly periods before survey					
	0-4	5-9	10-14	15-19	20-24	All periods <sup>a</sup>
15-19	83					83
20-24	707	121	3			831
25-29	1,234	757	122	16		2,129
30-34	1,208	1,514	1,027	210	20	4,003
35-39	1,042	1,405	1,452	861	138	4,902
40-44	727	1,202	1,320	1,309	731	5,399
45-49	266	1,033	1,404	1,672	1,442	6,947
50-54	45	299	980	1,342	1,580	6,272
All ages (total fertility)	5,312	6,331	6,308	5,410	3,911	

a Including births that occurred more than 25 years before survey.

TABLE A5b  $Y(x, T)$  for cohorts of ever married women in specified years before survey: Negros Oriental

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	25
15-19	-1.4252					
20-24	-.6448	-1.3371				
25-29	.0357	-.6051	-1.3086			
30-34	.6994	.1553	-.4924	-1.1799		
35-39	1.5259	.7843	.0954	-.5900	-1.3241	
40-44	2.8079	1.5849	.6883	.0191	-.6521	-1.3746
45-49	4.7668	3.0459	1.5347	.6905	-.0021	-.6013
50-54		4.9335	2.8751	1.4392	.5915	-1.1222

TABLE A5c  $\beta$  and  $Y(1, T)$  estimates for intervals ending in specified years before survey: Negros Oriental

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	$Y(1, T)$
15-19						-1.4252
20-24	.7564					-1.3371
25-29	.7947	.7687				-1.3086
30-34	.6653	.8033	.7513			-1.1799
35-39	.7499	.8425	.8501	.8022		-1.3241
40-44	.7921	.9067	.8184	.8324	.7895	-1.3746
45-49	.6387	.9789	.8537	.8470	.7430	-1.2874
50-54		.7641	.9301	.8573	.8728	-1.3084

TABLE A6a Total live births to cohorts of ever married women by time period before survey: Southern Leyte

Age of women at survey date (January 1976)	Total births per thousand women in yearly periods before survey					
	0-4	5-9	10-14	15-19	20-24	All periods <sup>a</sup>
15-19	97					97
20-24	1,173	81	2	4	4	1,268
25-29	1,400	785	102	8	10	2,305
30-34	1,665	1,742	1,155	164	27	4,763
35-39	1,351	1,833	1,722	1,029	138	8,564
40-44	761	1,485	1,729	1,680	864	6,604
45-49	267	1,015	1,362	1,621	1,375	6,361
50-54	31	337	1,155	1,533	1,487	6,753
All ages (total fertility)	6,745	7,278	7,227	6,039	3,848	

a Including births that occurred more than 25 years before survey.

TABLE A6b  $Y(x, T)$  for cohorts of ever married women in specified years before survey: Southern Leyte

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	25
15-19	-1.4449					
20-24	-.5126	-1.4495				
25-29	.0761	-.6214	-1.3563			
30-34	.8162	.1367	-.5296	-1.2829		
35-39	1.7672	.8617	.0902	-.5989	-1.3750	
40-44	3.0969	1.7860	.7746	.0343	-.6857	-1.4811
45-49	5.3802	3.0472	1.4710	.6127	-.1086	-.7447
50-54		5.3814	2.8817	1.3642	.5067	-.1106

TABLE A6c  $\beta$  and  $Y(1, T)$  estimates for intervals ending in specified years before survey: Southern Leyte

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	$Y(1, T)$
15-19						-1.4449
20-24	1.0237					-1.4495
25-29	.8650	.8031				-1.3563
30-34	.8310	.8264	.8231			-1.2829
35-39	.9157	.9435	.8546	.8480		-1.3750
40-44	.8491	1.0228	.9054	.8929	.8692	-1.4811
45-49	.8660	1.0209	.8680	.8821	.7887	-1.3758
50-54		.9279	.9829	.8672	.7550	-1.4953

TABLE A7a Total live births to cohorts of ever married women by time period before survey: Misamis Oriental

Age of women at survey date (January 1976)	Total births per thousand women in yearly periods before survey					
	0-4	5-9	10-14	15-19	20-24	All periods <sup>a</sup>
15-19	115		1	1		117
20-24	1,038	158	21	16	14	1,270
25-29	1,462	986	217	34	30	2,741
30-34	1,375	1,907	1,077	253	20	2,633
35-39	1,260	1,813	1,709	1,104	236	6,132
40-44	749	1,531	1,675	1,822	1,069	6,972
45-49	214	853	1,593	1,739	1,651	7,222
50-54	34	263	978	1,618	1,855	7,735
All ages (total fertility)	6,247	7,511	7,271	6,587	4,875	

a Including births that occurred more than 25 years before survey.

TABLE A7b  $Y(x, T)$  for cohorts of ever married women in specified years before survey: Misamis Oriental

Age of women at survey date (January 1976)	Years before survey					
	0	5	10	15	20	25
15-19	-1.3850					
20-24	-.5245	-1.2207				
25-29	.1383	-.4904	-1.1335			
30-34	.8022	.2226	-.5191	-1.1866		
35-39	1.7494	.9066	.1400	-.5231	-1.2207	
40-44	3.2062	1.8697	.8288	.1299	-.5901	-1.3996
45-49	5.2107	3.3371	1.7998	.7660	.0567	-.6009
50-54		5.4249	3.2402	1.7140	.7583	.0497

TABLE A7c  $\beta$  and  $Y(1, T)$  estimates for intervals ending in specified years before survey: Misamis Oriental

Age of women at survey date (January 1976)	Years before survey					$Y(1, T)$
	0	5	10	15	20	
15-19						-1.3850
20-24	.7607					-1.2207
25-29	.7797	.7027				-1.1335
30-34	.7088	.9199	.7294			-1.1866
35-39	.8523	.9374	.8224	.7623		-1.2207
40-44	.8657	1.0527	.8547	.8929	.8846	-1.3996
45-49	.6954	.9958	1.0454	.8674	.8156	-1.1749
50-54		.8109	.9885	.9665	.8666	-1.1181

TABLE A8a Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Laguna

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	45,904	77.6	22.4	15.1	84.9
20-24	36,824	47.9	52.1	21.2	78.8
25-29	27,223	22.4	77.6	34.6	65.4
30-34	22,238	14.8	85.2	45.0	55.0
35-39	19,460	9.8	90.2	29.4	70.6
40-44	14,687	16.5	83.5	20.7	79.3
45-49	13,557	20.9	79.1	10.5	89.5
50-54	11,215	12.0	78.0	0.1	99.9
15-54	191,108	40.7	59.3	26.2	73.8
FERTILITY RATE (per thousand women)					
15-19	69.0	1.8	543.9	929.2	475.5
20-24	235.3	28.7	424.7	360.7	441.9
25-29	237.8	49.2	292.2	212.9	334.2
30-34	189.0	57.9	211.8	160.4	253.7
35-39	113.9	0.6	126.2	123.9	127.2
40-44	69.4	0.0	83.1	9.1	102.4
45-49	1.7	0.0	2.3	0.0	2.4
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	4.58	0.69	8.42	8.98	8.69

TABLE A8b Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Urban Laguna

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	2,573	95.6	4.4	0.0	100.0
20-24	2,299	71.1	28.9	39.1	60.9
25-29	1,561	38.5	61.5	45.0	55.0
30-34	1,008	17.6	82.4	39.5	60.5
35-39	873	16.0	84.0	44.9	65.1
40-44	777	27.2	72.8	21.4	78.6
45-49	892	12.7	87.3	13.4	86.6
50-54	437	14.2	85.8	2.5	97.5
15-54	10,420	53.6	46.4	31.6	68.4
FERTILITY RATE (per thousand women)					
15-19	46.4	7.0	909.2	0.0	909.2
20-24	123.3	20.9	375.7	157.9	516.0
25-29	131.5	0.0	213.4	48.6	349.2
30-34	174.3	125.0	184.7	65.7	263.3
35-39	178.6	0.0	212.7	257.3	176.5
40-44	82.1	0.0	113.3	182.4	93.9
45-49	28.0	0.0	31.8	0.0	37.1
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	3.82	0.76	10.20	3.56	11.73

TABLE A8c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Laguna

Age of women at survey date (January 1976)	Current marital status			Current contraceptive users among currently married	
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	13,375	93.8	6.2	13.3	86.7
20-24	9,320	63.1	36.9	19.8	80.2
25-29	7,072	47.0	53.0	7.9	92.1
30-34	4,556	20.7	79.3	50.1	49.9
35-39	4,943	11.3	88.7	37.5	62.5
40-44	2,815	5.7	94.3	26.0	74.0
45-49	3,957	32.5	67.5	15.7	84.3
50-54	2,937	13.6	86.4	0.0	100.0
15-54	48,975	51.3	48.7	29.0	71.0
FERTILITY RATE (per thousand women)					
15-19	39.0	4.5	562.7	1000.0	495.2
20-24	193.5	8.9	509.6	295.6	562.7
25-29	116.6	0.0	220.1	246.2	204.8
30-34	185.4	39.3	223.4	268.0	178.7
35-39	82.0	0.0	92.5	31.0	129.3
40-44	0.0	0.0	0.0	0.0	0.0
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	3.82	0.26	8.04	9.12	7.85

TABLE A8d Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Laguna

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	29,956	84.3	15.7	15.7	84.3
20-24	25,207	40.0	60.0	20.6	79.4
25-29	18,590	12.2	87.8	33.5	66.5
30-34	16,674	12.8	87.2	43.8	56.2
35-39	13,644	8.8	91.2	25.5	74.5
40-44	11,094	18.2	81.8	19.2	80.8
45-49	8,708	16.3	83.7	8.2	91.8
50-54	7,841	25.3	74.7	0.0	100.0
15-54	131,714	35.8	64.2	25.1	74.9
FERTILITY RATE (per thousand women)					
15-19	83.4	0.0	532.2	918.8	460.1
20-24	261.6	42.6	407.6	392.8	411.5
25-29	289.9	129.8	312.2	216.1	360.4
30-34	191.0	61.8	210.0	131.2	271.4
35-39	121.6	0.9	133.3	159.1	124.5
40-44	84.8	0.0	103.6	0.0	128.3
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	5.16	1.18	8.49	9.09	8.78

TABLE A9a Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Nueva Ecija

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	60,872	90.3	9.7	10.1	89.9
20-24	39,699	45.7	54.3	17.9	82.1
25-29	29,907	23.8	76.2	25.8	74.2
30-34	26,942	11.1	88.9	26.8	73.2
35-39	23,751	8.6	91.4	26.2	73.8
40-44	14,811	5.4	94.6	12.3	87.7
45-49	12,667	21.4	78.6	10.6	89.4
50-54	9,828	13.9	86.1	0.0	100.0
15-54	218,477	41.3	58.7	19.8	80.2
FERTILITY RATE (per thousand women)					
15-19	50.7	3.7	489.5	571.9	480.2
20-24	229.0	0.5	421.7	306.8	446.7
25-29	318.8	47.8	403.2	299.4	439.4
30-34	300.7	63.5	330.3	129.3	403.9
35-39	191.6	0.0	209.7	217.5	206.9
40-44	110.6	0.0	116.9	34.9	128.3
45-49	31.5	0.0	40.1	0.0	44.8
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	6.16	0.58	10.06	7.80	10.75

TABLE A9b Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Urban Nueva Ecija

Age of women at survey date (January 1976)	Current marital status		Current contraceptive users among currently married		
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	2,719	86.5	13.5	30.7	69.3
20-24	2,848	51.3	48.7	33.5	66.5
25-29	1,835	36.7	63.3	34.1	65.9
30-34	1,235	10.0	90.0	36.0	64.0
35-39	1,279	4.7	95.3	46.1	53.9
40-44	971	18.5	81.5	17.9	82.1
45-49	885	17.4	82.6	14.0	86.0
50-54	433	33.6	66.4	0.0	100.0
15-54	12,255	42.2	57.8	31.2	68.8
FERTILITY RATE (per thousand women)					
15-19	53.3	3.8	369.9	0.0	534.7
20-24	187.3	6.7	378.0	255.6	44.0
25-29	281.6	24.8	430.1	236.1	530.8
30-34	302.7	8.1	336.9	109.8	463.0
35-39	135.2	0.0	141.7	127.5	154.1
40-44	110.7	0.0	136.4	116.2	140.2
45-49	10.8	0.0	12.9	0.0	15.2
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	5.41	0.22	9.03	4.23	11.39



TABLE A9c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Nueva Ecija

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	4,589	94.8	5.2	2.2	97.8
20-24	3,032	56.3	43.7	20.2	79.8
25-29	2,954	44.3	55.7	28.7	71.3
30-34	2,559	32.4	67.6	25.8	74.2
35-39	1,849	18.5	81.5	26.9	73.1
40-44	1,353	15.4	84.6	23.5	76.5
45-49	1,608	31.5	68.5	10.6	89.4
50-54	1,490	41.9	58.1	0.0	100.0
15-54	19,434	50.6	49.4	21.0	79.0
FERTILITY RATE (per thousand women)					
15-19	34.5	5.8	555.1	718.2	554.9
20-24	193.4	0.0	442.4	177.7	509.4
25-29	175.7	2.4	313.3	230.6	346.7
30-34	226.7	48.7	311.8	311.6	311.7
35-39	192.1	0.0	236.0	190.8	252.4
40-44	63.2	0.0	75.1	142.9	53.8
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	4.43	0.28	9.67	8.86	10.14

TABLE A9d Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Nueva Ecija

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	53,564	90.1	9.9	9.0	91.0
20-24	33,819	44.3	55.7	16.6	83.4
25-29	25,118	20.5	79.5	25.0	75.0
30-34	23,098	8.7	91.3	26.4	73.6
35-39	20,623	8.0	92.0	24.8	75.2
40-44	12,487	3.0	97.0	10.7	89.3
45-49	10,174	20.1	79.9	10.3	89.7
50-54	7,905	7.7	92.3	0.0	100.0
15-54	186,788	40.3	59.7	18.9	81.1
FERTILITY RATE (per thousand women)					
15-19	52.0	3.5	495.2	710.8	473.7
20-24	235.9	0.0	423.2	326.4	442.4
25-29	337.8	61.9	408.9	310.5	442.0
30-34	309.1	73.3	331.5	115.7	408.9
35-39	195.3	0.0	212.3	231.2	206.0
40-44	116.1	0.0	119.6	0.0	133.9
45-49	38.0	0.0	47.5	0.0	53.1
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	6.42	0.69	10.19	8.47	10.88

TABLE A10a Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Pangasinan

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	85,640	88.9	11.1	9.8	80.2
20-24	54,922	45.7	54.3	14.9	85.1
25-29	48,487	20.9	79.1	21.7	78.3
30-34	38,927	9.9	90.1	27.0	73.0
35-39	34,329	11.8	89.2	22.9	77.1
40-44	32,213	17.8	82.2	15.9	84.1
45-49	24,779	22.2	77.8	6.2	95.8
50-54	18,690	20.0	80.0	0.1	99.9
15-54	337,987	39.3	60.7	17.7	82.3
FERTILITY RATE (per thousand women)					
15-19	60.4	3.0	519.5	473.0	524.5
20-24	222.4	14.5	397.2	260.6	421.1
25-29	257.8	20.8	320.5	261.9	336.8
30-34	237.1	2.1	262.8	169.4	297.5
35-39	225.0	46.5	253.1	219.2	263.1
40-44	54.6	0.5	66.4	38.4	71.7
45-49	10.3	0.0	13.3	0.0	14.2
50-54	10.8	0.0	13.5	0.0	13.5
Total fertility	5.39	0.44	9.23	7.11	9.71

TABLE A10b Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Urban Pangasinan

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	1,564	92.4	7.6	27.9	72.1
20-24	1,153	59.7	40.3	17.1	82.9
25-29	1,117	38.2	61.8	39.7	60.3
30-34	783	15.1	84.9	42.6	57.4
35-39	702	24.7	75.3	39.4	60.6
40-44	622	19.4	80.6	19.9	80.1
45-49	415	13.0	87.0	18.6	81.4
50-54	336	23.9	76.1	4.2	95.8
15-54	6,692	45.8	54.2	30.1	69.9
FERTILITY RATE (per thousand women)					
15-19	31.7	4.5	360.4	314.1	372.4
20-24	235.1	0.0	584.1	102.3	682.4
25-29	260.6	16.5	411.9	284.9	495.4
30-34	310.7	58.8	355.3	508.8	241.8
35-39	159.5	5.6	210.7	283.8	164.9
40-44	62.3	25.9	70.4	0.0	89.2
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	5.30	0.56	9.96	7.47	10.23

TABLE A10c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Pangasinan

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	9,653	93.9	6.1	23.5	76.5
20-24	5,480	60.5	39.5	34.6	65.4
25-29	5,780	40.0	60.0	27.6	72.4
30-34	3,844	28.1	71.9	37.6	62.4
35-39	4,442	30.1	69.9	30.6	69.4
40-44	4,614	20.6	79.4	30.9	69.1
45-49	2,630	26.0	74.0	14.7	85.3
50-54	2,110	39.1	60.9	0.0	100.0
15-54	38,553	50.6	49.4	27.9	72.1
FERTILITY RATE (per thousand women)					
15-19	53.6	4.2	815.9	1050.8	744.4
20-24	176.2	12.1	428.0	638.1	317.0
25-29	190.3	7.0	312.8	305.3	315.8
30-34	210.4	0.9	292.4	209.7	342.5
35-39	174.1	0.0	249.2	221.4	261.4
40-44	54.4	0.0	68.5	153.8	30.2
45-49	23.7	0.0	32.0	0.0	37.5
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	4.41	0.12	10.99	12.90	10.24

TABLE A10d Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Pangasinan

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	74,423	88.2	11.8	8.6	91.4
20-24	48,289	43.9	56.1	13.4	86.6
25-29	41,590	17.8	82.2	20.7	79.3
30-34	34,300	7.6	92.4	25.8	74.2
35-39	29,185	7.2	92.8	21.6	79.4
40-44	26,977	11.3	82.7	13.6	86.4
45-49	21,734	21.9	78.1	4.9	95.1
50-54	16,244	17.4	82.6	0.0	100.0
15-54	292,742	37.6	62.4	16.4	83.6
FERTILITY RATE (per thousand women)					
15-19	61.9	2.8	501.3	370.2	513.6
20-24	226.7	15.3	392.1	191.6	423.1
25-29	267.2	25.4	319.4	255.0	336.3
30-34	238.4	0.0	258.2	152.1	295.0
35-39	242.1	82.3	254.4	216.5	264.8
40-44	54.5	0.0	66.0	0.0	76.3
45-49	8.8	0.0	11.3	0.0	11.9
50-54	12.4	0.0	15.1	0.0	15.0
Total fertility	5.56	0.63	9.09	5.93	9.68

TABLE A11a Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Capiz

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	25,675	91.3	8.7	5.7	94.3
20-24	19,601	51.0	49.0	18.7	81.3
25-29	12,844	25.5	74.5	18.1	81.9
30-34	10,669	14.2	85.8	24.9	75.1
35-39	12,274	20.7	79.3	16.4	83.6
40-44	9,310	7.5	92.5	19.4	80.6
45-49	7,895	15.8	84.2	3.8	96.2
50-54	7,124	10.9	89.1	0.4	99.6
15-54	105,392	42.8	57.2	15.3	84.7
FERTILITY RATE (per thousand women)					
15-19	55.3	4.2	588.9	538.5	592.0
20-24	241.7	56.5	434.7	421.0	437.8
25-29	318.6	61.0	407.0	256.3	440.2
30-34	303.2	0.7	353.1	256.4	385.1
35-39	193.1	2.6	243.0	136.7	263.9
40-44	101.7	0.0	110.0	18.8	132.0
45-49	17.8	0.0	21.1	0.0	21.9
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	6.16	0.63	10.79	8.14	11.36

TABLE A11b Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Urban Capiz

Age of women at survey date (January 1976)	Current marital status		Current contraceptive users among currently married		
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	1,426	98.7	1.3	0.0	100.0
20-24	682	80.0	20.0	30.3	69.7
25-29	693	52.0	48.0	32.0	68.0
30-34	347	32.2	67.8	42.8	57.2
35-39	414	32.2	67.8	75.3	24.7
40-44	298	18.5	81.5	50.2	49.8
45-49	335	23.1	76.9	25.2	74.8
50-54	328	21.3	78.7	8.6	91.4
15-54	4,523	60.0	40.0	38.8	61.2
FERTILITY RATE (per thousand women)					
15-19	10.1	0.0	750.0	0.0	774.2
20-24	111.5	41.2	394.7	521.8	344.3
25-29	146.4	3.3	302.2	338.8	287.5
30-34	229.3	8.4	336.0	506.6	211.9
35-39	56.5	0.0	82.5	110.9	0.0
40-44	107.9	0.0	131.0	263.7	0.0
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	3.31	0.26	9.98	8.71	8.09

TABLE A11c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Capiz

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	3,146	94.4	5.6	13.9	86.1
20-24	1,462	62.8	37.2	12.6	87.4
25-29	1,171	31.4	68.6	34.8	65.2
30-34	1,009	1.6	98.4	42.1	57.9
35-39	857	22.5	77.5	41.1	58.9
40-44	781	17.1	82.9	21.3	78.7
45-49	758	22.1	77.9	9.7	90.3
50-54	654	20.7	69.3	0.0	100.0
15-54	9,838	50.8	49.2	26.5	73.5
FERTILITY RATE (per thousand women)					
15-19	37.1	5.1	583.8	295.7	629.0
20-24	157.5	18.0	392.7	315.8	403.3
25-29	308.6	79.7	413.1	277.4	484.3
30-34	247.1	0.0	250.8	194.8	291.5
35-39	127.0	32.0	155.2	86.2	201.7
40-44	21.7	0.0	26.2	0.0	33.3
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	4.50	0.67	9.11	5.85	10.22

TABLE A11d Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Capiz

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	21,103	90.5	9.5	5.1	94.9
20-24	17,457	47.9	52.1	18.9	81.1
25-29	10,980	23.5	76.5	16.0	84.0
30-34	9,313	14.7	85.3	22.2	77.8
35-39	11,003	20.2	79.8	12.5	87.5
40-44	8,231	7.3	93.7	18.3	81.7
45-49	6,802	14.8	85.2	2.3	97.7
50-54	6,142	8.1	91.9	0.0	100.0
15-54	91,031	41.1	58.9	13.5	86.5
FERTILITY RATE (per thousand women)					
15-19	59.9	4.4	588.2	591.5	588.0
20-24	259.3	63.7	439.0	422.6	442.9
25-29	328.8	65.1	409.9	246.5	441.2
30-34	311.9	0.0	365.8	254.2	397.6
35-39	203.9	0.0	255.5	155.3	269.7
40-44	108.6	0.0	115.9	0.0	141.9
45-49	20.6	0.0	24.1	0.0	24.7
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	6.46	0.67	10.99	8.35	11.53

TABLE A12a Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Negros Oriental

Age of women at survey date (January 1976)	Current marital status			Current contraceptive users among currently married	
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	35,343	86.4	13.6	13.4	86.6
20-24	30,151	55.9	44.1	26.2	75.8
25-29	23,463	29.9	70.1	35.8	64.2
30-34	19,835	21.5	78.5	37.5	62.2
35-39	21,746	20.6	79.4	37.1	62.5
40-44	18,362	25.0	75.0	29.3	70.7
45-49	14,038	19.3	80.7	12.4	87.6
50-54	7,961	14.6	85.4	3.3	96.7
15-54	170,899	42.1	57.9	28.5	71.5
FERTILITY RATE (per thousand women)					
15-19	78.4	0.3	574.9	896.0	525.4
20-24	202.2	39.7	408.5	370.7	421.9
25-29	271.5	18.5	379.5	332.0	405.9
30-34	243.6	33.7	301.1	186.5	369.7
35-39	182.5	66.8	212.5	151.2	248.6
40-44	95.5	0.0	127.5	142.4	121.3
45-49	8.5	0.0	10.6	0.0	12.1
50-54	8.9	0.0	10.4	0.0	10.8
Total fertility	5.46	0.80	10.13	10.39	10.60

TABLE A12b Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Urban Negros Oriental

Age of women at survey date (January 1976)	Current marital status			Current contraceptive users among currently married	
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENT OF WOMEN					
15-19	1,599	95.8	4.2	24.3	75.7
20-24	1,630	76.1	23.9	40.9	59.1
25-29	1,094	47.8	52.2	59.8	40.2
30-34	703	37.7	62.3	57.5	42.5
35-39	718	18.6	81.4	50.3	49.7
40-44	375	10.3	89.7	42.5	57.5
45-49	369	16.9	83.1	35.5	64.5
50-54	377	25.4	74.6	5.2	94.8
15-54	6,865	57.0	43.0	45.1	54.9
FERTILITY RATE (per thousand women)					
15-19	34.8	5.0	728.6	1200.0	575.2
20-24	90.1	0.0	377.1	279.0	445.8
25-29	138.7	25.4	242.9	200.6	305.5
30-34	97.5	3.7	155.1	191.8	107.9
35-39	142.6	0.0	174.4	149.5	201.0
40-44	94.1	0.0	105.6	129.2	87.2
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	2.99	0.17	8.92	10.75	8.61

TABLE A12c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Negros Oriental

Age of women at survey date (January 1976)	Current marital status		Current contraceptive users among currently married		
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	3,637	92.0	8.0	22.5	77.5
20-24	2,742	58.5	41.5	46.6	53.4
25-29	2,450	42.1	57.9	53.4	42.6
30-34	1,816	36.2	63.8	59.0	41.0
35-39	1,975	20.8	79.2	57.6	42.4
40-44	1,721	15.8	84.2	54.4	45.6
45-49	1,460	24.9	75.1	20.4	79.6
50-54	1,081	17.2	82.8	0.0	100.0
15-54	16,882	46.9	53.1	44.6	55.4
FERTILITY RATE (per thousand women)					
15-19	52.7	0.0	664.3	971.9	569.5
20-24	157.2	8.5	366.6	378.7	356.8
25-29	167.4	0.0	289.2	284.8	293.7
30-34	136.6	9.9	208.8	189.8	236.2
35-39	135.3	0.0	170.8	115.5	245.6
40-44	70.2	0.0	83.4	80.1	87.2
45-49	18.5	0.0	24.4	0.0	31.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	3.69	0.09	9.04	10.10	9.10

TABLE A12d Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Negros Oriental

Age of women at survey date (January 1976)	Current marital status			Current contraceptive users among currently married	
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	30,107	85.2	14.8	12.6	87.4
20-24	25,779	54.6	45.4	23.9	76.1
25-29	19,919	27.2	72.8	32.9	67.1
30-34	17,316	19.3	80.7	35.0	65.0
35-39	19,053	20.6	79.4	34.7	65.3
40-44	16,266	26.3	73.7	25.9	74.1
45-49	12,209	18.6	81.4	10.7	89.3
50-54	6,503	13.5	86.5	3.7	96.3
15-54	147,152	40.9	59.1	26.3	73.7
FERTILITY RATE (per thousand women)					
15-19	84.0	0.0	566.6	876.9	521.9
20-24	212.8	46.0	413.2	374.1	425.5
25-29	293.2	21.6	394.9	350.3	416.8
30-34	260.8	40.8	313.4	185.7	382.1
35-39	188.5	75.3	217.8	157.1	250.0
40-44	98.3	0.0	133.4	158.4	124.6
45-49	7.5	0.0	7.7	0.0	10.3
50-54	11.0	0.0	12.6	0.0	13.2
Total fertility	5.78	0.92	10.30	10.51	10.72

TABLE A13a Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Southern Leyte

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	10,713	87.9	12.1	19.9	80.1
20-24	5,239	28.8	71.2	22.2	77.8
25-29	7,611	24.8	75.2	40.3	59.7
30-34	6,300	7.0	93.0	36.3	63.7
35-39	6,308	7.8	92.2	39.4	60.6
40-44	5,036	5.6	94.4	28.6	71.4
45-49	4,588	16.0	84.0	3.2	96.8
50-54	5,827	15.3	84.7	0.6	99.4
15-54	51,622	30.5	69.5	26.1	73.9
FERTILITY RATE (per thousand women)					
15-19	82.3	7.3	627.6	743.2	598.8
20-24	333.0	74.8	437.7	397.8	449.0
25-29	312.0	64.7	393.6	312.6	448.3
30-34	296.9	291.5	297.3	239.5	330.2
35-39	198.8	24.0	213.9	74.0	304.8
40-44	80.3	0.0	85.1	96.5	80.5
45-49	14.6	0.0	17.4	0.0	17.9
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	6.59	2.31	10.36	9.32	11.15

TABLE A13b Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Southern Leyte

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	2,474	97.2	2.8	0.0	100.0
20-24	1,333	61.3	38.7	23.7	76.3
25-29	1,296	40.4	59.6	35.1	64.9
30-34	1,080	13.3	86.7	47.0	53.0
35-39	754	24.7	75.3	63.7	36.3
40-44	1,026	8.5	91.5	41.5	58.5
45-49	863	14.3	85.7	9.1	90.9
50-54	874	24.9	75.1	4.0	96.0
15-54	9,700	45.5	54.5	32.6	67.4
FERTILITY RATE (per thousand women)					
15-19	11.4	0.0	416.7	0.0	408.4
20-24	280.1	68.9	613.7	660.7	599.3
25-29	248.4	86.1	357.6	313.4	382.2
30-34	278.7	87.3	307.4	256.1	353.7
35-39	136.6	57.7	162.5	105.3	261.5
40-44	13.4	0.0	14.6	0.0	25.0
45-49	7.8	0.0	9.7	0.0	10.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	4.88	1.50	9.41	6.68	10.20



TABLE A13c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Southern Leyte

Age of women at survey date (January 1976)	Current marital status			Current contraceptive users among currently married	
	All women	Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	8,239	85.5	14.5	20.9	79.1
20-24	3,906	18.2	81.8	22.0	78.0
25-29	6,315	21.2	78.8	41.2	58.8
30-34	5,220	5.9	94.1	34.5	65.5
35-39	5,554	5.3	94.7	36.4	63.6
40-44	4,010	4.9	95.1	25.6	74.4
45-49	3,725	16.4	83.6	2.0	98.0
50-54	4,953	13.3	86.7	0.0	100.0
15-54	41,922	27.1	72.9	25.0	75.0
FERTILITY RATE (per thousand women)					
15-19	100.4	9.4	637.9	743.0	610.6
20-24	350.5	81.3	410.3	352.0	426.4
25-29	326.7	55.4	399.8	312.3	460.9
30-34	300.2	371.9	295.7	235.9	327.2
35-39	208.4	0.0	220.1	66.9	307.7
40-44	96.7	0.0	101.7	133.4	90.8
45-49	15.8	0.0	18.9	0.0	19.3
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	6.99	2.59	10.42	9.22	11.21

TABLE A14a Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Misamis Oriental

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	23,389	82.3	17.7	6.9	93.1
20-24	15,585	41.0	59.0	26.8	73.2
25-29	15,670	20.6	79.4	33.2	66.8
30-34	11,950	13.2	86.8	33.1	66.9
35-39	14,016	11.8	88.2	39.0	61.0
40-44	11,867	11.1	88.9	24.1	76.9
45-49	9,654	13.9	86.1	7.7	92.3
50-54	5,871	6.5	93.5	3.1	96.9
15-54	108,002	32.7	67.3	26.1	73.9
FERTILITY RATE (per thousand women)					
15-19	72.8	7.2	377.5	669.2	432.6
20-24	274.9	14.7	455.9	376.3	485.0
25-29	243.7	49.7	294.1	248.9	316.6
30-34	232.1	8.8	266.2	175.8	310.9
35-39	184.8	85.4	198.2	118.3	249.3
40-44	88.4	22.7	96.6	87.5	99.4
45-49	1.5	0.0	1.7	0.0	1.8
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	5.49	0.94	8.38	8.38	9.48

TABLE A14b Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Urban Misamis Oriental

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	2,712	94.8	5.2	17.9	82.1
20-24	1,887	70.0	30.0	25.5	74.5
25-29	1,508	37.2	62.8	34.7	65.3
30-34	885	20.2	79.8	41.9	58.1
35-39	899	10.5	89.5	45.1	54.9
40-44	763	8.5	91.5	27.8	72.2
45-49	587	32.5	67.5	8.1	91.9
50-54	330	8.6	91.4	1.3	98.7
15-54	9,571	52.5	47.5	30.8	69.2
FERTILITY RATE (per thousand women)					
15-19	29.9	10.6	380.6	421.6	373.7
20-24	137.7	0.0	459.2	461.4	458.3
25-29	195.3	0.0	311.5	246.9	344.9
30-34	183.1	73.9	210.1	146.8	255.2
35-39	152.3	0.0	169.7	167.1	172.8
40-44	36.3	0.0	39.0	33.5	42.0
45-49	10.9	0.0	15.3	0.0	17.6
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	3.73	0.42	7.93	7.39	8.32

TABLE A14c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Misamis Oriental

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	3,470	86.7	13.3	20.0	80.0
20-24	2,264	50.6	49.4	34.0	66.0
25-29	1,808	24.9	75.1	42.3	51.7
30-34	1,718	25.5	74.5	33.8	66.2
35-39	1,716	14.1	85.9	33.1	66.9
40-44	1,470	18.5	81.5	23.4	76.6
45-49	1,343	11.7	88.3	13.1	86.9
50-54	956	15.2	84.8	5.5	94.5
15-54	14,745	39.5	60.5	27.9	72.1
FERTILITY RATE (per thousand women)					
15-19	39.8	0.0	299.5	279.9	304.5
20-24	258.9	19.4	504.1	367.0	574.8
25-29	220.5	108.4	257.8	180.6	314.3
30-34	204.1	0.0	274.0	183.2	320.8
35-39	258.4	0.0	301.3	293.6	304.4
40-44	78.0	0.0	95.7	81.6	100.1
45-49	5.8	0.0	6.3	0.0	7.5
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	5.33	0.64	8.69	6.93	9.63

TABLE A14d Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Misamis Oriental

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	17,207	83.4	16.6	5.8	94.2
20-24	11,434	34.5	65.5	25.9	74.1
25-29	12,354	18.0	82.0	31.9	68.1
30-34	9,347	10.3	89.7	32.3	67.7
35-39	11,401	11.5	88.5	39.4	60.6
40-44	9,634	10.1	89.9	23.8	76.2
45-49	7,724	12.8	87.2	6.7	93.3
50-54	4,585	4.6	95.4	2.7	97.3
15-54	83,686	29.2	70.8	25.4	74.6
FERTILITY RATE (per thousand women)					
15-19	86.7	8.1	481.1	938.8	453.0
20-24	300.3	18.2	448.7	371.7	475.5
25-29	252.9	50.5	297.2	260.9	314.3
30-34	241.9	1.0	269.6	177.7	313.4
35-39	176.5	107.1	185.4	92.6	245.9
40-44	94.2	30.9	101.3	93.2	103.7
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	5.76	1.08	8.92	9.67	9.53



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TABLE A8c Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Semi-urban Laguna

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	13,375	93.8	6.2	13.3	86.7
20-24	9,320	63.1	36.9	19.8	80.2
25-29	7,072	47.0	53.0	7.9	92.1
30-34	4,556	20.7	79.3	50.1	49.9
35-39	4,943	11.3	88.7	37.5	62.5
40-44	2,815	5.7	94.3	26.0	74.0
45-49	3,957	32.5	67.5	15.7	84.3
50-54	2,937	13.6	86.4	0.0	100.0
15-54	48,975	51.3	48.7	29.0	71.0
FERTILITY RATE (per thousand women)					
15-19	39.0	4.5	562.7	1000.0	495.2
20-24	193.5	8.9	509.6	295.6	562.7
25-29	116.6	0.0	220.1	246.2	204.8
30-34	185.4	39.3	223.4	268.0	178.7
35-39	82.0	0.0	92.5	31.0	129.3
40-44	0.0	0.0	0.0	0.0	0.0
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	3.82	0.26	8.04	9.12	7.85

TABLE A8d Percentage of women and their age-specific and total fertility rates, by age, marital status, and current contraceptive use: Rural Laguna

Age of women at survey date (January 1976)	All women	Current marital status		Current contraceptive users among currently married	
		Not married	Married	Users	Nonusers
NUMBER AND PERCENTAGE OF WOMEN					
15-19	29,956	84.3	15.7	15.7	84.3
20-24	25,207	40.0	60.0	20.6	79.4
25-29	18,590	12.2	87.8	33.5	66.5
30-34	16,674	12.8	87.2	43.8	56.2
35-39	13,644	8.8	91.2	25.5	74.5
40-44	11,094	18.2	81.8	19.2	80.8
45-49	8,708	16.3	83.7	8.2	91.8
50-54	7,841	25.3	74.7	0.0	100.0
15-54	131,714	35.8	64.2	25.1	74.9
FERTILITY RATE (per thousand women)					
15-19	83.4	0.0	532.2	918.8	460.1
20-24	261.6	42.6	407.6	392.8	411.5
25-29	289.9	129.8	312.2	216.1	360.4
30-34	191.0	61.8	210.0	131.2	271.4
35-39	121.6	0.9	133.3	159.1	124.5
40-44	84.8	0.0	103.6	0.0	128.3
45-49	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0
Total fertility	5.16	1.18	8.49	9.09	8.78