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Indonesia Fertility Survey 1976

Principal Report

Volume I

Central Bureau of
Statistics and World
Fertility Survey

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Preface

The Indonesia Fertility Survey was the result of a close collaborative effort between the World Fertility Survey (WFS) of the International Statistical Institute and the Central Bureau of Statistics (CBS), Government of Indonesia. The survey was the third phase of a three-phase Intercensal Population Survey carried out in 1976. The Intercensal Population Survey was conducted with the objective of collecting information on the Indonesian population at the middle of the 1970 census decade. The first two phases of the survey which covered the entire country provided information on demographic and socio-economic characteristics of households and household members; the third phase, which was part of the world-wide study on human fertility conducted by the WFS, covered only the islands of Jawa and Bali, providing more detailed information on the level and pattern of fertility, marriage behaviour, contraceptive usage, etc.

The principal report of the survey consists of two volumes; this first volume presents the background, methodology, and main findings of the survey and the second volume contains the detailed tabulations. Further in-depth analysis will still be required and it is hoped that this report will encourage researchers and analysts to undertake such analyses. Due to the nature of the Intercensal Population Survey, the information from this survey can be directly related to the other wealth of information collected through the second phase.

The vital registration in Indonesia is far from being complete; the measurement of fertility is, therefore, done through household sample surveys and censuses which have been conducted several times in the past. In carrying out the 1976 Indonesia Fertility Survey, the Central Bureau of Statistics gained some very useful experience, particularly in survey design, field enumeration and supervision as well as in data processing. The success of this survey has been possible due to the untiring mutual efforts of WFS and CBS experts. It is hoped that such a beneficial co-operation can be repeated in the future.

Jakarta

September 1978

M. Abdulmadjid
Director-General
Central Bureau of Statistics

Acknowledgements

The Indonesia Fertility Survey was carried out successfully with the field work and post-enumeration survey conducted in 1976 and data processing completed in 1978. The success of the whole operation was made possible by the active and dedicated participation of a large number of people, and unfortunately it is not possible to acknowledge them all individually.

The Central Bureau of Statistics would like to thank the Director of the World Fertility Survey, Sir Maurice Kendall, for his assistance and encouragement throughout the implementation of the project. We would also like to acknowledge the assistance of a number of WFS staff who made visits to Indonesia during the project. We wish to thank Dr. Alphonse MacDonald, the WFS co-ordinator for IFS, for valuable assistance during the preparation of the project agreement, preparation of the survey design, and helpful advice throughout the various stages of the survey. We wish to acknowledge and thank Dr. Vijay Verma for his assistance in the design of the questionnaire as well as in the editing, coding, and data processing; a major part of this report was prepared by Dr. Verma in collaboration with CBS. Ms. Agnes Whitfield was involved in the questionnaire design, helped in the pre-testing and participated in the training of the supervisors; we also wish to thank Ms. Whitfield for her contribution to the Reliability Study. The Central Bureau of Statistics would also like to acknowledge the assistance of Ms. Pippa Simpson, Mr. John Futcher (United Nations Statistical Development Programme) and Mr. Manuel Pasaba in the data processing stage of the survey. Mr. John Cleland should be thanked for his valuable assistance in the preparation of the report. Last, but not least, we wish to thank Mr. Roy Henwick for his assistance in the smooth transfer of funds so that all activities could be carried out without difficulties.

The National Family Planning Co-ordinating Board of Indonesia has given valuable direction to the survey design in particular in the subject related to the Family Planning Programme. In this connection, Dr. Haryono Suyono, Deputy Chairman III of the NFPCB and Mr. Thomas H. Reese of the USAID Mission in Jakarta made significant contributions.

Several other institutions in the provinces in Indonesia assisted the field operations of the Indonesia Fertility Survey by providing technical co-ordinators, supervisors and field workers for the respective province. These are: The Institute of Demography, University of Indonesia; Population Institute of Gadjah Mada University in Yogyakarta; Diponegoro University, Sudirman University in Central Java; Airlangga University, Brawidjaya University and Jember University in East Java; Udayana University in Bali and the Student Association for Study in Population in West Java.

For this report valuable comments were given by Dr. Terence Hull of the Population Institute of Gadjah Mada University, Dr. Roger Smith of the East-West Population Institute, Mrs. Azwini Kartoyo of the Demographic Institute, University of Indonesia and Dr. Budi Suradji of the Central Bureau of Statistics.

This Survey would not have materialized without the keen and dedicated participation of the project team at the Central Office particularly Mr. Sri Pudjastuti, Mrs. Sri Budianti, Mr. Yuwono Hadipramono, Mr. Harsanto, Mr. Toto E. Sastrasuanda, Mr. Ayub Rosjadi, Ms. Sri Handajani, Mr. Suhandono, Mr. Muswir and Mr. Sukotjo. In addition to the abovementioned staff, we are also indebted to all of the Chiefs of the Census and Statistical Office in the Provinces in Java and Bali for their co-operation and the co-ordination of the project within their provinces.

To the tireless interviewers, field editors, and supervisors employed by this project, we would like to express our sincere gratitude for their keen effort and dedication.

Sam Suharto—National Director

Bambang Sungkono—Survey Director

A Summary of Findings

1. The Setting

Indonesia is the largest country in South-East Asia with an area of around 2 million square kilometres, and consists of several thousand islands straddling the Equator for one-eighth of the Earth's circumference. Around four-sixths of the total area of the country is accounted for by the three largest islands of Kalimantan, Sumatera, and Irian Jaya, and another sixth by Sulawesi and Jawa. The population numbered over 119 million in 1971, making Indonesia the fifth most populous country in the world. This represents an increase in population of around 50 per cent in the two decades from 1950 to 1970. The average growth rate for 1961-1971 has been estimated at 2.1 per cent per annum. In 1971, as much as 44 per cent of the population was aged under 15, and under 10 per cent was aged 50 and over. Within the country the population is very unevenly distributed. Jawa, with less than one-fifteenth (7%) of the land area, contains over three-fifths of the population; at the other extreme, in Kalimantan and Irian Jaya only 5 per cent of the national population lives on nearly half of the total land area of the country.

While it has been estimated that there are more than 300 different ethnic groups and 250 distinct languages in Indonesia, a large majority of the people profess Islam and are ethnically and linguistically closely related. The national language, *Bahasa Indonesia,* is serving as a strong force of national unification and is now taught to all children at school.

Indonesia is basically a rural country with around five-sixths of the population living in agricultural areas. Notwithstanding rapid growth of several large cities, the country as a whole has not been undergoing rapid urbanization. Around 60 per cent of the labour force works in agriculture. Although there is a great potential for economic development, per capita income is still considerably lower than in neighbouring countries. In 1971, 70 per cent of the males but only 45 per cent of the females aged 15 or over were literate, i.e., able to read and write in any script. There has been, however, a considerable improvement in the literacy rate, particularly among the female population; 87 per cent of the males and 74 per cent of the females aged 15-24 were literate in 1971, while the percentages among those aged 35 and over were only 55 per cent for males and 22 per cent for females.

Marriage is relatively early and virtually universal. According to the 1971 Population Census (which has been the main source of recent demographic data in Indonesia), nearly 80 per cent of the women aged 20-24 and 98 per cent of those aged 30-34 had been married. The census results have been used to provide estimates of fertility and mortality. The estimated Total Fertility Rate (TFR) of around 5.5 for the late 1960s is, in comparison to many developing countries, rather low—particularly bearing in mind that the Family Planning Programme in Indonesia was implemented only in the early 1970s. Further, the urban-rural differential in the TFR was relatively minor. High levels of infant mortality have hitherto prevailed: infant mortality rates of around 150 for males and around 130 for females have been estimated for the late 1960s.

The use of modern means of contraception is of very recent origin in Indonesia. Recognizing the importance of slowing down population growth a semi-governmental organization, the National Family Planning Institute (NFPI), was established in 1968. In 1970 the Government launched a national programme of family planning through the establishment of the National Family Planning Co-ordinating Board (NFPCB) replacing the NFPI, with the aim of co-ordinating and integrating all activities concerned with family planning. During the country's first Five Year Development Plan (1969-1974) the family planning programme was confined to Jawa and Bali. A clinic-centred programme was begun in 1970 through the existing Mother-and-Child Health Clinics. This was followed by an innovative Village Family Planning Programme to bring contraceptive services and information to the vast countryside. From 1974 onwards this programme was developed in an attempt to make contraceptive services rapidly available at the sub-village level through the use of local leadership and the establishment of supply depots. The programme first developed in Bali and then advanced rapidly in Jawa. The major emphasis in Bali has hitherto been on the IUD; in Jawa the main method promoted has been the contraceptive Pill, followed increasingly by the IUD.

During the second Five Year Development Plan (1974-1979) the family planning programme is being intensified in Jawa and Bali and extended to the outer islands.

2. The Survey

In 1974 it was decided to carry out in 1976 an intercensal population survey (called SUPAS) designed to provide measures of population change at the middle of the census decade 1971-1981. The project consisted of three phases: SUPAS I was a large scale household survey, listing basic demographic characteristics of the population; SUPAS II was a sub-sample of the previous phase and included a comprehensive set of questions on demographic and socio-economic characteristics; SUPAS III, or the Indonesia Fertility Survey (IFS), was conducted as a part of the World Fertility Survey. The agency responsible for planning, executing, and publishing the results of the IFS was the Central Bureau of Statistics (CBS), Indonesia, working in close co-operation with the NFPCB.

Unlike the previous two phases of SUPAS, the IFS was confined to the islands of Jawa and Bali (accounting for around two-thirds of the national population).

The survey universe covered six provinces: five in Jawa and the province of Bali. The relative populations of these provinces in 1971 were as follows: Bali 2.4%; Jakarta 5.1%; Yogyakarta 3.2%; Jawa Barat (West Java) 28.4%; Jawa Tengah (Central Java) 27.6%; and Jawa Timur (East Java) 33.3%. In Jawa-Bali, 16.1 per cent of the population lived in areas classified as urban. To provide estimates at the provincial level and also by type of place of residence, the three smaller provinces (namely Jakarta, Yogyakarta, and Bali) as well as the entire urban sector of Jawa-Bali were relatively over-sampled. All data presented in the IFS *Principal Report* have been weighted appropriately to compensate for the differences in selection probabilities.

Ever-married women aged under 50 residing in 10,504 sample households (a sub-sample of SUPAS II) were eligible to be interviewed in detail regarding their maternity and marriage histories, knowledge and use of

contraception, fertility intentions and preferences, and socio-economic background. The questionnaire was based on the WFS Core, incorporating the Fertility Regulation, Abortion, and Family Planning Modules. Field work for the survey was conducted by specially recruited and trained female interviewers during April and May 1976. In all, 9,136 individual interviews were completed and analysed, representing a response rate of around 95 per cent.

3. The Findings

The following paragraphs provide a brief summary of the main findings of the Indonesia Fertility Survey.

3.1 Nuptiality and exposure to child-bearing

Marriage is relatively early and virtually universal among women in Jawa-Bali. Particularly among the older women a substantial minority married before 15 years of age. Reporting of the date of first marriage in the IFS indicates a high level of consistency; for example, the distributions by age at marriage are virtually identical for the three age groups 35-39, 40-44 and 45-49.

Recently there has been a trend towards later marriage. The median age at first marriage has risen from 15.5 years for women aged 35-49, to 17.3 years for those aged 20-24. Of the oldest women, 40 per cent married before their fifteenth birthday; of the youngest women (aged 15-19), only 14 per cent did so.

There are marked regional differences in the timing of marriage, but not in the propensity to marry. Jakarta, Yogyakarta, and Bali are characterized by relatively late marriages (mean age at marriage 18-19 years), Jawa Barat by exceptionally early marriages (mean age around 15 years), with Jawa Tengah and Jawa Timur in the middle (mean age around 16 years). Of the three smaller provinces, Jakarta and Yogyakarta show the usual recent trend towards later marriage, but Bali is characterized by traditionally higher age at marriage with no perceptible trend towards later marriage in recent years.

This recent trend towards later marriage appears to be accelerating both in urban and rural areas, though the urban-rural difference is increasing. For women currently aged over 30, the median age at marriage for urban women is 1.3 years higher; for women aged 20-24 the urban-rural difference is increased to 3.6 years.

Differentials by education are pronounced and in the expected directions: the mean age at marriage of women who completed senior high school is 21.4 years, compared to 15.4 for those with no schooling. Women with husbands in professional, technical, or clerical occupations have a mean age at marriage 2.0 years higher than those with husbands in farming. Similar differentials exist by work status before marriage: women who worked for cash for someone outside the family married later than others by 1.5 to 2.0 years.

For the sample as a whole, as many as two in five first marriages have been dissolved. The main cause of dissolution of more recent marriages is divorce or separation, the incidence of which is relatively high even for the youngest groups.

Four-fifths of all women whose first marriage was dissolved had remarried. This proportion is nearly constant irrespective of the duration since first marriage. The mean number of marriages is 1.5 for the whole sample of ever-married women, and nearly 2.0 for the oldest women.

Women who marry at younger ages tend to be divorced or separated more often at a given marriage duration. It is likely that socio-cultural factors which are associated with higher ages at marriages are also associated with greater marital stability. Differentials by background variables (residence, education, occupation) reflect to a certain extent the association between background characteristics and age at marriage, and between that age and marital stability. Generally, groups for which age at marriage is relatively high (for example urban women, those educated to higher levels, those who worked before marriage, and women in Bali) also have lower incidence of marriage dissolution. Nevertheless, differences in marital stability among different socio-economic groups generally exist even when women marrying at the same ages are compared.

Following a marriage dissolution, a large proportion remarry, probably without long delay. Groups for which marriage dissolution is more frequent tend also to have higher rates of remarriage, compensating almost entirely for differences in rates of dissolution. Of the ever-married women, 86 per cent are currently married, and most groups have spent around 90 per cent of the time since first marriage in the married state.

Twenty-eight per cent of the ever-married women are either currently not married or report themselves to be non-fecund. Another 10 per cent are currently pregnant. Hence, around 60 per cent of the ever-married women aged under 50 are currently "exposed" and are eligible for use of contraception.

3.2 Family Planning: knowledge and use of contraception

Seventy-five per cent of ever-married women have heard of at least one *modern* method of contraception; another 2 per cent have heard of a traditional but of no modern method.* The Pill is the most commonly known method—71 per cent say that they have heard of it. One-half of the women have *not* heard of the IUD, and an even larger proportion report having never heard of the Condom. The level of knowledge is higher among women in the middle-age groups with larger families and among women in higher educational groups, or with husbands in professional, technical, or clerical occupations. Balinese women report above-average levels of knowledge and women in Jawa Barat report significantly below-average levels.

Just under two-fifths (37%) of the exposed women in Jawa-Bali report that they are currently using a method. One in three is using a modern method. The Pill is the most commonly used method (being reportedly used by 56 per cent of all current users), though among older women or women with larger families the IUD comes fairly close as the second most common method.

The level of current use is even higher when the specially important group of women aged 25-34 with 2 to 4 living children is considered: just under *half* of exposed

*"Modern" methods include the Pill, IUD, Condom (these three being the "Programme" methods), injectables, sterilization, and other female methods such as diaphragm and foam tablets. Several other methods of contraception such as abstinence, rhythm, withdrawal, douche, are defined as "traditional" methods.

women in this category are currently using contraception in Jawa and *two-thirds* are currently using in Bali.

Regarding overall levels of current contraceptive use, the urban-rural difference is minor. However, this difference is very significant when specific methods are considered. Among those currently using any method of contraception, the Pill is used nearly twice as commonly in rural areas compared to urban areas (62 per cent rural versus 32 per cent urban). Traditional and folk methods are more common among urban women: 28 per cent of urban users against 10 per cent of rural users are using a non-modern method.

Provincial differentials are very pronounced both in the overall levels and as regards the type of methods being used. One in two exposed women are using a method in Yogyakarta and Bali; only one in five are in Jawa Barat. Use of the IUD predominates in Bali, traditional methods in Yogyakarta, and the Pill in Jawa Barat and (to a lesser extent) in Jawa Tengah and Jawa Timur.

Direct questions on the timing of the very first use clearly illustrate the recency of the spread of contraceptive practice. Over the past few years, the prevalence of use has dramatically increased. For example, the 1973 Fertility and Mortality Survey indicated that around one in eight of the currently married women aged 15-44 in Jawa-Bali were using contraception. According to the present study, the figure for this category of women in mid-1976 was around *three times higher.*

The rapid spread of knowledge and use of contraceptive methods in Jawa-Bali—demonstrated by comparison with earlier survey results, and by the IFS data on first use, as well by programme statistics—clearly reflects the success of the Family Planning Programme. The overwhelming popularity of the three "Programme" methods (Pill, IUD, and Condom) over other modern or traditional methods also supports the view that the programme is the main instrument of this change.

Provincial as well as urban-rural differentials in levels of use and specific methods being used reflect emphases of the Family Planning Programme. For example, Bali shows the highest prevalence rates, with the IUD as the main method; in Jawa the Pill is more widespread. Rural women are using *modern* methods of contraception at least as often as urban women as a consequence of the fact that in its second phase, starting in 1974, the Family Planning Programme in Jawa-Bali placed great emphasis on rural areas, with supplies and services centered on the sub-village as the organizational unit using local leadership. This lack of urban-rural differential is noteworthy. Further, over one in four urban users are resorting to traditional or folk methods. This would substantiate the often observed fact that the organization of an efficient contraception distribution system in an urban and specially metropolitan environment presents particularly difficult practical problems.

3.3 Fertility and child mortality

Parity

One of the main measures of fertility derived from the IFS is current parity, or number of children ever born. This measure makes no reference to the timing of births but summaries the woman's fertility experience up to the time of the interview.

For the sample as a whole, around one in eight of the ever-married women are childless, a third have 1-2 children, a fifth 3-4, a sixth 5-6, and the remaining sixth have 7 or more children. The mean number of children ever born by current age is as follows:

Age group	<20	20-24	25-29	30-34	35-39	40-44	45-49	All
Mean parity	0.6	1.7	2.8	4.1	4.8	5.3	5.2	3.5

Considering first the oldest women in the sample, the mean number of children ever born to women aged 40-44 is 5.3 and for those aged 45-49 it is 5.2. For a traditional society where most of the older women married very young and did not use any modern method of contraception throughout most of their child-bearing life, this is a very low figure for "completed" fertility. For women continuously in the married state since first marriage, mean parity at ages 40-44 is 6.2, which is 1.8 children higher than for those whose first marriage was dissolved. These figures indicate a substantial association between marital stability and fertility, though the direction and precise nature of causation cannot be established. Marital breakdown is probably an important factor limiting fertility, although the reverse effect is also probable: sub-fecundity may be a reason for divorce.

Among women first married during the past 15 years or so, those who married young have lower parity—at a comparable marriage duration—than those who married at an older age. (This effect of age at marriage is generally not observed among women first married 20 or more years ago). This association points to adolescent sub-fecundity in early years of marriage for women marrying young. Further, this association becomes weaker when attention is confined to women continuously in the married state since first marriage, perhaps again due to the association between marriage stability and age at marriage.

Early marital fertility

The mean number of live births within the first five years of first marriage shows an inverse relation to age at marriage. Women marrying after the age of 20 experience on the average twice as many births in the first five years as women marrying before the age of 13. Thus the effects on fertility performance of an early start to married life are partially offset by the effect of adolescent sub-fecundity. The overall difference in early marital fertility between women currently at different marriage durations (from 5-9 to 20-24 years) is small, and virtually disappeared when women married at similar ages are compared. The safest conclusion to be drawn at the present preliminary stage of the analysis is that the tempo of early marital fertility has probably remained unchanged, except for an upward tendency due solely to increasing age at marriage.

Recent and current levels of fertility

Overall, a woman continuously in the married state for the past five years has had around one birth during this period, which is around 10 per cent more than the overall average for women first married at least five years ago. This difference corresponds almost exactly to the average proportion of the time since first marriage which ever-married women have spent in the married state (see Section 3.1).

Twelve per cent of currently married women report a current pregnancy. Taking into account the likely

under-reporting, particularly of pregnancies of short duration, the true level is probably closer to 15 per cent.

Age-specific fertility rates for 1975, the last full calendar year preceding the survey, are shown below. The rates for a single year are subject to considerable sampling variability, as well as to non-sampling errors resulting from possible omission of births or mis-statement of ages and dates. Hence, the following figures must be regarded as preliminary at this stage.

	Age-Specific fertility rates for 1975 (Preliminary)								TFR
Age group	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Fertility rate*	1	93	239	198	159	82	37	20	4.15

*Per 1000 woman-years in stated age group, irrespective of marital status. TFR is the mean number of births a woman will have throughout her reproductive life at the prevailing age-specific fertility rates.

Fertility is highest at ages 20-24, reflecting the early pattern of marriage in Indonesia. The Total Fertility Rate of 4.15 contrasts with the reported completed fertility of over 5 births for the older women in the sample. On the basis of this evidence, a 20 per cent decline in fertility is implied.

Differentials in fertility

An examination of differences in fertility between regional, residential and socio-economic grouping is one of the aims of the survey and represents a first step towards an understanding of the determinants of fertility.

The following comments are based on the experience of women first married 10-19 years ago, i.e., *on the average* married for just under 15 years. For all women in this group, the mean current parity is 3.7, the mean number of births within the first five years of marriage is 1.3, and the mean for the past five years is 1.1.

During the first five years of marriage, urban women had an average of 1.6 births, i.e., 0.3 more than their rural counterparts. The difference of 0.3 in parity persists after 15 years. On the other hand, the urban-rural difference in recent fertility (births during the past five years) is minor.

Jawa Barat is characterized by slightly lower early marital fertility, but by higher current parity and higher recent fertility. By contrast, women in Jakarta and Bali have above-average fertility rates in the first years of marriage, but not in the past five years.

Among women first married 10-19 years ago, the better educated have had more children compared to their less educated counterparts: the mean number of children ever born is 4.3 for those with at least junior high school completed, 4.1 for those educated to the primary level, and 3.6 for women who have had no schooling or have failed to complete primary school. In fact, these differences reflect higher age at marriage and greater marriage stability among the better educated women. Differentials by education are in the same direction, and even more pronounced, when fertility in the first 5 years of marriage is considered. On the other hand, the *recent* marital fertility of women in the highest educational category is substantially lower: the mean number of births during the past five years (to women continuously in the married state) for the three educational groups mentioned above are, respectively, 0.8, 1.3 and 1.2.

A pattern similar to that for women in the highest educational category is found also among women with husbands in professional, technical, administrative, and clerical occupations. Those in farming are characterized by lower fertility throughout.

Fertility trends

On the basis of retrospective birth history data, the following trend in current fertility emerges. These results are preliminary pending further evaluation of the quality of the data.

The TFR for Jawa-Bali remained constant around 5.5 throughout the 1960s. At the end of the decade a slow decline started, and by 1972 it had come down to 5.0. After this the decline in fertility appears to have accelerated greatly, and by 1975 the TFR was apparently approaching 4.0.

Child mortality

Traditionally, levels of infant and child mortality have been relatively high in Indonesia. Nearly one-half of the women with 4 children ever born and four-fifths of those with 8 children ever born report one or more child deaths. overall, one in five children ever born to survey respondents have died.

A preliminary estimation of the infant mortality rate for the past five years indicates that over one in ten children die within the first year of life. The infant mortality rate estimated indirectly on the basis of child survivorship data is 116-121 per 1000 live births. Retrospective birth history data suggest that levels of mortality were much higher in the past.

A significant urban-rural differential in infant and child mortality has probably persisted for many years.

3.4 Fertility preferences

There is a considerable variability in family size preferences and no widely endorsed small family size norm, at least among the older women in the sample. On the other hand, three-quarters of the younger women with less than three living children tend to prefer a family of 2 to 4 children.

The marked preference for boys found in several other Asian countries is not present in Indonesia. Among exposed women wanting another child, 34 per cent prefer a boy, 30 per cent prefer a girl, and the remaining 36 per cent are indifferent regarding the sex of their next child. On the other hand, the vast majority of those with only boys prefer their next child to be a girl, and those with only girls prefer a boy. In fact, the preference appears to be stronger than merely wanting at least *one* child of each sex; preference is apparently for a balanced composition, though a significant minority remain indifferent to the sex of their next child.

Fifty-three per cent of the exposed women who want to stop child-bearing are currently practicing contraception, compared to 26 per cent of those who want more children. (The figure for the sample as a whole is 37 per cent.) This difference is indicative of the seriousness with which the expressed fertility intentions are held. It should be noted, however, that nearly one-half of the exposed women wanting to stop child-bearing are *not* using contraceptives, and represent a target population of prime importance for the Family Planning Programme. The fact that one in four of those wanting more children at some time in the future are currently

using contraception implies a fairly substantial concern for spacing of children.

For most socio-economic categories of the sample, the proportion of current users among those wanting to stop child-bearing is around twice as large as the proportion of users among those wanting more children. These proportions may be taken as indicators of the concern for, respectively, family limitation and spacing of children. In this sense, the data indicate no major socio-economic differentials in the *relative* concern for limitation versus spacing, though substantial differentials in the absolute levels do exist.

In conclusion, the most outstanding results to emerge from the present study are the rapid expansion in contraceptive use and the associated major decline in fertility in the early 1970s. It is fortunate that the Indonesia Fertility Survey was conducted at a time when important demographic transformations with major implications for the future were beginning to take shape.

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Chapter 1. The Setting

1.1 Introduction

As in most developing countries, a vital registration system has not been widely or successfully implemented throughout Indonesia, and it is expected that for some time in the future the estimation of demographic rates and measures will rely mainly upon census and survey data. The currently available estimates of fertility, mortality, migration, and other demographic characteristics in Indonesia are thus based on information collected through the population censuses and various surveys.

Since Indonesia gained its independence in 1945, two nationwide *Population Censuses* have been conducted: the first in 1961 and the second in 1971. Estimation of levels and trends of demographic features for the country as a whole as well as for separate regions are based mostly on these censuses. Additional information on population statistics has been obtained from surveys of varying sizes and coverage conducted by the Central Bureau of Statistics (CBS), other research institutions and universities. Some of the surveys conducted during the 1960s were lacking in geographical coverage while others limited the population to be studied to some particular segment, such as to those engaged in specific economic activities. Further, many of the survey results were not fully utilized due to limited processing equipment and data storage facilities. Nevertheless, the tabulated results from these surveys provided valuable information for estimating the components of population growth.

After the 1971 Population Census, the Demographic Institute of the University of Indonesia conducted a Fertility and Mortality Survey in 1973 in most parts of the country. The 1973 data together with the 1971 Census provided valuable information for the study of recent population trends.

In 1974 a decision was made to carry out in 1976 an *Intercensal Population Survey* (henceforth referred to as SUPAS), designed to provide measures of population change at the middle of the census decade 1971-1981. SUPAS consisted of three phases, the third phase being the Indonesian Fertility Survey (referred to as the IFS or as SUPAS III).

SUPAS I was a large household listing covering 246,300 households in all provinces in Indonesia. The information collected here was limited mainly to name, sex, age, and relationship to the head of household. SUPAS II was a sub-sample of SUPAS I, and consisted of 57,133 households throughout the country and included comprehensive questions on demographic and socio-economic characteristics. However, only limited questions on fertility were asked. It was intended that the results of SUPAS I would produce estimates (particularly on fertility levels) by sub-province in Jawa and Bali and by province in other islands, while SUPAS II would give more detailed estimates by province in Jawa and Bali and by major island for other areas.

SUPAS III, the Indonesia Fertility Survey (IFS), was part of the World Fertility Survey. Unlike the previous phases, the IFS was confined to the islands of Jawa and Bali (which cover around 67 per cent of the national population). All ever-married women who were aged under 50 and usual residents of the 10,504 sample households (a sub-sample of SUPAS II) were interviewed in detail regarding their maternity and marriage histories, knowledge and use of contraception, fertility intentions and preferences, and socio-economic background. The main objective was to obtain data on human fertility and associated factors which, together with other information collected in previous SUPAS projects, would provide a basis for policy making in the field of population, particularly in relation to fertility and family life. Additionally, the information about fertility and its differential levels in different strata of the Indonesian society is required for an evaluation and modification of national development programmes, particularly those relating to the field of population.

1.2 Institutional framework for the IFS

The agency responsible for planning, executing, and publishing the results of the IFS was the Central Bureau of Statistics (CBS), working in close co-operation with the National Family Planning Co-ordinating Board (NFPCB).

As a non-departmental agency, the Director-General of CBS is directly responsible to the President. The CBS co-ordinates all statistical activities of the Government with the objective of avoiding duplication and omission as well as of promoting standard procedures, techniques, concepts, definitions, and classifications in all data collection operations. It assists statistical units of other Government agencies in the development of various statistics required for constructing their work-plans and evaluating progress at the end of each development phase. The CBS provides the Government and public with periodical data on the structure and development of socio-economic phenomena in the country; these data are either collected by the CBS itself, or are obtained from other governmental agencies. The CBS also aims to promote the general public's appreciation of the usefulness of statistics and to secure its co-operation in every statistical activity.

Except in the province of East Timur, the CBS has branch offices in all 26 provinces and in all of the 287 Kabupaten/Katomadja (Regencies/Municipalities). At least one staff member is appointed to do the field work in each Kecamatan (sub-district) in the country. All the surveys conducted by the CBS are carried out or assisted by these personnel.

The IFS was funded from two sources: the Government of Indonesia and a grant from the ISI/WFS (USAID). The ISI grant comprised of funds for pre-test, training of field workers, enumeration and interviewing (transport, subsistence, and salary), data processing, acquisition of materials, printing of survey documents, and wages for the field staff. The Government of Indonesia provided office space, survey personnel, transport, and secretarial/administrative staff.

1.3 Population policy and organization of family planning services in Indonesia

The idea of family planning was initiated in 1953 by a group of private citizens concerned with rapid population growth in Indonesia. This lead to the organization of Perkumpulan Keluarga Berencana Indonesia (Indonesia Planned Parenthood Association). About 4 years later this organization became a branch of the International Planned Parenthood Federation. Its activities were conducted almost entirely by volunteers working under severe governmental restrictions.

The importance of slowing down population growth

was later recognized by the New Order Administration which established the National Family Planning Institute (NFPI), a semi-governmental organization, in October 1968. Realizing the great importance of a population control programme, the Government launched a national programme of family planning in 1970 through the establishment of the National Family Planning Co-ordinating Board (NFPCB) which replaced the NFPI. The NFPCB aims to co-ordinate, integrate and synchronize all activities concerned with family planning in order to bring about a reduction in the birth-rate and lower the population growth-rate. The short-term target is to build up supporting infra-structure through strengthening of clinical services and training of personnel, and to conduct large-scale informational and educational programmes.

Hitherto, three main contraceptive methods have been included in the programme: the Pill, IUD, and Condom.

During the country's first Five-Year Development Plan (1969-1974), activities of the Programme were confined to Jawa and Bali reaching three million "acceptors". In the second Plan (1974-1979) the Programme is expected to reach a minimum of eight million acceptors in Jawa and Bali and one million in other islands.

1.4. Population characteristics

Indonesia is the largest country in Southeast Asia, with an area of around 2 million square kilometers, several thousand islands straddling the Equator for one-eighth of the Earth's circumference, and with maximum dimensions of over 5,000 km east to west and over 1,500 km north to south. Four-sixths of the total area is accounted for by the three largest islands of Kalimantan, Sumatera and Irian Jaya, and another sixth by Sulawesi and Jawa.

Population Size, Distribution and Composition

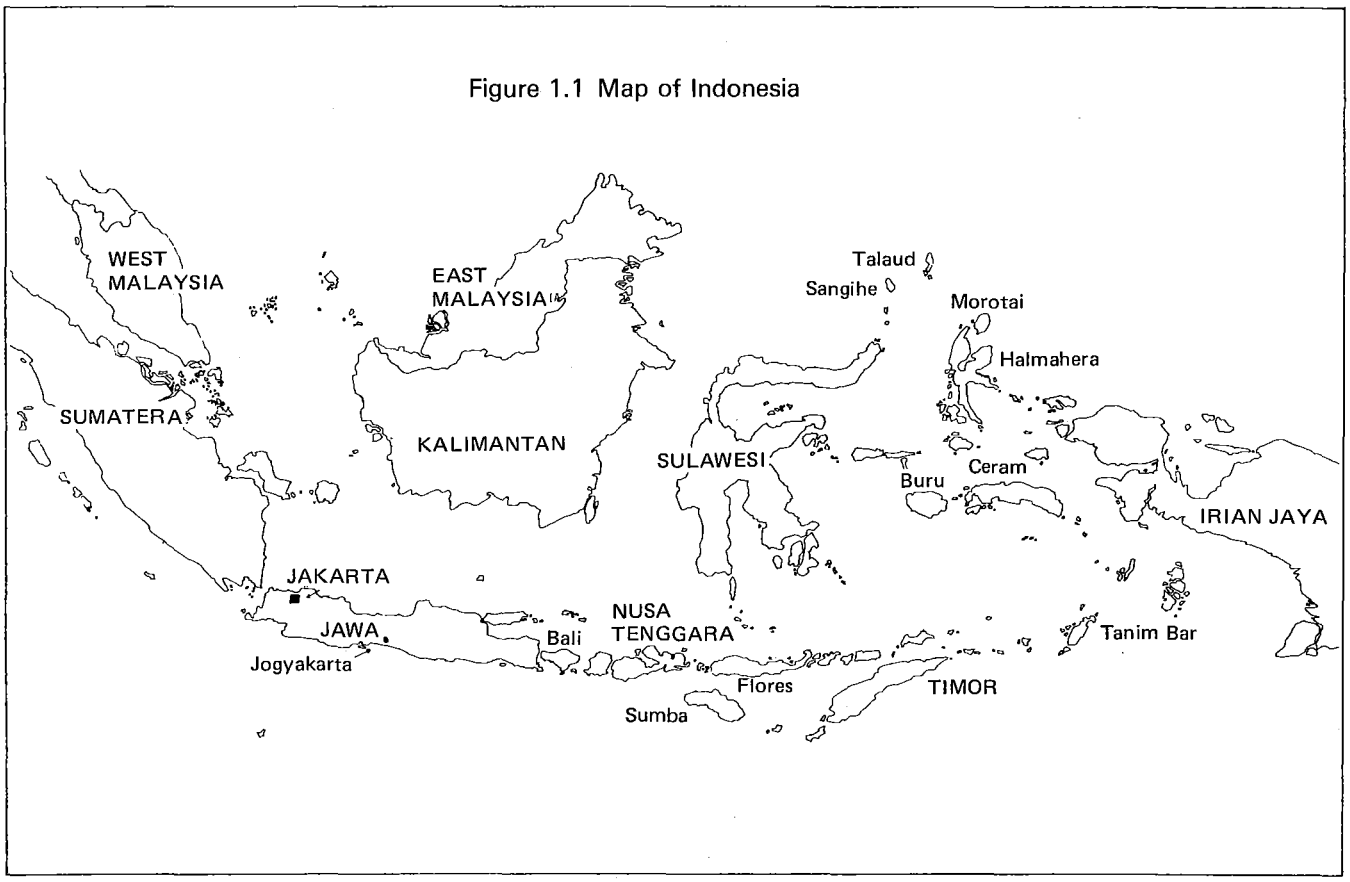
The population numbered more than 119 millions in 1971, an increase of 22 millions since 1961, making Indonesia the fifth most populous country in the world. Population distribution throughout Indonesia is very uneven so that the country as a whole suffers not so much from over-population as from extremely uneven distribution: in 1971 the average population density for all Indonesia was 59 per sq.km; for Jawa it was 575. The population in Jawa itself is by no means uniformly distributed; some of the land is mountainous and forested, while in other regions the density exceeds 1,000 per sq.km. Jawa, with less than one-fifteenth (7%) of the land area contains over three-fifths of the population; at the other extreme, in Kalimantan and Irian Jaya only 5 per cent of the national population live on nearly half of the total land area of the country. The Government has supported programmes for transmigration under which families from over-populated areas are encouraged and assisted to settle in less populated parts of the country. These programmes have probably played an important role in the opening of new areas, but on the present scale they do not provide a significant relief to over-populated areas.

At present, international migration is of little demographic significance.

In common with many other developing countries, the Indonesian population is relatively young. According to the 1971 Census as much as 44 per cent of the population was aged under 15, and under 10 per cent was aged 50 and over.

The last census recorded a sex-ratio (males per 100 females) of 97.2; urban areas had a higher sex-ratio of 99.4 compared to 96.7 for rural areas.

Figure 1.1 Map of Indonesia



Religion and Ethnic Groups

While it has been estimated that there are more than 300 different ethnic groups and 250 distinct languages in Indonesia, there is unity in this diversity: a vast majority of the people professes Islam* and are ethnically and linguistically closely related. In addition, the national language, *Bahasa Indonesia,* is a strong force of national unification, and is now taught in all schools of the Republic.

Urbanization

Indonesia is basically a rural country with around five-sixth of the population living in agricultural areas. A majority of the rural population inhabits the inland wet-rice areas of Jawa-Bali which have developed a highly sophisticated rural structure. In the early 1970s, Indonesia was *not* undergoing rapid urbanisation, notwithstanding the rapid growth in several large cities, such as Jakarta, Surabaya and Medan.

Economic activity

According to the 1971 Census about 50 per cent of the Indonesian population aged 10 years and over was engaged in some form of economic activity. A larger part of those working in agriculture were own-account workers while most of those working in non-agricultural activities were employees or labourers. This is associated with the prevalence of small agricultural holdings. Almost one-third of the economically active population were employees and more than one-fourth were unpaid family workers, mostly engaged in household enterprises or small farms.

As in the case in nearly all developing nations, agriculture still plays a dominant role in the economy. In 1971, more than 60 per cent of the labour-force was engaged in this sector. Sales and production absorbed about 10 per cent each, with sales activities favouring females and production activities favouring males. Other non-agricultural sectors absorbed about 20 per cent of the labour-force.

Although the potential for development is considerable and Indonesia can be expected ultimately to become the major economic force in Southeast Asia, per capita income is still significantly lower than in neighbouring countries.

Literacy and Education

In 1971, 57 per cent of the adult population (aged 15 and over) was literate, i.e., able to read and write. There was a substantial male-female differential, and a majority (55%) of the adult females were *not* literate. There has, however, been a rapid increase in the literacy rate: in 1971 only two-fifths of the population aged 35 and over were literate, while the proportion was four-fifths for those aged 15-24 (see Table 1.1).

Table 1.1 Per cent literate in 1971 — by sex and age

Age	All 15+			15 - 24			25 - 34			35+		
Sex	All	M	F	All	M	F	All	M	F	All	M	F
% Literate	57	70	45	80	87	74	62	78	49	39	55	22

Notes: M = Male, F = Female. Literacy is defined as the ability to read and write in any script.
(Source: 1971 Population Census; Series D *Population of Indonesia,* Jakarta).

In 1971, 38 per cent of males and 22 per cent of females aged 15 and over had completed at least six years of primary schooling. This percentage for ages 15-24 was nearly three times as large as the percentage for ages 35 and over. This expansion of primary education considerably narrowed the male-female gap. Only one in ten males and one in twenty females had completed six or more years of secondary education. Among the youngest group (aged 15-24) these proportions were approximately twice as large. Only a small minority continued to be educated beyond the secondary level.

Household, Family, and Marriage

Family ties in Indonesia are generally strong. According to the 1971 Population Census, most households are nuclear, that is, they consists of parents living with their children, though presence in the household of other relatives (such as the parents' nieces or nephews) as well as of unrelated members (servants, lodgers) is common. The median number of persons per household is 4.6 and the mean 4.9; for urban areas the mean is 5.3 and for rural areas 4.8. Only 5 per cent of the households are single person households.

Marriage is relatively early and virtually universal, specially among women: 98 per cent of the women aged 30-34 have been married. As many as four-fifths of the women aged 20-24 have been married; higher age at marriage for men is reflected by the fact that in the same age group only two-fifths have ever been married. Due to separation or widowhood, not more than 88 per cent of women in any age group are currently in the married state.

Fertility

Little information on fertility in Indonesia was available before the 1961 Population Census. The Crude Birth Rate (CBR) was generally estimated to lie between 40 and 45 per thousand during the period between the 1930 and 1961 censuses. Estimates based on 1961 Census by a number of demographers indicate that fertility remained high with the CBR above 40 per thousand. The 1971 Population Census provided more reliable estimates of fertility. The census results have been used to provide detailed estimates of age-specific and total fertility rates based on the so-called "own children" method of reverse survival.** Some of these estimates are summarized in Table 1.2 (see next page).

Overall, the estimated TFR of around 5.5 is, by international standards, rather low, particularly bearing in mind that the family planning programme in Indonesia was seriously launched only after 1969. Within Jawa, fertility is relatively lower in the east and higher in the west. Urban fertility is lower than rural fertility by about 10 per cent only.

Mortality

The average annual Crude Death Rate for the period 1930-1961 has been estimated to be 25-30 per thousand mid-year population, probably with significant fluctuations associated with the Independence War during this period.

*93.7% embrace Islam, while Christians comprise 2.1%, Hindus 2.8% (of which 86% reside in Bali), Buddha 0.8% and Confucius comprise 0.6% of the population.

**Estimates of Fertility and Mortality in Indonesia, 1971 Population Census Report SP76 - L 02, Central Bureau of Statistics, Jakarta, January 1976.

Table 1.2 Selected estimates or fertility from the 1971 Census

(A) Age-specific fertility rates, average 1967-70 (births per thousand women per year)

Age group	15-19	20-24	25-29	30-34	35-39	40-44	45-49
All Indonesia	155	286	273	211	124	55	17
Jawa	163	275	254	191	109	47	13

(B) Total Fertility Rates (TFR), average 1967-70 — by province and type of place of residence

All Indonesia			Jawa						Bali
All	Urban	Rural	All	Jakarta	Jawa Barat	Jawa Tengah	Yogya-karta	Jawa Timur	
5.52	5.10	5.66	5.20	5.12	5.87	5.27	4.69	4.65	5.83

(C) The number of children ever born per ever-married women (all Indonesia)

Age group	15-19	20-24	25-29	30-34	35-39	40-44	45-49	All(15-49)
Children ever born	0.7	1.9	3.3	4.4	5.2	5.3	5.2	3.9

More recently, child survivorship data from the 1971 Population Census have been used to estimate infant mortality rates. High levels of mortality have hitherto prevailed: the infant mortality rate in the late 1960s was probably around 135 deaths within first year of life per thousand live births, declining very slowly from around 145 in the mid-1950s.* More detailed estimates averaged over a few years prior to the census by sex, province and type of place of residence are summarized in Table 1.3.** Assuming, for example, the Coale-Demeny "West" mortality model, these rates imply an expectation of life at birth of around 45 years for males and 48 years for females in all Indonesia.

The level of infant mortality in urban areas is only three-fourths of the level prevailing in rural areas. The difference between Jawa-Bali and the outer islands is probably minor.

*See for example, M. Kabir, Majalah Demografi Indonesia, Jakarta, December 1977 pp.37-43.

**Central Bureau of Statistics, op.cit.

Table 1.3 Infant mortality rates for late 1960s estimated from the 1971 Census — by sex, province and type of place of residence

	Indonesia			Jawa						Bali
	All	Urban	Rural	All	Jakarta	Jawa Barat	Yawa Tengah	Yogya-karta	Jawa Timur	
Male	152	123	162	155	135	172	159	159	145	157
Female	129	104	137	132	115	146	135	135	122	133

Table 1.4 shows the average growth-rate for the decade 1961-1971 by major islands, and within Jawa, by province. The growth-rate for Jawa has been around 10 per cent lower than the overall growth-rate for the country, and within Jawa it has been highest in Jakarta (largely due to internal migration) and Jawa Barat (most likely due to higher levels of fertility).

Population Growth

During the two decades 1950-1970, the population of Indonesia increased by nearly 50 per cent. The average annual growth-rate from 1961 to 1971 has been estimated as 2.1 per cent which, though high, is not among the highest in the world; many other developing countries have experienced substantially higher growth-rates during this period. Nevertheless, a growth-rate of 2.1 per cent represents a substantial increase over the estimated average growth-rate of 1.5 per cent for 1930-1961 in Indonesia. In the absence of international migration of any significance, the population growth in Indonesia is almost entirely due to the excess of births over deaths.

Table 1.4 Annual population growth-rate average 1961-1970 — by major island and by province in Jawa

All Indonesia	Jawa						Bali	Sumatera	Sulawesi	Kalimantan	Other
	All Jawa	Jakarta	Jawa Barat	Jawa Tengah	Yogyakarta	Jawa Timur					
2.1	1.9	4.6	2.1	1.7	1.1	1.6	1.8	2.8	1.9	2.3	0.8

Source: *Statistical Year Book of Indonesia,* 1975, Central Bureau of Statistics

Chapter 2. Methodology and Organization of the Study

2.1 Outline of the study design

The Indonesia Fertility Survey (IFS) covered the islands of Jawa and Bali (i.e., 67 per cent of the national population) and was conducted over a multi-stage probability sample of around 10,500 households. Within rural and urban sectors of each of the six provinces in Jawa and Bali, the sample was approximately self-weighting. The actual allocation of sample size to the various domains of study was done on the basis of a compromise between the requirements to produce the most precise "national" estimates (i.e., estimates for Jawa and Bali as a whole) and the most precise estimates for each domain of study separately. The domains were the six provinces in Jawa and Bali, with the whole urban sector forming another domain of interest.

With some exceptions (Jakarta and the rural sector of Yogyakarta), the sample was effectively a two-stage one: a single area stage followed by sampling of households within selected areas. For a description of the sample, see Appendix II.

Each sample household was interviewed using a *household schedule,* in which certain basic characteristics (name, relationship to the head, sex, age, marital status) of the population were listed. On the basis of these data, ever-married women under 50 years of age who were usual members of the household were selected for a more detailed individual interview. The household and the individual interviews were done by female interviewers, generally during a single visit to the sample household.

An English translation of the questionnaire used is given in Appendix I. The questionnaire is based on the standard version prepared by the World Fertility Survey (WFS) and used in many developing countries which have participated in that programme.* The household schedule is of the type widely used in censuses and household surveys. In common with the standard WFS version, the *individual questionnaire* includes sections on detailed maternity and marriage histories, knowledge and use of contraception, fertility regulation and preferences, and socio-economic background of ever-married women and their husbands. In addition, questions on abortion and on availability and use of family planning services were included because of their special interest in Indonesia. The questionnaire was adapted to the conditions prevailing in the country on the basis of approximately 300 pre-test interviews conducted in Jawa Timur (East Java) and Bali. The questionnaire was prepared in Indonesian and back-translated into English for verification with the original; standardized translation of key questions in other local languages were also made available to the interviewers for reference.

The problems associated with obtaining — particularly in a developing country like Indonesia — dates and durations of vital events in the respondent's life are well known. In the IFS, a special effort was made to obtain these data as accurately and as completely as possible, both through vigorous interviewers' training and through the use of a special "Events Chart" for each interview (see Section 2.2.3).

*WFS Basic Documentation No. 1, International Statistical Institute, The Hague, Netherlands.

Field work was conducted using the *team approach:* each team usually consisted of four interviewers, one field-editor and one supervisor, and moved from one area to another as a group. The field editors were responsible for scrutinizing interviewers' work, generally on the same day as it was completed so that revisits required in cases of incorrect or incomplete information could be made before the team left the sample area. The team supervisors were responsible for organizational aspects of the work, and were themselves supervised by technical and administrative coordinators acting under instructions of the survey directors.

Office-editing and coding proceeded simultaneously with the main field work. Coding was done on the original questionnaires themselves, rather than on separate coding sheets. Data processing was done mostly at the Central Bureau of Statistics (CBS) in Jakarta. Machine editing, variable recoding, and tabulation programming and execution took several months owing to the complexity of the questionnaire and the analytical variables involved. The various data processing operations have been documented in detail and are available from the CBS; the more important derived variable definitions appear in Appendix V.

Sampling errors for the main survey variables over various subclasses of the survey population were also computed (see Appendix III).

An attempt to measure response-variability was made on the basis of a post-enumeration Reliability Study which involved re-interviewing (followed, where required, by a third, reconciliation interview) over 500 women shortly after the main field work. Detailed analyses of the study are being published in a separate report; some of the important findings are summarized in Appendix IV.

In Section 2.2 the contents of the questionnaire are discussed. This is followed by a brief description of the survey organization (Section 2.3), and then by discussion of each of the main survey operations from the pre-test to data processing.

2.2 The questionnaires

2.2.1 Household Schedule

The household schedule applied to each sample household. In parallel with the 1971 Population Census, a person or a group of persons living together in the same dwelling and sharing the main meal was defined to form a household. The respondent for the household schedule could be any usual member of the household capable of answering the questions, that is, excluding very young or very old persons, or persons incapacitated in some other obvious way. In practice, however, the respondent was often the eligible woman herself, since the household and the individual interviews were conducted generally during the same visit to the household.

The interviewer first listed all usual residents of the household, starting with the head (as defined by the respondent). This was followed by special probes to enlist children or infants, non-family members such as servants, friends or lodgers, and temporary visitors. In this way, the population covered was both on a *de jure* and on a *de facto* basis. This provided a comparison of the two coverage definitions. It may be noted that in contrast to a majority of the WFS surveys, eligibility for the individual interview was defined on a *de jure* (rather

than a *de facto*) basis. This departure was introduced to facilitate comparison with SUPAS II of which the IFS was a sub-sample.

To obtain data on the population covered by the survey, as well as to identify women eligible for the individual interview, sex, age, marital status, and relationship to the head of the household were obtained for each household member listed. This was supplemented by information on the mother (whether alive and living in the household) and, for currently married persons, on the spouse. Apart from identifying "own" children living in the household for every mother and characteristics of the spouse for every married person, these data can be used to construct a variable defining *family type,* for example, nuclear versus non-nuclear.

The WFS standard version includes questions on children ever born for each female as well as on education of each household member. These questions were not included in the IFS schedule. The questions on children are relevant only when the schedule is applied to a larger sample than that for the individual interview. These, as well as other questions, had already been covered in SUPAS II in a comprehensive way.

2.2.2 Individual Questionnaire

This questionnaire was applied to all ever-married women aged under 50 who were usual residents in the sample households. The respondent had to be the woman herself, though her husband could answer or help in answering questions relating to *his* socio-economic background. The interviewers were instructed to conduct the interview in privacy, as far as possible under the given circumstances.

The questionnaire (see Appendix I) consisted of eight sections as follows:

Section 1. Respondent's Background

This section included questions on current and childhood place of residence, current age of the respondent, level of education, literacy, and language spoken at home. Compared to the standard WFS version, a more detailed classification for level of education was used (a question on whether or not the highest level attended was in fact completed, was also added) and, in accordance with the census definition, literacy was measured by ability to read as well as to write. The language spoken at home was included as it closely relates to ethnic groups; on the other hand, language is also strongly correlated to the region of residence, and it is this latter variable (i.e., the province) which is actually used in tabulation of the results.

Recognizing the difficulty in obtaining accurate data on age, the following procedure was used: The respondent was first asked her year of birth, and if that could not be obtained then her current age was asked. The interviewer was specially trained to probe in detail where required (for example, by referring to other events in the respondent's life), and also to consult any documentary evidence available. Next, the interviewer plotted the respondent's birth-date on an Events Chart (see Appendix I) so that this date could be subsequently compared with dates of other events such as child-births and marriages in the respondent's life. Whether the calendar year or the age was obtained, an attempt was made to obtain the month of birth. Since several calendars are in use in Indonesia, the interviewers recorded the month in whatever calendar (e.g., Muslim/-Jawanese, Balinese, etc.) it was specified; these dates were converted to a standard form during field editing (see Appendix VII).Finally, the interviewer recorded her comments regarding age-reporting: whether the age was reported without further probing; whether it was obtained from some document; whether extensive probing was necessary; and whether the reporting was believed to be only an approximate estimate.

Section 2. Marriage History

Since most of the births occur within legal unions, this section preceded the sections on birth history and contraceptive knowledge and use. This departure from the WFS standard version is common to other WFS surveys, particularly in Asian countries.

Again, special attention was paid to obtaining dates. If the calendar year could not be obtained, the respondent was asked to give her age at the time her marriage took place. Month (in whatever calendar) was asked, as in the case of respondent's birth-date. In all cases, the duration in years and months for every former marriage was obtained. If the year of termination of a marriage could not be obtained, the respondent was asked to give the number of years (plus months) elapsed before her next marriage (if any) began. The data on marriage dates thus includes some redundancy. This was introduced to minimize the incidences of "not stated" cases. Further, this redundancy could be used to check consistency of the information both in the field (the interviewer plotted all marriages on the Events Chart), and during office and machine editing.

Section 3. Maternity History

The information collected in the maternity history is the main focus of any fertility survey. The principal output of this section is: live births, by sex and date of occurrence, and suvivorship; incidence of infant and child mortality; incidence of pregnancy wastage, including induced abortions; prevalence and duration of lactation in the open and the last closed birth intervals; and current pregnancy, with expected birth-date and sex-preference.

To achieve as complete a record as possible of all live births, the numbers of living children (by sex and whether living at home or away) were obtained first. This was followed by the number of dead children, and a probe to confirm that the total number of live births so obtained was correct. As an addition to the WFS standard version, an explicit question on multiple births was introduced. Next, data were obtained on the name, sex, date of birth, survivorship, and age at death (if applicable) for each child, starting with the *first born*. If the calendar year of birth was not available, the duration (in years and months) since the birth occurred was asked, followed by month of birth. In all cases, the interval since the previous birth was also asked. This redundancy in the information obtained was introduced for the same reasons as those mentioned above for the marriage history.

All births were plotted on the Events Chart so that any gross inconsistencies could be identified during the interview itself. Once all births were recorded, the interviewer probed *each* birth interval for wasted pregnancies. This detailed questioning, rather than a global probe "Any other pregnancies?" was introduced in an attempt to minimize under-reporting of induced abortions.

Section 4. Contraceptive Knowledge and Use

In this section knowledge and use of various contraceptive methods were recorded method by method. First, the respondent was asked to name any methods she knew of. Then, to avoid omission and at the same time get a comprehensive picture of all methods available, the interviewers were instructed to read a concise description of each method, and ask whether the method was known and ever used. In addition to the common methods included in the WFS questionnaire, some other contraceptive methods believed to be widely known in Jawa and Bali were included, namely: injectibles, herbs, massage, and uterus inversion. The sequence concluded with a question asking the respondent whether she had ever heard of any other method apart from those already mentioned.

Additional questions on this topic were: the first method used to delay or avoid pregnancy, and the number of living children when the respondent first started practising birth control.

Section 5. Fertility Regulation

This section classified the respondents into five categories as follows:

(a) Married and living with husband, not currently pregnant, and never used any contraceptive method.

(b) Married and living with husband, not currently pregnant, had used contraceptive method.

(c) Currently pregnant, and had never used any contraceptive method.

(d) Currently pregnant and had used contraceptive method.

(e) Separated, widowed, divorced, sterile, or sterilized.

To facilitate interviewer's work, pages of different colour were used for each of these five groups.

The content of this section may be summarized as follows: information was sought on the perceived capacity to have children and the desire for more children, including the number desired, preference concerning the sex of the next child, and whether the previous pregnancy was wanted. If the woman had used any contraceptive method, information was sought on current method (or the last method used in the open birth interval) and on the method used in the last closed interval. For those who had never used contraception, information was sought on intentions regarding future use.

On the basis of these data two important variables, Exposure Status and Pattern of Contraceptive Use, can be defined. (See Appendix V).

Section 6. Family Planning

This section concentrated mainly on the following aspects:

(a) Knowledge and use of the available sources of family planning advice and supplies.

(b) Intentions regarding future use of these sources.

(c) Knowledge of family planning services through mass media and family planning workers.

Data gathered on this subject provide the Government with valuable information on the progress of the family planning programme in Jawa and Bali, as well as information to evaluate past policies in order to formulate more effective ones for the future.

Section 7. Work History

In general this section followed the questions recommended in the standard WFS questionnaire, and covered the following items:

(a) Detailed occupational information about respondent's current or most recent work since marriage.

(b) Nature of the respondent's work before marriage.

The questionnaire was constructed to allow testing the hypothesis about the relationship between past work and fertility. The periods for which information on work status may be analysed are: before (first) marriage; since that time; and, for those who have had children, between marriage and the birth of their first child.

Section 8. Current (Last) Husband's Background

This section includes information on respondent's current or last husband's age (or year and month of birth), occupation, employment status, and education. For women currently not married who have had two or more marital unions in the past, the rationale for collecting information on the *last* husband as opposed to the first husband is that a woman is more likely to remember the relevant information relating to her most recent marriage. The characteristics of her husbands are probably highly correlated in any case.

2.2.3 Events Chart

This special chart was prepared to facilitate the interviewer's task of obtaining as complete and accurate data as possible on dates of vital events in the respondent's life. One chart for each respondent was completed during the interview itself, as dates in her birth and marriage histories were obtained.

The chart is reproduced in Appendix I. On this chart each vital event is plotted on a linear scale showing the time period preceding the interview. Duration (in years) before the interview along with the corresponding calendar year is pre-marked on the scale. After obtaining the respondent's date of birth or current age, the interviewer writes down her retrospective age corresponding to each duration before the interview. Following this, any other vital event in the respondent's life can be plotted directly on the scale, irrespective of the form in which the date is specified: whether as a calendar date, as duration during the interview, as the respondent's age at the time the event occurred, or as duration from some other event. This graphical representation of the respondent's history is helpful in pointing out to the interviewer any implausible or contradictory dating of events. It also facilitates probing for the date of one event in terms of the date of another event already obtained, irrespective of the form in which the dates are given.*

2.3 Survey organization

The Director-General of the executing agency, CBS,

*Another difficulty in obtaining dates in Indonesia results from use of several calendar systems: Muslim/Jawanese/Sudanese, Balinese and Western. Interviewers were provided with a conversion table to facilitate conversion to a uniform system before recording answers. For reference, such a table is reproduced in Appendix VII.

was naturally the ultimate authority for execution not only of the IFS but also of the previous phases of the SUPAS project; he was also available for guidance when important matters of policy arose. The Director-General was assisted by the Project Co-ordinator who was in charge of population statistics at CBS.

Overall responsibility for administration of the project rested with the National Director, while the full-time Survey Director was responsible for detailed technical and organizational implementation of the survey. Professional staff from the National Family Planning Co-ordinating Board, certain other national institutions, and the World Fertility Survey acted in advisory capacity.

An ad hoc team consisting of CBS staff selected on the basis of their professional capacity and their designations in the organization provided the main senior and intermediate level staff for the survey. Most of these technical personnel were trained in demography, and during the execution stage four of them were appointed as Senior Project Staff devoting most of their time to the IFS. They were responsible for planning and co-ordination, preparation or translation of survey documents, training, and supervision of field work as well as of office editing and coding.

Additional administrative support and higher level supervision during the field work was provided by six provincial census and statistical office chiefs in their capacity as Administrative Co-ordinators for the project.

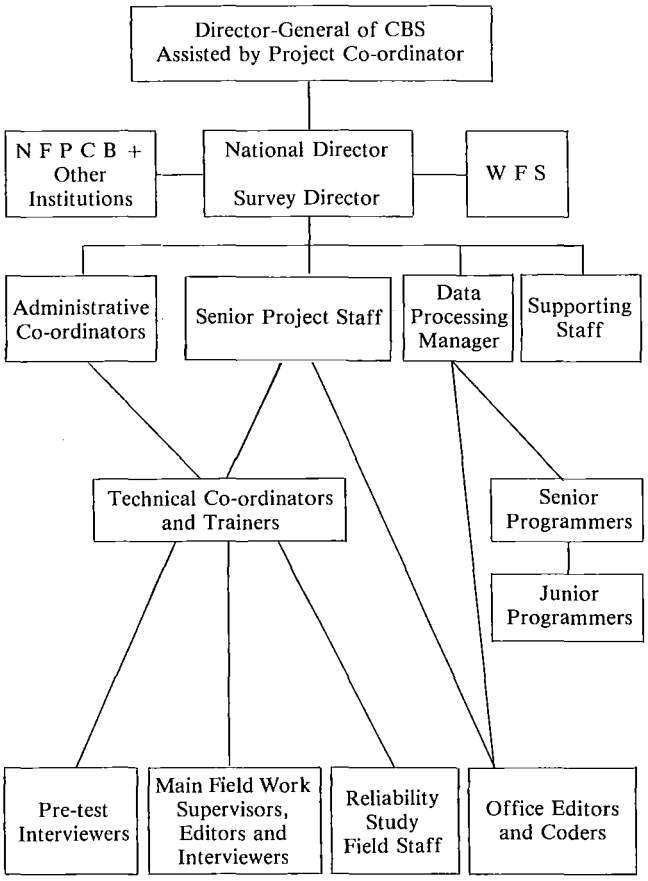
A senior systems analyst at the CBS acted as the Data Processing Manager for the survey. During machine editing, variable recoding and tabulation of the survey results, he was assisted by two senior programmers and four junior programmers at the CBS. He also supervised the office editing and coding operations in collaboration with the Senior Project Staff.

Intermediate level staff consisted of eight Technical Co-ordinators and Trainers recruited from regional universities. They assisted the Senior Project Staff and Administrative Co-ordinators in training, field work and supervision.

Junior field staff consisting of supervisors, field editors, and interviewers worked in teams and were supervised by the Survey Director and Co-ordinators. They were generally recruited from outside the executing agency on a temporary basis. Office staff, responsible for editing and coding also worked in teams; generally, they were regular CBS employees.

Figure 2.1 shows the organizational structure and the line of authority of the project. Further details will be provided in the following section where each of the main survey operations is described in greater detail.

Figure 2.1 Organizational Structure of the Indonesia Fertility Survey*



*See Appendix VIII for list of participants

2.4 Pre-test

Most surveys are preceded by a pilot study through which the survey organizer can measure the drawbacks of the design and take actions to improve the actual survey. The IFS pre-test was designed to fulfil the following objectives:

(a) To give the technical staff a chance to practise execution of the survey on a small scale.

(b) To test whether the sequence and wording of the questions had been constructed properly. At the same time notes were made on language difficulties encountered during the field work, including appropriate local terminology to be used.

(c) To evaluate if the qualifications set for recruiting enumerators could be met in the various regions of the country.

(d) To estimate the number of households and eligible women which could be interviewed per day, and the average interview time involved.

The questionnaire and other survey documents for the pre-test were drafted at the CBS, and then agreed upon during a meeting between the Central Bureau of Statistics, the National Family Planning Co-ordinating Board, and the World Fertility Survey staff. Interviewers' manual, standard forms for interviewers' evaluation, various administrative documents, and a survey time schedule were prepared. Also developed was an Events Chart to be used during the interview for plotting dates of vital events.

The pre-test was carried out in two provinces, Bali and Jawa Timur (East Java). The sample area in Bali was in Badung Regency, where the capital of the province, Denpasar, is located. The Jawa Timur sample was in Jember Regency, an area where the influence of the Maduranese is prevalent. The primary reason for selecting these areas was that Bali represents a Hindu community while Jawa Timur is predominantly Muslim. Out of the 276 households selected for the sample, 114 were in Bali (67 rural and 47 urban) and 162 in Jawa Timur (70 rural and 92 urban). Census blocks where

these households were located were not in the sample for the main survey.

The Provincial Census and Statistical Offices in Bali and Jawa Timur were asked to recruit the interviewers. The requirements were: they had to be female, high school graduates and able to communicate in the local languages of the selected areas. Candidates from Jember were recruited through the local Family Planning Office which sent its group leaders or field workers, while interviewers from Bali were recruited through Udayana University which sent 2 lecturers and 3 students. In all, twelve candidates aged from 22 to 47 (median 26 years) were selected.

A two-week training session was conducted centrally in Denpasar, Bali, in November 1975. The Survey Director and three members of the headquarters staff acted as trainers. Two WFS staff members were present during the training session. As more than half of the class were Family Planning field workers or group leaders, well conversed in the use and practice of contraceptive methods, there did not seem to be any difficulty in their understanding the questionnaire. Fairly detailed instructions included in the questionnaire and the use of coloured pages, etc., assisted them in avoiding mistakes, although intensive training had to be conducted in order to master the method of filling out the questionnaires.

The class-room training covered topics on: introduction to IFS in relation to WFS; role of the interviewer and organization of the survey; instructions on how to fill in the questionnaire; and talks on physiology of reproduction and contraceptive methods. To familiarize the field workers with all aspects of interviewing, they were asked to demonstrate their ability to fill in the questionnaire by "role-playing", that is, one trainee acting as interviewer and another trainee (or one of the trainers) acting as respondent. They were also asked to fill in questionnaires while listening to a recorded interview prepared by the trainers.

The last two days of the training period were used to do actual interviews in the field. Each interviewer had to complete interviews in two households in the morning; the afternoons were used for discussions on problems encountered in the field.*

At the end of the training course, each trainee was evaluated and ten out of the twelve candidates were selected, six for Jawa Timur and four for Bali.

In Bali, six days were needed for the actual field work; the rural areas were covered first and then the urban areas. On average each interviewer could complete five interviews per day and the average duration per interview was around 50 minutes. There were no refusals.

In Jawa Timur, the field work required eight days; the average number of respondents interviewed per day was four, while the average duration per interview was around 60 minutes. Only one respondent refused to be interviewed. Many respondents in Jawa Timur worked in tobacco factories and often interviews had to be conducted in the late afternoon or in the evening after the respondents came back from work.

The pre-test provided valuable experience in terms of survey execution. Although field work of the pre-test was confined to areas conveniently accessible from the centre of the nearest city, it gave the technical staff valuable experience in field logistics and organization. Since this was the first CBS survey in which all field workers were female and non-CBS staff, the terms of the work contract had to be worked properly and clearly so as to avoid misunderstanding; the pre-test provided an opportunity to do so at an early date.

On the basis of the experience gained during the pre-test a number of suggestions were discussed at a meeting attended by the CBS, the National Family Planning Co-ordinating Board, USAID, the Ford Foundation, WFS, and the Demographic Institute of the University of Indonesia. Some modifications in procedures were made as a result of this meeting, but the overall form of the questionnaire remained unchanged. The main lessons learnt were as follows:

(a) Information on husband's occupation was frequently not sufficiently detailed, due to many wives' ignorance of their husband's exact employment status. It was necessary to make a greater effort to interview the husband himself, where necessary, to answer questions on his background.

(b) Despite the use of the Events Chart, considerable difficulties in getting dates of vital events still existed. Further, the reckoning of age in Bali—particularly for young children—differs from that in other parts of the country in that the Balinese year (OTON) has only 210 days (6 months of 35 days each); in Jawa some people used a combination of Western year and Muslim or Jawanese month. It was decided to provide a conversion table from the Muslim/Jawanese calendar to the Western calendar (see Appendix VII). It was also decided to further emphasize the problem of obtaining dates during the training course for the main field work.

(c) The question on language used during childhood (Section 1) was changed to language(s) used at home at time of interview.

(d) Interviewers' comments on age-reporting were precoded.

(e) The household schedule and the pregnancy history table were enlarged and revised.

(f) The number of precoded answers to the question on the usefulness of mass media in family planning publicity (Section 6 of the questionnaire) was reduced from three to two, since during the pre-test most respondents tended to avoid the first extreme category.

2.5 Training of field staff

The CBS, as the executing agency, conducted a meeting between the Survey Directors, the chiefs of the census and statistical offices (who were the Administrative Co-ordinators), and the Technical Co-ordinators. The purpose of this meeting was to familiarize the staff with the organizational and administrative aspects of the survey, and its relation to SUPAS I and II. In turn, the chiefs of the Provincial Offices gave an account of their experiences in conducting household surveys and problems faced and solved in their respective areas, particularly those relating to SUPAS I and II which were conducted by them. This meeting was beneficial to the Technical Co-ordinators as it gave them a clearer picture of how the survey would be conducted, problems

*The interviewers from Jawa Timur experienced some language difficulties during these field training sessions as many of the respondents spoke only Balinese.

anticipated and how these problems might be overcome.

Following this meeting, a one-week briefing on the contents of the questionnaire was given to the Technical Co-ordinators and other intermediate-level staff who were to act as trainers of field workers. Plans for and allocation of responsiblities regarding the field supervisors' training were discussed. No detailed explanation on the background of the study was considered necessary at this stage. Apart from usual lectures and exercises, a talk on the physiology of reproduction and contraceptive methods was included in the training programme.

The field supervisors were trained centrally by the Survey Directors for a period of two weeks. The Technical Co-ordinators assisted in checking and evaluating the individual performance of the trainees.

The supervisors' training was of the greatest importance since the heaviest burden of the study rested with the supervisors. They were the backbone of the whole field work operations. It was the supervisors who made detailed plans for the field work, distributed the workload among the interviewers and managed interviewer teams throughout the field work period. Based on this consideration, all efforts were directed toward obtaining the best available personnel to be assigned as supervisors.

This was followed by the interviewers' training course which was carried out in four separate training centers: Sukabumi for DKI Jakarta and Jawa Barat; Yogyakarta for Jawa Tengah and D.I. Yogyakarta; Jember for Jawa Timur; and Denpasar for Bali. The different training centers were set up to minimize differences in dialects used for interviewing, and to provide a place for discussing problems at the regional level.

The Technical Co-ordinators and other intermediate-level staff, assisted by field supervisors, acted as trainers. They conducted the training, gave lectures and tests, checked and evaluated the candidates' performance, and at the end of the training selected candidates to be employed as interviewers. The training programme followed the procedures developed during the pre-test training course, with suitable modifications on the basis of experience gained. A total of 118 candidates completed the training course, out of which 88 were selected for the main field work.

In most of the previous CBS surveys the training of field workers had involved up to 10 hours for lecture-type classes everyday. This method of training did not leave enough time for the study of training manuals and interviewing practice. Hence, during the IFS training the number of hours of class was limited to 7 hours everyday, but the trainees were asked to do homework and review the instruction books on their own.

Every morning a small test (quiz) was given to evaluate the trainees' understanding of the previous day's lessons. In addition to exercises in filling in questionnaires based on prepared case histories, several tests were given at regular intervals.

2.6 Field work

Field work for the main survey started in April 1976. It was originally anticipated that at least three months would be required to complete the field work; however, all the teams managed to finish interviewing, field editing and any necessary re-interviewing in approximately two months. Excluding travel time between sample areas, one interviewer was able to complete on average five to six households per working day.

The Technical and Administrative Co-ordinators in each province decided how the field work would be organized. Three approaches were used: in Jakarta, Jawa Tengah, and Bali, the provinces were divided into several regions with only one team working in each region; in Yogyakarta, which was the smallest and most easily accessible province, the (two) teams worked together simultaneously in each sample cluster; in Jawa Barat and Jawa Tengah sample areas were allocated more or less at random to interviewing teams. This last method was less efficient and prolonged somewhat the time required for field work, though it resulted in more equitable distribution of interviewing and travel workload.

Higher level supervision was conducted by the Technical Co-ordinators who either checked the completed documents submitted by the field supervisors to the provincial Census and Statistical Office or visited interviewer teams while still in the field. Each Technical Co-ordinator was required to make at least two visits to each team under his/her supervision. During these visits he/she would instruct the field workers, solve problems and correct any mistakes found in the field. Usually the Technical Co-ordinators were accompanied by the Administrative Co-ordinator on these visits.

Due to the greater mobility and the nature of economic activity in Jakarta Metropolitan area, interviewing could generally be done only in the evenings. Response rates were generally high in all areas and refusal to be interviewed was rare: 97 per cent of sample households and over 98 per cent of eligible women in contacted households were successfully interviewed, giving an overall response rate of around 95 per cent for the individual interview sample.* Only in Jawa Barat non-response was significant (13 per cent of the households could not be interviewed). The average number of eligible women per sample household was 0.93, the highest figure being for Jawa Barat (1.04) and the lowest in Yogyakarta and Bali (0.81). A summary of outcome of the sample is given in Table II.3 (Appendix II).

Although in general there were no major problems encountered, there were difficulties in getting the age of the respondent and ages of the children. Elaborate probing had to be done to obtain month of birth, although the questionnaire provided the use of Muslim and other calendars. The Events Chart played an important role in getting this information.

It was also rather difficult to obtain responses to some questions in Section 6 on family planning services.

The completed questionnaires had to be thoroughly checked by the interviewer before being submitted to the field-editor who examined their completeness and consistency. One out of five interviews were also tape-recorded to evaluate the interviewer's capability in conducting an interview and to check whether the information given by the respondent had been recorded correctly. Any incompleteness or error was recorded on the cover sheet and discussed with the interviewer concerned. If there was sufficient information available,

*In case on the first visit the respondent was not available or the interview was not completed, the interviewer had to make up to two more attempts before classifying her as a non-response.

errors were corrected without going back to the field; otherwise a re-visit to the household was made when feasible.

Field supervisors held discussions with the interviewers in order to solve problems and at the same time maintain their morale. The supervisor had to make a number of checks after the completed questionnaires were field-edited. These included spot-checks on a sample basis to verify that the household interviewed belonged to the sample, and that eligible women were correctly identified. Special care was taken in the case of women who reported their age around 50 to determine eligibility for individual interview. Supervisors also re-checked edited questionnaires on selected items such as respondent's age, education, and husband's occupation.

2.7 Data processing

Documents received were registered and their completeness was checked against the sample list for each cluster. Record was made in a master control log. At the same time responses to the open-ended questions were tallied for the purpose of developing the code. Documents for each cluster were kept together in a labelled box. The labels showed identification number of households and the number of eligible respondents in the cluster. These labels were also used to record dates of completion of each stage: editing, edit-verifying, coding, code-verifying, and punching.

Detailed manuals for editing, coding, and machine editing were prepared at the CBS based on guidelines provided by the WFS.

30 persons underwent a one-week training session for editors and coders; 5 of those were appointed as supervisors. Once questionnaires for one province (Yogyakarta) had been office edited, 8 editors and 2 supervisors were transferred to coding. This ensured that coders were familiar with the office editing procedures.

In addition to the general coding operation involving mainly transcription, the coders were also in charge of coding of occupation and open-ended questions.

The total amount of time spent in editing and coding was approximately 16 weeks (from mid-June to mid-October 1976).

As soon as questionnaires from a sufficient number of clusters were edited and coded, the documents were sent for key punching. Since the punching section at CBS at that time was fully occupied by other surveys, the punching was done outside CBS. This arrangement did not have any adverse effect on progress of the survey; in fact, punching was completed almost at the same time as coding.

All punched cards went through machine editing process on the computer. The editing rules were constructed by the technical staff based on guidelines provided by the WFS. There were four types of checks on the household data: file structure; range checks; completeness checks; and consistency of information in the schedule. Checks on the data obtained from the individual questionnaire involved: file structure; check on column shifts; range checks; filter and skip checks; logical checks; and consistency checks.

To simplify the tabulation process various recoded variables were constructed.

The writing of the computer programs was delayed and took a longer period than anticipated. The program specifications were prepared in consultation with WFS staff as well as the UN data processing adviser. Tabulations were prepared mainly by using the COCENTS package program.

2.8 Survey Time-Table

In general the timing of the actual implementation of the project did not differ significantly from the time schedule originally planned, except for data processing and report writing. With hindsight, it appears that it would have been very desirable to start preparation of the required computer programs as soon as the questionnaire and the coding scheme were finalized. The actual timing is as follows:

Activities	Time
1. General preparation (translation sample design, etc.)	August - September, 1975
2. Finalization of pre-test materials and printing (questionnaire, worksheet, etc.)	October - November, 1975
3. Pre-test training, field work and evaluation	November - December, 1975
4. Questionnaire finalization	December, 1975
5. Preparation of training materials for the actual survey	January, 1976
6. Printing survey materials	February, 1976
7. Sample selection	February, 1976
8. Training of the technical co-ordinators and trainers	February, 1976
9. Training of supervisors and interviewers	March, 1976
10. Field work	April - May, 1976
11. Document collection	June - July, 1976
12. Editing, coding and key punching	July - October, 1976
13. Computer editing	November, 1976 - February, 1977
14. Variable recoding	March - September, 1977
15. Tabulation	October, 1977 - May, 1978
16. Report writing	May - September, 1978
17. Publication	October - December, 1978

Commentary on the Main Findings

Scope of the Present Commentary

Full analysis of the results from the Indonesia Fertility Survey is likely to be a lengthy process. It will involve a detailed appraisal of the quality of the data with possible adjustments for reporting bias, and application of refined demographic and statistical techniques to elucidate inter-relationships between fertility and factors associated with it. It is important, however, not to delay the publication of valuable information such as that collected during the IFS. It is for this reason that the bulk of the present report consists of detailed cross-tabulations presented in Volume II*; the following commentary on the main survey findings necessarily takes the form of a broad and preliminary review, to be supplemented in the near future by in-depth studies of particular issues.

Given the complexity of the subject matter involved, and in the absence of more detailed analysis, it is essential to be cautious in drawing conclusions and, in particular, *causal inferences*. It should, nevertheless, be recognized that in spite of analytical sophistication one can rarely be certain regarding the correctness of a particular interpretation. This commentary will not entirely desist from drawing conclusions, though we re-emphasize its limited scope and the fact that on some points the present interpretation of the survey results may need revision or even reversal in the light of more detailed assessment and analysis of the data.

An attempt has been made to make Volume I self-contained as far as possible, since a less specialized reader may not be interested in the detailed tabulations in Volume II. The order of the chapters in Volume I is as follows:

Background characteristics of the survey respondents are described in Chapter 3. To facilitate a more critical understanding of the main findings, we indicate the relative sizes and demographic composition of categories of the various "explanatory" (background) variables, and describe the association between them. Chapter 4 considers trends and differentials in nuptiality, which defines the frame within which fertility in Indonesia occurs almost entirely. This is followed by a review of the prevalence of knowledge and use of contraception in Chapter 5. Levels, differentials, and trends in fertility, the main theme of this study, are discussed at some length in Chapter 6; the question of infant and child mortality is also considered briefly. Chapter 7 concerns fertility preferences and their relationship to the respondent's background characteristics, fertility behaviour, and use of contraception.

A summary of the survey findings as a whole has already been given at the beginning of this document.

Sampling Errors: The sample for the IFS is described in Appendix II, and sampling errors for the main survey estimates are given in Appendix III. For certain important statistics the estimated standard errors are also given in the text in the form of footnotes. Standard errors have the following interpretation.

If non-sampling errors are ignored, then in two samples out of three the true value may be taken to lie within one standard error of the estimated value, and in 95 per cent of the samples within two standard errors of the estimated value. Accordingly, an interval of *two standard errors on either side of the sample estimate nearly always contains the true value for the population being studied.* This interval is called a "95 per cent confidence interval", and is commonly chosen as giving a range of possible values for the estimated quantity consistent with the data. Standard errors for the differences between pairs of estimates are also given in the text, and these are important for determining the likelihood that an observed differential is a real one and not caused merely by sampling variation. For further details, see Appendix III.

Summary Tables: Detailed tabulations in Volume II have been divided into several major groups and assigned *three-digit* numbers (such as 2.1.2) to indicate the substantive area under which a table is classified. These major groups correspond to the following five chapters.

Some key findings in the form of summary tables are embodied in the commentary on the main findings. The summary tables have been assigned *two-digit* numbers (such as 5.12), the first digit specifying the number of the chapter in which the table appears and the second digit the serial number of the table in the chapter.

The summary tables, unlike the detailed ones, do not usually show the frequencies (i.e., number of respondents) on which percentages or means are based. As a safeguard for the reader, the following system has been used. Where the frequency is less than twenty respondents, no figure is shown and an asterisk (*) is entered in the appropriate cell of the table. Where the frequency is less than fifty respondents, the figure has not been suppressed but is enclosed in brackets. Finally, cells which by the very logic of the table must be empty are indicated by a "dot". Percentages are usually rounded to the nearest integer. Each summary table gives the source table(s) from Volume II on the basis of which it has been constructed.

*The term NEC is used in some of the tables in Vol. II; it refers to cases not elsewhere classified.

Chapter 3. Background Characteristics of Survey Respondents

3.1 Introduction

The major findings of the survey on nuptiality, fertility, fertility preferences, and knowledge and use of contraception will be described in the chapters to follow. Most of the description will be in the form of differentials between different sub-groups of the sample. These sub-groups are defined by a number of characteristics, the explanatory variables, which are of relevance for Indonesia. It is possible that the different sub-groups differ in their "demographic composition", that is in the distribution by age, marriage duration, and other relevant demographic characteristics. When differentials between categories of the explanatory or background variables are discussed, an attempt is always made to explicitly control for the demographic characteristics. However, it is often convenient to consider the overall figures. It is, therefore, necessary to be aware of important demographic "compositional" differences between different categories of the background variables. Further, it is possible that the background variables are inter-related. The inter-relationships between the background variables should be clarified, to facilitate proper understanding of the findings.

Following comments in Section 3.2 on the nature of the sample for the individual interview, in Section 3.3 a brief analysis of the age distribution as obtained from the household schedule is given, and a comparison made between the distributions from the household schedule and from the individual questionnaire. This brief analysis will give an indication of the quality of the crucial variable, age.

In Section 3.4 an extensive description of the background variables used in the analysis of the IFS data is given, together with statements about the size of the different sub-groups.

In Section 3.5 the demographic composition of the different background variables is presented. This will enable a better understanding of the findings in subsequent chapters.

A description of the inter-relationship between the different background variables is given in Section 3.6.

Finally, a note of standardization is attached.

3.2 Nature of the individual interview sample

Before reporting the findings a few observations are necessary on the nature of the sample for the individual interview.

The sample of the Indonesia Fertility Survey is a subsample of a larger survey, SUPAS. The main instrument to obtain the necessay data for the IFS was the individual questionnaire for ever-married females under 50 years of age and usual residents of the sample households. In order to obtain a list of the respondents for the individual questionnaire a short household interview was held, using the household schedule. All members of the households were listed, and for each the following basic information was obtained: sex, age, and marital status. On the basis of these criteria the respondents for the individual interview were determined. The quality of the sample for the individual interview is, therefore, determined by the completeness of coverage of the population in the households, and by the quality of enumeration of the basic characteristics.

The sample for the individual interview is a sample of ever-married women, and as such it suffers from a bias which is inherent to this type of sample. This type of bias is the "truncation or selection bias". The term refers to the exclusion of women who were not married by the time of the interview. The women studied thus represent a biased sample of the average life-experience of a cross-section of all ever-married women. The magnitude of this bias depends on the age groups being studied, and also upon the dispersion of age at marriage. There would be no truncation bias if all women in the whole sample or in a particular age group being studied marry exactly at the same age. The bias tends to be larger for younger cohorts since a larger proportion of them are not married by the time of the interview but will marry later. To the extent that virtually no first marriages take place beyond a certain age, the bias is confined to cohorts below that age. In Indonesia as a whole, this age is around 25 years, since hitherto all but 4-5 per cent of the first marriages have taken place at ages under 25. (See Chapter 4. Note that this may not be true for certain groups of the population, for example, for women with higher education.) Below this age the truncation bias extends through the reproductive history of the respondent; for example, by selecting women who marry earlier, their first child will be born earlier, etc. There is thus a downward bias at the age at entry into each parity. Again, as in relation to age, this bias is more serious for the lower parity groups since women who will marry later and hence enter these parities at relatively later ages are under-represented in the sample.

Finally, it should also be noted that the sample for the IFS is not an equal probability sample. Therefore, all data presented in this report have been weighted appropriately to compensate for differences in selection probabilities. In fact, the sample weights also take into account variation (generally small) in response rates for different sample areas. The sample weights have been scaled in such a way that the total sample size is the same for the weighted and unweighted sample (namely, 9136). For any sub-population, the weighted sample size will generally differ from the unweighted number of cases for that sub-population.* Areas which are relatively over-sampled, such as the urban sector, are appropriately weighted down in the presentation of the results; for these, the actual sample sizes are larger than the weighted sample frequencies shown in the detailed tabulations. The opposite is true for areas which are relatively under-sampled, in this case the rural areas.

Relationships between weighted and unweighted frequencies for important sub-groups of the sample is shown in Table 3, Appendix III (for greater detail see Table 0.1.2, Vol. II).

3.3 Population enumerated in the household schedule: age reporting

The sample of the IFS consisted of 10,504 households. Listing of household members was done on both a *de facto* and a *de jure* basis. Usual household members who were absent the night previous to the date of listing were listed in addition to all persons who slept in the

*Sampling errors depend on the unweighted frequencies, while the contribution of a sample category to the whole depends upon its weighted frequency.

Table 3.1 Age and sex composition of the population: comparison with 1971 Census (Jawa-Bali)

Age		0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+	All
Age	IFS	2.9	11.2	14.2	12.5	10.3	8.0	6.5	5.9	6.1	5.1	4.4	4.5	2.7	5.6	100.0
Distribution	Census	2.3	11.8	14.5	12.3	10.5	7.8	6.9	6.2	6.8	5.5	4.6	3.5	2.4	4.9	100.0
Sex	IFS	106.8	98.7	100.5	102.8	90.5	89.2	89.5	90.2	100.5	92.5	114.5	78.5	107.8	95.8	96.4
Ratio*	Census	99.5	103.1	102.6	108.8	95.3	86.3	84.3	87.0	92.3	94.6	106.2	101.9	101.1	85.1	96.8

(SOURCE: Table 0.1.2)

*Males per 100 females.

household that night, including temporary visitors. Tabulations on age and sex composition and marital status from the household schedule (Table 0.1.1.-0.1.3, Vol. II) are based on the *de jure* population only, since for the individual interview only usual residents of the households, who were ever-married females and less than 50 years old, were selected.

Table 3.1 shows age-distribution and sex-ratio (males per one hundred females) of the enumerated population compared to the 1971 Census. The two age-distributions are similar. The overall sex-ratios are also similar, although for individual age groups agreement is not so good. Particularly at older ages, say 35-39 onwards, the values of the sex-ratio from the survey fluctuate from one age group to the next. These fluctuations are probably caused by different patterns of age misreporting for the male and female populations. The most outstanding discrepancies between the sex-ratios are found for the age groups 45-49 and 50-54.

Table 3.2 shows an index of age preference at terminal digits '0' and '5'. The figures show, separately for males and females, the ratio of population reported at a certain age to the average population reported in the five years range centered at that age. For example, at age 30, the index is calculated as the population reported at age 30, divided by one-fifth of the total population reported at ages 28-32.

Table 3.2 Index of age preference at certain terminal digits (0 and 5)*

Age	15	20	25	30	35	40	45	50	55	60
Male	1.05	1.37	1.64	2.06	2.10	2.05	2.07	1.88	1.68	2.29
Female	1.09	1.43	1.75	1.85	1.60	1.65	1.49	1.03	1.24	2.47

(SOURCE: Table 0.1.1)

*Figures show the ratio of population reported at a given age (ending in digit 0 or 5) to the average reported population in five years centered on that age. For example for age 15, it is the population reported at age 15 divided by one-fifth of the total population reported at ages 13 to 17.

Starting from age 20, very appreciable heaping at ages with terminal digits 0 and 5 is observed for both sexes. For males there is no difference in the relative preference for terminal digits 0 and 5; for females preference for ages 30 and 40 is slightly more pronounced than for ages 25, 35 and 45. On the whole, age heaping is less pronounced for the female population compared to the male. This may be because the female herself was often the respondent for the household interview, which was conducted by the same (female) interviewer who did the individual interview. Heaping at ages 25, 30, 35, etc., means that there are shifts in the age distribution of the respondents, but the direction and magnitude of these displacements are difficult to predict. This heaping can have important bearing on demographic analysis employing "conventional" five-year age groups such as 15-19, 20-24, etc.

Once eligible women had been selected, the detailed individual interview was intended to proceed independently of the household interview. In principle, without reference to the age reported previously, the woman was asked the calendar year of her birth. If the year could not be given, her current age was obtained. Calendar month was always asked for and could be reported in the Muslim Calendar, in the Western Calendar, or in any other calendar system.*

*The calendar year of birth was obtained for about one-third (3067) of the respondents, for the remaining two-thirds age was given. The month was given for under one-third (2682) of the respondents: for one in three of these the month was given in the Muslim Calendar and for the remaining two-thirds mostly in the Western Calendar. (Unweighted figures).

Table 3.3 Per cent distribution by age in single years for ever-married women aged under 50: Comparison between the household schedule and the individual interview data.

Age	**<15**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**
Household schedule	0.5	0.9	1.0	2.2	3.9	2.4	5.3	2.7	3.6	2.5	3.4	6.4	3.0	2.6	2.6	2.1
Individual interview	0.5	0.9	1.1	2.4	3.3	2.5	5.1	2.9	3.4	2.9	3.5	5.9	2.9	2.9	2.4	2.4
Age		**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**
Household schedule		5.6	2.2	2.7	2.7	2.5	5.0	3.2	2.3	2.5	2.4	4.8	2.2	2.8	2.0	1.8
Individual interview		5.0	2.2	2.7	2.9	2.6	4.6	3.2	2.4	2.5	2.6	4.3	2.4	2.8	2.1	1.9
Age		**45**	**46**	**47**	**48**	**49**	**All**									
Household schedule		3.2	2.1	1.8	1.9	1.5	100.0									
Individual interview		3.0	2.1	2.0	1.9	1.5	100.0									

(SOURCE: Special Table; not presented in Volume II)

Figure 3.1 Per cent distribution of ever-married women aged under 50 — by single years of age as reported in the individual interview

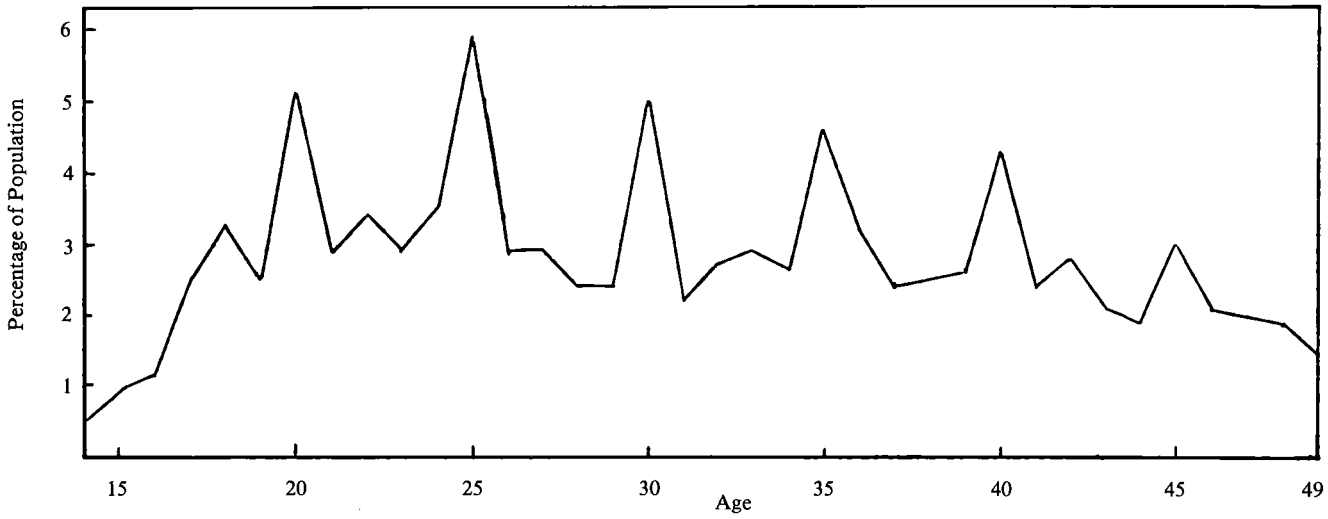


Table 3.3 compares the age distribution of ever-married women from the individual interview with the same distribution as reported in the household schedule. The two distributions are very close, indicating that the reporting in the individual interview represents little improvement over the reporting in the household schedule except for slightly less pronounced preference for terminal digits 0 and 5. This is not surprising since the respondent for both interviews was often the same woman, and the two interviews were generally conducted during the same visit to the household.

Figure 3.1 shows the per cent distribution of ever-married women by single years of age as reported in the individual interview; marked heaping is evident.

Heaping at age 50 can result in a bias in the individual interview sample. If, for example, ever-married women actually aged 47, 48, or 49 are reported to be aged 50 they will be incorrectly excluded from the interview. This, however, does not appear to have happened in the IFS to any appreciable extent. Table 3.4 shows the per cent distribution of women aged 43-52 by single years of age as recorded in the household schedule. Almost all of these women are ever-married. It is seen that the marked preference for terminal digits 0 and 5 in reporting of age, present at other ages, *is not* pronounced at age 50.

However, the number reported at ages 48-49 is much smaller than the number reported at 51-52, suggesting a shift from the former to the latter group, thus introducing bias in the sample. A number of older women (45-49 years) may have been wrongly excluded from the interview, because they were reported in the age group 50-54 years.

A special re-interview study was conducted as a follow-up of the main survey to obtain an indication of the reliability of the data generated by the survey (see Appendix IV). Nearly two-thirds of the re-interviewed eligible women stated their age within one year of that stated during the main survey. Agreement between the two interviews was within two years for nearly four-fifths of the cases—there being a discrepancy of 3 or more years in reported age for one-fifth of the respondents. Hence, there is considerable response variability in the reporting of age, though a majority of the respondents reported their age consistently within a margin of two years in the two interviews.

In summary, age-reporting in the present survey suffers from a certain degree of response variability and bias, the most serious distortion being the marked preference for certain terminal digits (0 and 5).

3.4 Definition of background variables

Based on the information collected on the respondent's and her husband's background a fairly large number of variables can be constructed for use as "predictors" in analysis of the results. In the present report, however, differentials concerning nuptiality, contraception, fertility and fertility preferences have been studied only for a sub-set of the background variables. With minor exceptions, the same five variables have been used in all comparisons:

Type of Place of Residence (urban—rural)
Province (the five provinces in Jawa, and Bali)
Level of Education (the highest level completed at school by the woman)
Husband's Occupation (most recent occupation of the current or last husband)

A brief description of each variable follows.

Type of Place of Residence: Sample areas were classified as "urban" or "rural" in accordance with the definition used in the 1971 Census. In this classification no absolutely fixed criterion regarding size of the locality was used. The census definition is based on a number of socio-economic characteristics, and the two most important are: (1) the majority of the work-force of the area should be engaged in the non-agricultural activities, and (2) the area should have certain

Table 3.4 Per cent distribution of women according to age in single years for women aged 43-52

Age	43	44	45	46	47	48	49	50	51	52	All
% distribution	8.5	7.7	14.0	9.2	7.7	8.3	6.3	10.9	13.9	13.5	100.0

(SOURCE: Table 0.1.1)

Table 3.5 Weighted and unweighted frequencies for the sample of ever-married women — by background variable

	All Jawa-Bali	Type of place		Province					
		Urban	Rural	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali
Weighted	9136	1432	7705	504	2605	2570	251	3022	185
Unweighted	9136	2922	6214	1391	1894	1951	886	2121	893

	Level of Education					
	No School.	Primary Incomplete	Primary Completed	Junior High	Senior High	Not Stated
Weighted	4376	3235	1075	226	192	33
Unweighted	4073	3066	1226	380	344	47

	Husband's Occupation					Pattern of Work			
	Professional, Clerical, etc.	Sales, Services	Manual	Farming	Other, N.S.	Before and After	Only After	Only Before	Never Worked
Weighted	716	1727	1454	5179	61	3755	2554	502	2325
Unweighted	1035	1925	1801	4321	54	3566	2339	706	2525

(SOURCE: Table 0.2.1)

institutional arrangements and facilities such as a hospital or clinic, a junior high school, and electricity supply. In the present survey, the classification is based not on a special interview or on questions in the questionnaires, but on the classification of the residence as given by the Central Bureau of Statistics on the basis of the 1971 Census data.

At present, approximately 18 per cent of the population in Jawa-Bali lives in areas classified as urban; the capital city Jakarta comprising approximately a third of the entire urban sector. For the IFS, urban areas were over-sampled and appropriately weighted down in presentation of the results for the whole sample; similarly, the under-sampled rural sector has been weighted up. The actual number of individual interviews analyzed and the corresponding weighted frequencies (which appear in the detailed tabulations) are shown in Table 3.5. For the urban areas, the actual number of sample cases is, on the average, twice as large as the weighted frequencies shown in the tabulations; for the rural areas the actual sample size is on the average around four-fifths of the weighted frequencies.

Province: In a large country like Indonesia, there is a possibility of considerable regional variation in population characteristics; also, the provinces in Indonesia are important administrative units requiring separate survey estimates in their own right. For these reasons the analysis of the results by province played a major role in the present study, and a large proportion of the tabulations have been produced by province, though they are generally not presented in this report. The survey universe covers six provinces: Jakarta, Jawa Barat (West Java), Jawa Tengah (Central Java), Yogyakarta, Jawa Timur (East Java), and Bali.

Since the six provinces formed "domains of analysis" in the design of the sample, the overall sampling fraction varied from one province to another. The weighted and unweighted sample frequencies are shown in Table 3.5. The weighted frequencies are approximately proportional to the population of the province. Hence, the above figures show the great variation in province sizes. The three most populous provinces, Jawa Barat, Jawa Tengah, and Jawa Timur, constitute nearly 90 per cent of the survey population, while Bali constitutes only 2 per cent, Yogyakarta 3 per cent and Jakarta just under 6 per cent. Though the pattern of results in the smaller provinces will be discussed at length, their impact on the results for the total sample is minor.

Level of Education: This variable refers to the highest level of schooling completed by the woman; those who did not attend school are also distinguished from those who did but failed to complete the primary level. The categories and their relative sizes are shown in Table 3.5.*

The difference between the weighted and unweighted frequencies is small, except for the two highest levels. This is because each category tends to be well distributed over the sample areas, thus reducing the effect of varying sampling rates. The higher educational groups are more concentrated in the over-sampled urban areas (association between variables will be discussed below).

The first two categories are dominant. Only one in six women has completed primary school; only 19 respondents in the whole sample had gone beyond the senior high school (this small minority is always included in the category "senior high +"). In presentation of the results, respondents in the last two categories ("junior high" and "senior high +") will sometimes be treated as a single group due to the small numbers involved.

Husband's Occupation: For currently married women this variable relates to the current (or most recent, if retired or not currently working) occupation of the husband; for women who are not currently married, the reference is to their last husband.

Responses to the question on husband's occupation have been coded using the detailed 3-digit standard ISCO classification, though in tabulations only four broad categories (and a small residual group—not shown in Vol. I summary tables) have been used. These categories relate to ISCO as follows:

Category	ISCO first digit equivalent
Professional, Technical, Clerical, etc. ("white collar")	0/1, 2, 3
Sales and Services	4, 5
Manual (skilled, semi-skilled or unskilled)	7/8/9
Farming	6

*For 47 respondents (equivalent to 33 when weighted) no data on this variable are available; usually these respondents have been excluded from the tabulations concerned, though it is known that they are mostly in the rural areas, and are probably in the lowest educational group.

This amalgamation of the occupational categories is introduced in order to simplify the discussion; it is also made necessary by the smallness of sample sizes for certain categories; further, re-interview of a sub-sample indicates considerable response variability which is likely to be greatly reduced after amalgamation of responses into broad categories as above. Details are lost by such an amalgamation, but there are in any case inherent difficulties in any occupational classification. For example, "sales" may include a street vendor, a salesman in a modern enterprise, a property salesman, etc. The activities, requirements, and rewards associated with these jobs are widely different.

Nevertheless, it is not unreasonable to expect the broad classification to capture some socio-economic dimension of the population studied.

Over half the respondents belong to the "farming" category, and under 10 per cent to the "professional, administrative, clerical" category (see Table 3.5).

The difference between the weighted and unweighted frequencies shown in Table 3.5 is associated with the fact that farming is almost exclusively from the (under-sampled) rural areas, while the other three occupations are more often urban.

Pattern of Work: The section on Work History in the IFS questionnaire obtained information on current or most recent work done by the woman after marriage, as well as work done before her first marriage. "Work" was defined as any occupation apart from ordinary housework, paid in cash or in kind or unpaid, on own-account or for a family member or for someone else, done at home or away from home. The introductory question, related to current work status, was as follows:

"As you know, many women work—I mean aside from doing their own housework. Some take up jobs for which they are paid in cash or kind. Others sell things or have small business, or work on the family farm. Are you doing any such work at the present time?"

The variable Pattern of Work summarizes the woman's work experience, namely whether or not she worked before and after her first marriage. The categories of this variable are as follows:

1. Those who have worked before as well as after their first marriage. Of the 3755 women in this category (see Table 3.5), all but 170 are also currently working.
2. Those who have worked after marriage but did not work before their first marriage. Of the 2554 women in this category, all but 150 are also currently working.
3. Those who worked before their first marriage but not after marriage (502 women).
4. Those who have never worked (2325 women).

It is possible to combine the four categories in different ways to produce new groups which are more suitable for discussion of the results, for example, dichotomies like ever-worked—never worked (categories 1 to 3 versus category 4), worked before marriage—did not work before marriage (categories 1, 3 versus categories 2, 4), etc.

The relative sizes of the categories may be summarized as follows: one in four of the women have never worked; nearly half have worked before marriage; over two-thirds of the women have worked after marriage and most of these are currently working.

Other Variables: In some of the tables presenting age at first marriage and early marital fertility, three other background variables have been used. These are: the woman's occupation before first marriage (defined in the same way as her husband's occupation), her childhood type of place of residence (village, town, or city, defined as the woman's subjective impression of the place), and "work status" before first marriage.

3.5 Demographic composition of the background categories

It is to be expected in general that women with different background characteristics also differ in their distribution by age and marriage duration. Some of the differentials in fertility between groups with different background characteristics may simply be a reflection of these differences in demographic composition. For a critical understanding of the data, it is important to recognize these differences between categories of the background variables (even though an attempt is made to include explicit control by relevant demographic variables in the cross-tabulations discussed here). Fertility intentions and contraceptive use have a close relationship with age, and also with marriage duration. A category of a variable which has many young women in it is likely to show low fertility, preference for smaller families, and possibly low use of contraception.

If the distribution by age changes from one background category to another, there are several possible reasons. The first is that the category may have been subject to historical changes—for example, expanding in such a way that it contains an increasingly large proportion of younger women (as is true for higher educational levels).

Secondly, since the sample is confined to *ever-married* women, categories in which women marry later tend to have a lower proportion of younger women (since many of the younger women are not yet married and hence not in the sample). Similar arguments apply to variations in distribution by marriage duration.

Finally, these variations can also be caused by age-misreporting, the pattern of which may vary from one category to another and, for sub-groups, by sampling fluctuations.

Table 3.6 has been constructed to illustrate differences in composition by age and marriage duration between various background variable categories. The figures show the distribution by age or marriage duration group for each category divided by that distribution for the whole sample. The figures thus indicate the *relative* size of an age or marriage duration group in the category, compared to the proportion of that group in the whole sample. A figure larger than 1.0 means that the group is relatively over-represented in the category.

The pattern in Table 3.6 may be summarized as follows:

In their distribution by current age, urban women are slightly older than rural women, though the difference is not great. Provincial differences are more pronounced. Women aged under 25 are relatively over-represented in Jawa Barat and under-represented in Yogyakarta and Bali. In fact, proportionately, there are nearly twice as many women aged under 25 in Jawa Barat as there are in Yogyakarta. Categories by Level of Education also differ greatly in age-distribution. Women with no education are clearly older than those who have attended school, and the contrast increases with increasing level

Table 3.6 Relative distribution according to current age and marriage duration within categories of background variable*

	Age Group				Years since first marriage					
	<25	25-34	35-44	45+	<5	5-9	10-19	20-29	30+	All
All Jawa-Bali	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Type of Place										
Urban	0.90	1.04	1.05	1.01	1.10	1.07	1.02	0.96	0.74	1.00
Rural	1.02	0.99	0.99	1.00	0.98	0.99	1.00	1.01	1.05	1.00
Province										
Jakarta	1.00	1.07	1.00	1.17	1.15	1.25	1.05	0.85	0.56	1.00
Jawa Barat	1.20	1.02	0.86	0.77	1.13	1.14	0.96	0.89	0.96	1.00
Jawa Tengah	0.92	1.00	1.05	1.08	0.90	0.90	1.01	1.07	1.13	1.00
Yogyakarta	0.69	1.00	1.17	1.33	0.93	0.93	0.98	1.20	0.72	1.00
Jawa Timur	0.92	0.96	1.06	1.16	0.94	0.91	1.00	1.07	1.07	1.00
Bali	0.88	1.26	0.97	0.57	1.29	1.36	1.23	0.60	0.22	1.00
Level of Education										
No schooling	0.55	0.88	1.38	1.57	0.54	0.56	0.91	1.45	1.58	1.00
Primary Incomplete	1.36	1.09	0.72	0.55	1.25	1.30	1.09	0.70	0.59	1.00
Primary Completed	1.73	1.11	0.40	0.32	1.75	1.58	1.09	0.33	0.24	1.00
Junior High +	1.06	1.34	0.78	0.39	1.88	1.70	1.05	0.29	0.10	1.00
Husband's Occupation										
Prof., Clerical	0.90	1.23	0.89	0.87	1.16	1.29	1.15	0.68	0.68	1.00
Sales, Services	1.02	1.01	1.02	0.87	1.05	0.94	1.00	1.06	0.84	1.00
Manual	1.15	1.01	0.91	0.81	1.18	1.03	1.05	0.90	0.74	1.00
Farming	0.96	0.97	1.04	1.11	0.91	0.97	0.96	1.05	1.18	1.00
Pattern of Work										
Before & After	0.89	0.95	1.10	1.12	0.95	0.95	0.96	1.11	0.99	1.00
Only After	0.71	1.02	1.19	1.21	0.51	0.80	1.11	1.17	1.41	1.00
Only Before	1.51	0.92	0.63	0.86	1.77	1.31	0.80	0.68	0.56	1.00
Never worked	1.38	1.07	0.70	0.59	1.42	1.24	0.99	0.70	0.65	1.00

(SOURCE: Tables 0.2.1, 0.2.2)

*Figures show the proportion belonging to a particular age or marriage duration group within a specified background variable category, divided by that proportion in the total sample of ever-married women. A figure larger than 1.00, for example for "age under 25" for Jawa Barat, implies that this age group is relatively over represented in the particular background variable category compared to the total sample. In other words, women in Jawa Barat are on the average younger than women in the sample as a whole.

of education (mainly due to expanding educational facilities). However, for the two highest educational levels, the younger cohorts are relatively under-represented, presumably due to higher age at marriage for these categories. Women who have worked after marriage (categories 1 and 2 of Pattern of Work) tend to be older than those who have not worked after marriage (categories 3 and 4).

There are proportionately more women in the middle age group (25-34) with husbands in the category "professional, administrative, clerical", and women with husbands in manual occupations are marginally younger than women with husbands in farming.

Where differences in age-distribution are primarily due to a historical trend, one can expect parallel differences in distribution by marriage duration: if there are relatively more young women, there are also more women with short marriage durations. This, for example, is the case with Pattern of Work and Level of Education (with the exception of the two youngest cohorts for the last two educational categories).

The pattern tends to be more complex where differences in age-distribution are associated with differentials and trends in age at marriage: categories in which women marry later tend to have a lower proportion of younger women, and to a certain extent a *higher* proportion of women at shorter marriage durations. This, for example, is the case (as will be discussed in Chapter 4) with the urban areas, the provinces of Bali, Yogyakarta and Jakarta, and for the minority of women in the two highest educational categories.

A common method of taking into account these differences in composition by marriage duration (or age) is to study differentials by background variable only within specified marriage duration (or age) groups. This classification should be sufficiently fine so that serious differences in distribution *within* these groups do not occur. Where possible, this classification will involve division of the sample into *five-year* groups by current age or marriage duration. These groups will be termed, respectively, age-cohorts and marriage-cohorts.

The distribution by marriage duration is of great importance in the study of differentials in the timing of marital fertility; here the differences between the background variable categories considered above are generally small enough so that classification into *ten-year* marriage duration groups suffices in many cases. The most marked differences noted above were among categories of Level of Education, and even here differences within ten-year groups are minor. This is illustrated by Table 3.7 which shows that the mean number of months since first marriage within ten-year marriage duration groups varies little by education.

When sample size does not permit sufficiently detailed cross-classification of the data, an alternative method of taking into account differences in composition by age or marriage duration etc. is direct "standardization". This involves weighting the cases in such a way that the resultant distribution of the variable on which standardization is being done becomes the same for all categories being compared. Further details on the procedure are given in Section 3.7.

Table 3.7 Mean number of months since first marriage — by level of education and marriage duration group

	Years since first marriage										
	5 year groups							10 year groups			
Level of Education	<5	5-9	10-14	15-19	20-24	25-29	30+	<10	10-19	20 +	All
No schooling	30.3	87.9	148.9	208.1	266.7	325.6	394.6	57.9	181.6	323.9	236.3
Primary incomplete	30.3	87.3	146.9	206.7	266.4	324.6	405.0	57.6	174.3	317.4	159.2
Primary completed	29.2	87.3	146.9	204.1	262.2	325.9	(389.9)	55.0	168.8	310.3	120.4
Junior High	27.0	86.0	144.7	(205.2)	*	*	*	56.3	168.5	(308.6)	121.8
Senior High +	28.5	84.0	146.3	201.4	*	*	*	50.2	176.0	*	98.2
All	29.9	87.2	147.6	206.9	266.5	325.5	396.6	56.8	176.6	321.6	189.2

(SOURCE: Table 1.2.6)

3.6 Associations between background variables

Association between the background variables can be expected, since individuals possessing a particular characteristic are often also more likely to possess certain other characteristics. For example, women with husbands in professional occupations, or women in urban areas, tend also to be better educated.

There are two main objectives in making explicit the association between the background variables used here. Firstly, it promotes a more critical understanding of the data by guarding against interpretation of differentials by one variable as if they were unrelated to differentials by another variable.

The second point is methodological. With a cross-sectional survey and only a small number of explanatory variables, it is generally not possible to resolve questions of a *causal* nature, particularly at the relatively elementary stage of analysis to which the present report is largely confined. Nevertheless, the various explanatory variables considered are not all of the same type; some variables are more clearly definable characteristics of the *individual,* and it is an important step towards the understanding of the data to investigate the extent to which differentials by other variables can be explained in terms of differentials by these individual level variables. If, for example, regional as well as educational differentials in fertility are observed, the next logical step is to investigate the extent to which regions differ in the general level of education and the extent to which regional differentials can be regarded simply as a manifestation of differences in education.

Two-way association between the five main background variables is shown in Table 3.8. Within a specified

Table 3.8 Association between background variables: within a specified category of a background variable, the percentage distribution according to categories of other background variables

	Place			**Province**							**Level of Education**						**Husband's Occupation**					**Pattern of Work**				
	(1)	(2)	All	(1)	(2)	(3)	(4)	(5)	(6)	All	(1)	(2)	(3)	(4)	(5)	All	(1)	(2)	(3)	(4)	All	(1)	(2)	(3)	(4)	All
All Jawa-Bali	16	84	100	6	28	28	3	33	2	100	48	35	12	3	2	100	8	19	16	57	100	41	28	6	25	100
Type of Place																										
(1) Urban	.	.	.	35	19	16	2	26	1	100	26	34	21	11	9	100	22	37	34	7	100	22	23	13	42	100
(2) Rural	.	.	.	0	30	30	3	34	3	100	52	36	10	1	1	100	5	16	13	66	100	45	29	4	23	100
Province																										
(1) Jakarta	100	0	100	.	.	.	.	.	.	.	27	33	19	10	11	100	25	35	35	5	100	18	21	15	46	100
(2) Jawa Barat	11	89	100	.	.	.	.	.	.	.	40	40	16	2	2	100	8	25	19	48	100	26	28	6	40	100
(3) Jawa Tengah	9	91	100	.	.	.	.	.	.	.	53	35	9	2	1	100	6	15	14	65	100	49	31	4	16	100
(4) Yogyakarta	12	88	100	.	.	.	.	.	.	.	55	26	12	4	4	100	11	11	15	63	100	73	12	8	7	100
(5) Jawa Timur	12	88	100	.	.	.	.	.	.	.	53	34	10	2	1	100	6	16	12	66	100	49	28	5	18	100
(6) Bali	9	91	100	.	.	.	.	.	.	.	58	27	10	3	2	100	8	9	17	66	100	37	28	10	25	100
Level of Education																										
(1) No schooling	8	92	100	3	24	31	3	36	3	100	.	.	.	.	.	.	2	16	13	69	100	49	30	4	17	100
(2) Primary incomplete	15	85	100	5	32	28	2	32	1	100	.	.	.	.	.	.	6	21	18	55	100	37	28	6	29	100
(3) Primary completed	27	73	100	9	39	20	3	27	2	100	.	.	.	.	.	.	19	23	21	37	100	24	25	7	44	100
(4) Junior High	67	33	100	23	23	23	4	26	1	100	.	.	.	.	.	.	39	32	23	6	100	21	19	11	49	100
(5) Senior High +	64	36	100	29	26	17	5	21	2	100	.	.	.	.	.	.	66	21	10	3	100	48	14	10	28	100
Husband's Occupation																										
(1) Prof., clerical	44	56	100	17	29	21	4	27	2	100	14	28	28	12	18	100	.	.	.	.	.	28	20	9	43	100
(2) Sales, services	31	69	100	10	38	22	2	27	1	100	40	39	14	4	3	100	.	.	.	.	.	25	30	8	37	100
(3) Manual	33	67	100	12	33	25	3	25	2	100	40	40	15	4	1	100	.	.	.	.	.	28	25	10	37	100
(4) Farming	2	98	100	0	24	32	3	38	3	100	58	34	8	0	0	100	.	.	.	.	.	52	29	3	16	100
Pattern of work																										
(1) Before & After	8	92	100	32	18	33	5	40	2	100	58	32	7	1	2	100	5	12	11	72	100	.	.	.	.	.
(2) Only After	13	87	100	4	29	31	1	33	2	100	51	36	10	2	1	100	6	20	14	60	100	.	.	.	.	.
(3) Only Before	37	63	100	15	29	21	4	27	4	100	39	37	15	5	4	100	14	26	29	31	100	.	.	.	.	.
(4) Never Worked	25	75	100	0	45	18	1	24	2	100	31	41	21	5	2	100	13	28	24	35	100	.	.	.	.	.

(SOURCE: Table 3.1.6)

category of each background variable, the table shows row per cent distributions according to categories of all other background variables. For example, of women with no schooling, 8 per cent are urban and 92 per cent are rural. Similarly, of rural women 52 per cent have had no schooling, 36 per cent have attended school but failed to complete the primary level, 10 per cent have completed primary school, etc.

The most important conclusions from Table 3.8 are summarized below:

1) Urban women are better educated than rural women. While 26 per cent of urban women have had no schooling, this figure is twice as high (52%) for rural women; while 20 per cent of urban women have completed at least junior high school, only 2 per cent of rural women have done so. Of the women who have completed at least junior high school, two-thirds reside in urban areas.

2) Non-farming occupations naturally predominate in urban areas; 93 per cent of urban women have husbands in non-farming occupations. On the other hand, due to the great difference in size between urban and rural sectors, a *majority* of the women with husbands in non-farming occupations reside in rural areas. The proportion residing in rural areas is around two-thirds for sales and services and manual occupations.

3) A larger proportion of rural women than urban women have worked both before and after marriage (45% against 22%). Overall, 16 per cent of the sample is urban; but of the women who have worked only before (but not after) marriage, over one-third reside in urban areas; of the women who have never worked, one in four live in urban areas.

   These differences are associated with a much larger proportion of rural women having worked after marriage (74% vs. 45%), presumably on the family farm. By contrast, the proportion who have worked only before but not after marriage is much lower in rural areas (4% vs. 13%); of this last group over a third reside in urban areas.

4) Apart from Jakarta, which is wholly urban, the proportion urban is nearly the same in all provinces. Just over a third of the urban sample belongs to Jakarta.

5) Differences between Jakarta and the other five provinces regarding Level of Education, Husband's Occupation and Pattern of Work are similar to the urban-rural differentials mentioned above. Among the remaining provinces, Jawa Barat has relatively fewer women with no schooling and a relatively larger proportion who have attended or completed primary school. Further, 40 per cent in Jawa Barat have never worked (against 25 per cent in the whole sample), and only 26 per cent have worked both before and after marriage (against 41 per cent in the whole sample). In Yogyakarta, by contrast, only 7 per cent have never worked, and 73 per cent have worked both before and after marriage.

6) Women with husbands in professional, technical, or clerical occupations are better educated than those with husbands in farming. Only 14 per cent among the former, against 58 per cent among the latter have never attended school; 30 per cent among the former against a negligible proportion among the latter have completed at least junior high school. Distributions by level of education for sales and services and manual occupations are similar, with marginally higher proportion attending (but not completing) primary school compared with the sample as a whole.

   Two-fifths of women with junior high school completed and two-thirds of those with senior high school completed have husbands in professional, administrative, or clerical occupations; nearly 70 per cent of those with no schooling have husbands in farming.

7) Women who have never worked tend to be better educated (nearly 70 per cent of these have attended school). To a lesser extent, the same is true of those who have worked only before (but not after) marriage. These two groups also have significantly larger proportions with husbands in non-farming occupations.

   Women in the extreme categories of level of education, i.e., those with no schooling and those educated to the highest level, tend more often to have worked both before and after marriage.

Figure 3.2 shows the per cent distribution by level of education and Figure 3.3 shows the percentage urban within categories of other background variables.

Figure 3.2 Per cent distribution by level of education — within categories of other background variables

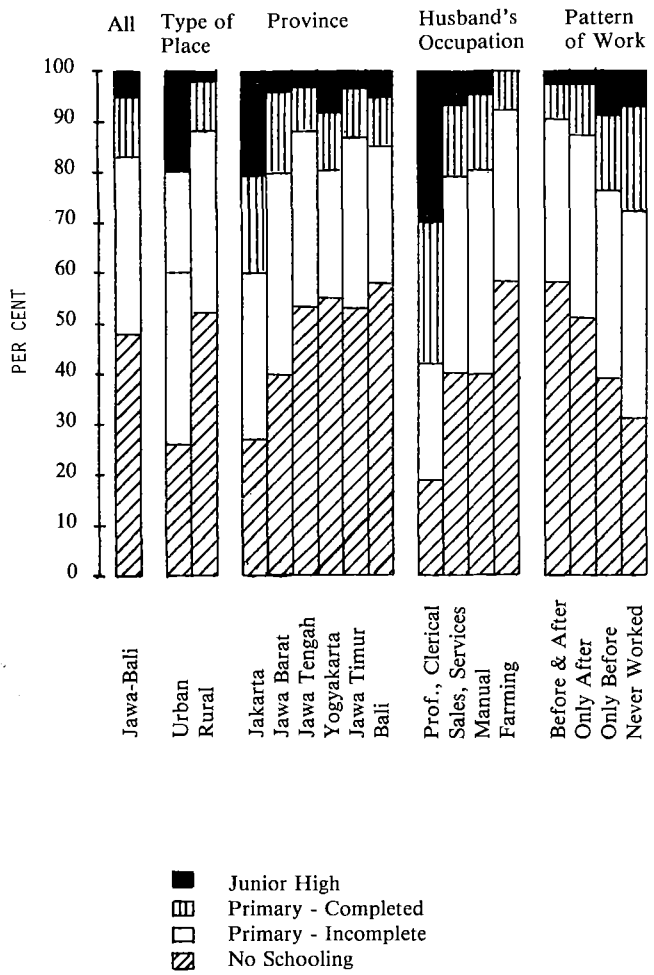
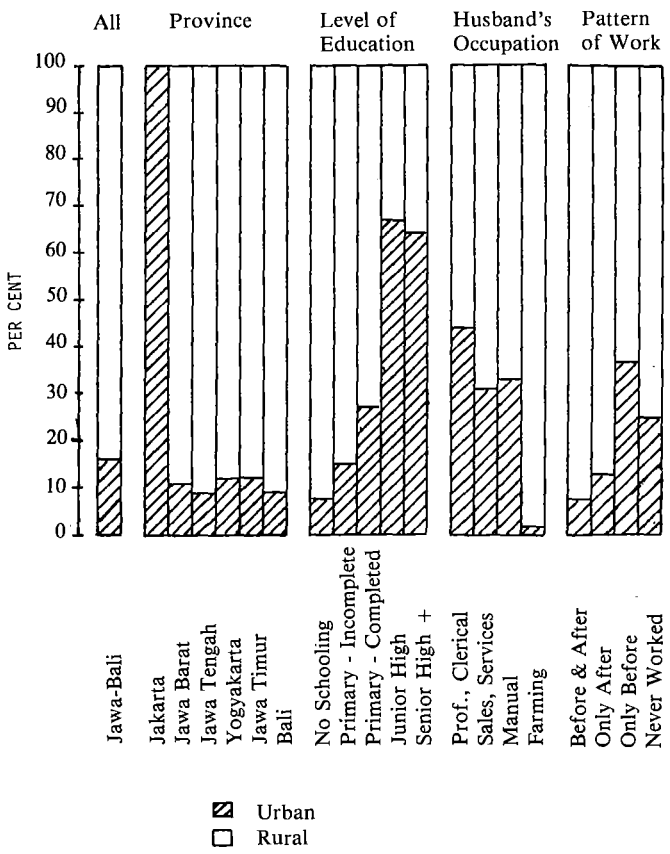


Figure 3.3 Percentage urban — within categories of other background variables



3.7 Note on standardization*

As discussed above, the background or explanatory variables define parts of the sample to be compared and contrasted in the study of differentials in fertility behaviour, preferences, and regulation. Comparisons across sub-populations are hampered by the statistical association that may exist between the variable which defines the sub-populations and some other variable. For example, in comparing mean parities of several educational categories, the conclusion will be more complex if education and marriage duration are associated. Marital duration has a clear, largely biological relationship to parity and if, say, the higher educational groups have disproportionately high number of women with short marriage durations, then the high educational groups will have low fertility for that reason alone.

In studying differentials, it is therefore necessary to control relevant demographic and other characteristics of the categories being compared. When sample size does not permit sufficiently detailed cross-classification of the data, an alternative method of taking into account differences in composition is *direct standardization*.

Standardization is applied to cross-classifications of a mean reponse by, say, a background variable (such as education) and a demographic variable (such as marital duration). In order to control for the latter, for each level of the background variable a weighted average of the cell means is calculated. The weights used are proportional to the grouped distribution of the demographic variable in the population as a whole. For example, in comparing parity for different educational categories, the demographic variable "marital duration" is controlled by cross-classifying mean parity by education and marital duration, and then calculating for each educational level a weighted average of the mean parities of each marriage duration group, with weights proportional to the marginal distribution of marital duration for the whole sample. In this way the same distribution by marital duration is applied to each educational level. Except for the approximation resulting from working with grouped data, any observed differences in the "standardized" means of each educational level are thus not the result of differences in marital duration between the categories being compared.

*For a more detailed discussion of the method, see *Standardization*, WFS Technical Bulletin No. 3, International Statistical Institute, The Hague, 1978.

Chapter 4. Nuptiality and Exposure to Child-bearing

4.1 Introduction

In Indonesia, in common with the general pattern prevailing in much of Asia, child-bearing takes place almost exclusively within the context of marriage. Marriage is defined in the wider sociological manner to include all socially recognized and accepted forms of permanent sexual unions, irrespective of whether they are endorsed in a legal, religious, or traditional way.

Generally, the date of first marriage indicates onset of exposure to child-bearing and the age at which a woman marries has a direct bearing on her reproductive performance. Following the first entry into a marital union, the degree of "exposure" depends upon many factors, only some of which have been investigated in the present study. First, in societies, or in sections thereof, where many marriages take place at very early ages, adolescent sterility can be an important factor in determining the level of fertility in the early years of marriage. Secondly, the prevalence of marital dissolution and of remarriage influence the effective duration spent in the marital state. Finally, factors such as temporary separations of spouses, coital frequency, sexual abstinence, primary and secondary sterility, post partum amenorrhoea, prevalence and efficacy of contraceptive use, etc, determine the intensity of exposure to child-bearing. Of the various factors mentioned above, the IFS obtained data on the following: marital stability, i.e., incidence of the dissolution of marriage and remarriage; sterility, in the form of subjective reporting by the women themselves; and contraceptive use, including the use of traditional methods.

The following data on nuptiality were obtained in the IFS questionnaire.

The household schedule was used to record the marital status of each member of the household, i.e., whether the person was single, currently married, widowed, divorced, or separated.

The individual questionnaire was applied to ever-married women aged under 50, who were usual residents of the household. Current marital status was determined in response to the question:

Q201. "..... Are you now married, widowed, divorced, or separated?"*

A currently married woman was asked in what year she got married. If the calendar year could not be obtained, her age at marriage was asked. In either case, the month in which the marriage took place was asked; the month could be specified in Muslim, Western or some other calendar system. The same scheme was used to obtain the dates of beginning of previous marriages, if applicable. The date of termination of a former marriage was obtained either as calendar year (and month) or as the total *duration* of the marriage.**

This chapter begins with a discussion of prevalence of marriage (Section 4.2), followed by an analysis of pattern and trends in age at first marriage (Section 4.3) and socio-economic differentials in age at marriage (Section 4.4). Next we consider marital stability (Section 4.5), and exposure within marriage (Section 4.6).

4.2 Prevalence of marriage

From the household schedule the proportion ever-married for various cohorts*** could be estimated. This proportion by Type of Place of Residence and Province is shown in column (6) of Table 4.1. For comparison, the same proportion estimated from SUPAS I (of which the IFS is a sub-sample—see Appendix II) is also shown. There is close agreement between the two sets of data.

The following observations can be made:

1) For the older cohorts, marriage is universal (less than one per cent have never married). Bali appears to be a minor exception where around five per cent have never married.

2) Over a third of the youngest women (aged 15-19) are married, indicating prevalence of early marriage.

   For the 25-29 cohort, 95 per cent of the women have married, indicating that late marriage is uncommon.

3) For the youngest women, significant regional and urban-rural differentials exist. *Half* of the women aged 15-19 are already married in Jawa Barat. This proportion is one in four in Jakarta, and only one in seven in Yogyakarta and Bali. As for urban-rural differentials, the proportion ever-married among women aged 15-19 is one in five for urban areas and two in five for rural areas. By age 30-34 all these differentials have almost completely disappeared.

In summary, there are marked regional differences in the timing of marriage but not in the propensity to remain permanently single. Marriage is virtually universal.

4.3 Age at marriage: overall pattern and trends

This section describes various measures which can be constructed to study differentials and trends in age at marriage, and presents data for Jawa-Bali as a whole. Differentials by background variables will be considered in the following section.

Data on proportion ever-married by single years of age from the household schedule can be used to construct a summary measure of the age at marriage. This measure, termed the singulate mean age at marriage (SMAM), refers to a *period* rather than to the experience of a real

*Those who replied "MARRIED" were further probed to determine whether the couple had stopped living together "for good". If so, the woman was reclassified as "Separated". However, such a reclassification was required in the case of less than 10 women.

**The form in which dates in the Marriage History were obtained are as follows (unweighted figures):

Current marriage: Calendar year or age at marriage was obtained in virtually all cases. Around 70% of the respondents could give the year, and the other 30% gave their age at marriage. Around 70% also reported the month, just over half in Muslim Calendar and the rest mostly in Western Calendar.

Beginning of former marriages: Around 40% specified the calendar year and 60% their age. Calendar month was also specified by around 40% of the respondents.

Termination of former marriages: Around 45% specified the calendar year, and the rest specified duration of marriage (usually in years only).

Re-interview of selected respondents indicates that a majority of the women reported their age at marriage within one year during the two interviews. For one in five, the discrepancy was 3 years or more (see Appendix IV).

***The term "cohort" or "age cohort" will be used to indicate the five-year age groups (ages 15-19, 20-24, ..., 45-49) at the time of the interview. Since interviewing was spread over a 2-3 month period, these do not correspond exactly to birth-cohorts defined as women born in specified periods (say, calendar years).

Table 4.1 Percentage married before specified age, and the median and mean age at first marriage — by Age Cohort, Type of Place of Residence and Province

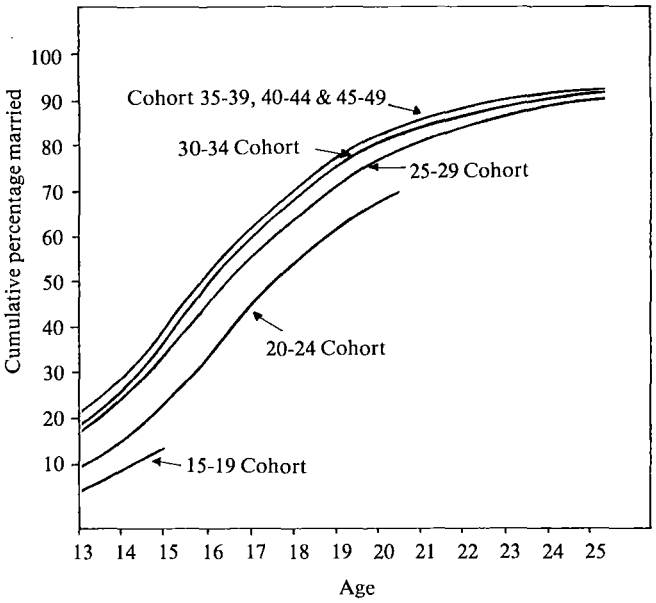
		(1) Cumulative percentage of all women married before age:													(2) % married before age 15	(3) % not married by age 25	(4) Median age at marriage	(5)** Mean age at marriage	(6) % ever-married		(7) No. of ever-married women
		13	14	15	16	17	18	19	20	21	22	23	24	25					SUPAS I	IFS	
All Jawa-Bali																					
Age Cohort	15-19	5	9	14	22*	28*	34*	37*	37*	.	.	.	.	.	14	.	.	.	35	37.4	995
	20-24	10	16	24	35	47	57	65	71	76*	78*	79*	79*	80*	24	.	17.3	.	80	79.8	1630
	25-29	18	25	34	48	58	67	74	81	85	87	90	92	93	34	7	16.2	16.2	95	94.9	1496
	30-34	19	27	37	53	63	72	79	83	87	90	92	93	95	37	5	15.8	15.9	98	98.0	1414
	35-39	23	30	41	56	65	74	81	85	89	91	93	94	95	41	5	15.6	15.6	99	98.5	1401
	40-44	22	31	41	58	66	75	83	86	91	93	95	96	96	41	4	15.5	15.6	99	99.2	1244
	45-49	22	30	40	56	65	73	81	84	89	91	93	95	95	40	5	15.6	15.7	99	99.3	957
Type of Place																					
Urban	15-19	1	3	6	10*	14*	18*	20*	20*	.	.	.	.	.	6	.	.	.	22	20.1	120
	20-24	3	6	12	18	26	34	41	48	53*	56*	58*	58*	59*	12	.	20.4	.	61	58.5	251
	25-29	7	12	18	28	36	44	52	59	65	70	77	81	83	18	17	18.8	17.8	86	87.7	237
	30-34	9	14	22	33	43	51	59	65	73	79	83	86	88	22	12	17.9	17.4	96	94.9	237
	35-39	14	22	29	42	50	61	68	74	78	83	88	90	93	29	7	17.0	16.9	97	97.8	239
	40-44	13	23	31	43	52	61	70	77	83	86	88	91	93	31	7	16.8	16.6	98	98.7	196
	45-49	11	19	25	39	51	61	70	77	81	84	88	90	92	25	8	16.9	16.8	99	99.1	152
Rural	15-19	6	10	16	25*	32*	39*	41*	42*	.	.	.	.	.	16	.	.	.	41	42.1	875
	20-24	12	18	27	40	53	63	71	77	82*	84*	85*	85*	85*	27	.	16.8	.	85	85.4	1380
	25-29	18	25	34	48	59	68	76	82	86	88	92	94	95	34	5	16.2	15.9	97	96.4	1259
	30-34	20	27	37	53	64	72	79	84	88	91	92	93	95	37	5	15.8	15.6	98	98.6	1177
	35-39	23	30	41	57	65	74	81	85	89	91	94	95	96	41	4	15.6	15.4	99	98.7	1162
	40-44	22	31	41	58	66	75	83	87	91	93	95	96	97	41	3	15.6	15.4	99	99.3	1048
	45-49	22	30	40	56	65	73	81	84	89	92	93	95	96	40	4	15.6	15.5	100	99.3	804
Province																					
Jakarta	15-19	1	5	8	11*	16*	20*	21*	21*	.	.	.	.	.	8	.	.	.	28	21.1	44
	20-24	4	8	14	23	32	39	47	54	58*	61*	62*	64*	64*	14	.	19.4	.	64	63.8	101
	25-29	7	12	17	29	36	43	52	59	64	70	77	81	84	17	16	18.8	17.9	86	87.5	87
	30-34	8	14	22	34	44	49	59	63	71	77	80	84	87	22	13	18.1	17.5	95	94.4	84
	35-39	13	19	27	38	47	56	64	68	73	81	84	87	90	27	10	17.3	17.1	97	97.2	84
	40-44	13	22	30	43	51	58	68	75	82	84	87	90	91	30	9	16.9	16.6	98	100.0	62
	45-49	8	20	28	42	50	56	66	73	76	80	83	86	87	28	13	17.0	16.7	99	98.3	42
Jawa Barat	15-19	9	13	21	31*	38*	46*	49*	50*	.	.	.	.	.	21	.	.	.	49	50.1	374
	20-24	12	19	31	46	58	67	74	79	85*	87*	89*	89*	89*	31	.	16.3	.	89	88.7	525
	25-29	21	29	39	53	63	72	79	86	91	92	96	96	97	39	3	15.8	15.8	98	98.2	441
	30-34	24	32	43	61	73	82	86	89	90	92	94	96	96	43	4	15.4	15.3	99	98.5	406
	35-39	25	33	46	64	73	83	87	91	93	95	96	96	97	46	3	15.2	15.1	100	99.5	376
	40-44	26	40	49	67	76	84	89	92	96	98	99	99	99	49	1	15.1	15.0	100	100.0	272
	45-49	32	38	51	71	79	84	89	92	95	96	96	98	98	51	2	14.9	14.9	100	99.3	211
Jawa Tengah	15-19	4	7	12	17*	24*	29*	31*	32*	.	.	.	.	.	12	.	.	.	33	32.0	245
	20-24	9	14	20	29	42	53	61	67	74*	76*	77*	77*	78*	20	.	17.7	.	80	78.1	436
	25-29	16	21	29	46	59	69	77	83	86	87	89	94	94	29	6	16.3	16.4	95	95.1	407
	30-34	20	30	40	57	68	75	82	87	92	95	96	97	98	40	2	15.6	15.7	98	98.8	408
	35-39	24	35	41	59	66	74	83	86	90	91	94	95	96	41	4	15.5	15.6	99	98.8	350
	40-44	22	30	40	58	63	72	80	84	89	92	93	95	95	40	5	15.6	15.7	99	98.7	433
	45-49	25	31	38	51	62	70	80	86	91	94	95	96	98	38	2	15.9	15.9	99	99.9	291
Yogyakarta	15-19	1	1	3	6*	8*	11*	13*	13*	.	.	.	.	.	3	.	.	.	17	13.2	11
	20-24	2	4	6	13	19	28	38	47	57*	62*	63*	64*	64*	6	.	20.3	.	61	64.3	39
	25-29	4	7	13	21	29	37	49	60	67	74	77	83	86	13	14	19.1	18.4	89	87.3	39
	30-34	10	15	23	31	41	53	62	66	74	79	85	88	90	23	10	17.8	17.4	95	95.6	41
	35-39	7	10	17	33	40	56	70	75	83	84	87	91	92	17	8	17.6	17.4	98	98.7	42
	40-44	4	6	17	32	41	51	62	70	78	83	87	92	92	17	8	17.9	17.7	98	98.8	43
	45-49	3	10	16	28	38	47	63	70	78	83	87	89	90	16	10	18.2	17.7	98	97.1	35
Jawa Timur	15-19	5	8	15	24*	29*	36*	38*	39*	.	.	.	.	.	15	.	.	.	37	39.0	309
	20-24	10	18	27	37	50	61	67	73	77*	79*	79*	80*	80*	27	.	17.0	.	80	79.6	493
	25-29	21	31	40	53	63	71	77	82	85	87	90	91	93	40	7	15.8	15.8	95	94.3	482
	30-34	19	26	35	49	59	69	78	83	86	90	91	92	94	35	6	16.1	16.1	98	97.4	438
	35-39	24	30	43	57	67	74	81	86	91	92	94	95	96	43	4	15.5	15.5	99	98.2	515
	40-44	23	31	43	61	71	80	88	91	94	95	96	97	98	43	2	15.4	15.4	99	99.3	417
	45-49	18	28	39	56	66	75	81	83	89	90	93	94	94	39	6	15.6	15.7	99	99.4	367
Bali	15-19	0	2	2	5*	9*	12*	13*	14*	.	.	.	.	.	2	.	.	.	18	14.3	11
	20-24	4	4	8	15	26	35	45	54*	60*	63*	65*	66*	67*	8	.	19.6	.	65	66.5	36
	25-29	4	7	11	17	27	35	44	56	61	70	76	79	84	11	16	19.5	18.7	87	87.7	38
	30-34	3	8	14	26	30	41	50	62	70	74	80	82	85	14	15	19.0	18.1	93	93.6	36
	35-39	1	3	7	15	26	32	44	52	61	69	75	81	87	7	13	19.8	19.1	95	94.1	34
	40-44	4	7	12	15	17	25	33	48	60	70	72	76	79	12	21	20.2	18.9	95	93.3	18
	45-49	5	8	18	23	31	39	45	52	58	65	68	73	78	18	22	19.7	18.3	96	89.9	11

(SOURCE: Tables 0.1.3, 1.1.1, 1.1.3)

*Figures marked with an asterisk (*) in Table 4.1 refer to the data which are in effect censured by the time of the interview. In other words, they reflect incomplete experience of the two youngest cohorts since not all the women have reached a specified age at the time of the interview.

**Col. (5) is based on Table 1.1.3 (Vol. II) where the mean is computed for women currently aged 25 or over who married at ages under 25. The rest of the table is based on data from the individual questionnaire on age at marriage (Table 1.1.1) modified by the proportion never married in a cohort from the household schedule as shown in Col. (6) above.

Figure 4.1 Cumulative percentage married before specified age



cohort. The SMAM is interpreted to be the mean age at marriage of those women who marry by a specified age, say 50, and is estimated by adding the proportion currently single at various ages as though they referred to a single real cohort of women.* For Jawa-Bali, SMAM is computed to be 19.2 years.

The singulate mean age at marriage can also be computed by fitting a standard nuptiality schedule to the period data.** This alternative procedure gives an identical value of SMAM, namely 19.2 years.

The clearest indication of the pattern and trends in age at first marriage is obtained by examining complete birth cohorts, that is, including ever-married as well as never married women. For this purpose data from the household schedule (Table 0.1.3, Volume II) have been combined with those from the individual questionnaire (Table 1.1.1, Volume II) to construct Table 4.1 which shows cumulative percentages of any cohort (including ever-married as well as never married women) married before a specified birthday. For example, 65 per cent of all women aged 20-24 in Jawa-Bali were married before their nineteenth birthday.

The first panel in Table 4.1 shows the results for all Jawa-Bali, and the trend in age at first marriage is illustrated in Figure 4.1. The curves for the various cohorts are very regular and virtually parallel. Figures for the three oldest cohorts (women aged 35-39, 40-44, and 45-49) are almost identical.

This consistency is an encouraging sign of the quality of reporting. It is unlikely that such consistency would be observed if, for example, older women had a strong tendency to push distant events (such as their first marriage) even further back into the past in their reporting. It was noted earlier that a majority of the women reported the date of first marriage as a calendar date (year and month) though a substantial minority only gave their age at the time. A closer examination of the data reveals that though there has been digital preference for ages 15 and 20 in the reporting of age at marriage, overall this effect is not prominent.

The recent trend towards later marriage is clearly seen from Figure 4.1. Starting with the oldest women, the change up to the 25-29 cohort is minor, after which there is a relatively rapid acceleration in the trend. From another angle, the results can be regarded as covering a span of 30 to 35 years before the interview. For the first 15-20 years of this period, no change at all is perceptible in age at marriage. Following this, a slow increase in age at marriage began which has accelerated in the more recent years.

Columns (2), (3), (4), and (5) of Table 4.1 provide summary measures which illustrate important aspects of the trend in age at first marriage. These measures are as follows:

1) In column 4 the *median age* at first marriage is given. This is the exact age*** by which half of the women in a particular cohort have married. The denominator is the total number of women in the cohort, including those not married by the time of the interview. The median has the advantage over the mean that it can be computed for any age cohort for which 50 per cent (or more) of the women have already married; while for a cohort for which first marriages are still taking place, the mean suffers from the effects of "truncation bias". (See Section 3.2.) Furthermore, the median is not unduly affected by a small number of comparatively very late marriages.

2) The median by itself is, of course, not sufficient to summarize certain other important trends in Indonesia. Of particular interest here are the changes in the proportion marrying very young. Hence, the second measure used below is the proportion who *marry before the age of 15.* (See column 2 of Table 4.1.)

3) As the average age at marriage rises, there is likely to be an increasing proportion of women marrying at relatively late ages. In the context of Indonesia, marrying at age 25 or above can be taken as marrying "late". The percentage not married by age 25 for the various cohorts are shown in column (3).

Of the older women (aged 35-49), as many as 40 per cent were married by their fifteenth birthday, only five per cent were not married by age 25 and the median age is around 15.5 years. Up to the 25-29 cohort there is little change in the proportion not married by age 25. By contrast, the median age for the cohort 20-24 has risen to 17.3 years, and the proportion marrying before age 15 has fallen to 24 per cent. This last proportion for the youngest cohort (aged 15-19) is only 14 per cent.

The (arithmetic) mean age of marriage can be computed on the basis of data from the individual questionnaire alone, without reference to the household schedule. As will be seen below, this measure is of particular relevance in the study of differentials by background variables such as Level of Education and Husband's Occupation, on which data are available only from the individual questionnaire for ever-married women. However, the arithmetic mean is subject to the truncation or selection bias (see Section 3.2) which is inherent to

*See J. Hajnal, Age at Marriage and Proportion Marrying, *Population Studies,* 7 (2): 111-136, November, 1953.

**See A. Coale, Age pattern of Marriage, *Population Studies,* 25 (2): 193-214, July, 1971.

***The term "exact age" does not, of course, imply age free from all reporting errors. The adjective "exact" merely distinguishes it from age in completed years. A woman aged 15 years and exactly 6 months is aged 15 (in completed years); her exact age is 15.5 years.

samples confined to ever-married women. For analysis of the mean age at marriage the data must first be refined so that exposure to the risk of marriage in all groups to be compared is the same. This condition can be fulfilled by excluding from computation of the mean all respondents currently aged under, say, 25 together with all those who first married at ages over 24. Out of a total of 9136 respondents, in all 2814 were excluded from tabulations for mean age at marriage. Of this number only 189 were excluded because of marriage at ages over 24. The exclusion of late marriages makes the computed mean slightly lower than the "unrefined" mean.

By comparing columns (4) and (5) of Table 4.1, it is seen that the computed mean age (for women marrying before age 25) for any cohort is virtually identical to the median age at marriage discussed earlier. This is because the distribution of age at first marriage for women marrying before age 25 is virtually symmetrical about the mean.

We also note that the mean or median age at marriage for most cohorts is substantially lower than the period SMAM (19.2 years) quoted at the beginning of this section. This is because the SMAM is strongly affected by the recent trend towards later marriage.

4.4 Differentials in age at marriage

The two variables Province and Type of Place of Residence differ from other background variables in that they are defined at the level of sample areas rather than at the level of the individual. Data on the proportion ever-married from the household schedule can thus be classified by these variables. This is not the case for other background variables such as Level of Education or Husband's Occupation. This permits us to pursue an analysis similar to the above of trends in nuptiality for each province and for urban and rural areas separately by combining data from the household schedule and the individual questionnaire.

Cumulative percentage married by a specified age for the various cohorts, classified by Province and Type of Place of Residence, are also shown in Table 4.1. Regularity of the pattern by cohort, noted earlier for all Jawa and Bali, is again apparent when the data are classified by these variables.

Results for the rural sector are close to those for all Jawa and Bali, since around 82 per cent of the population is rural.

The trend towards later marriage in urban areas is relatively more pronounced and appears to have started 5 to 10 years earlier than that in rural areas.* Urban-rural differences have thus tended to become more pronounced, as can be seen from the summary measures shown in columns (2) - (4) in Table 4.1. For the older women, the median age at marriage for urban women is about 1.3 years higher; for the 25-29 cohorts the urban-rural difference is increased to 2.2 years and for the 20-24 cohort it is increased to 3.6 years. Similar trends in urban-rural differentials are seen from the proportion married by age 15 from the proportion still single by age 25. For example, while the latter proportion has remained unchanged around 5 per cent for rural women aged 25-49, it has increased from 7 to 8 per cent for women aged 35-49 to 17 per cent for women currently aged 25-29 in urban areas. Hence, one in six of urban women aged 25-29 have not married by age 25; this represents probably an entirely new phenomenon in Indonesia.

To summarize, the recent trends towards moderately later marriage appears to be accelerating both in urban and rural areas, though the urban-rural difference is increasing. The changing pattern is confined to women aged under 35 in urban areas, and to women aged under 25 or 30 in rural areas.**

Table 4.1 shows pronounced regional differences. Jakarta, Yogyakarta, and Bali are characterized by relatively late marriages, Jawa Barat by exceptionally early marriages, with Jawa Tengah and Jawa Timur in the middle. Of the three smaller provinces, Jakarta and Yogyakarta show the usual recent trend towards later marriage, but Bali is characterized by traditionally higher age at marriage but shows no perceptible trend towards later marriage. Very early marriage still prevails, particularly in Jawa Barat where of the women currently aged 20-24 nearly a third were married before age 15.

For reasons discussed earlier, differentials in the mean age at marriage by other background variables are studied by restricting the calculation of the mean to women aged 25 and over who married before age 25. It is likely to result in a slight underestimation of actual differentials since proportionately more late marrying women are likely to be excluded from categories with higher means; however, this effect is not important in Indonesia where only a small proportion of the marriages take place after age 25. Much more important is the fact that exclusion of younger women from the computation of the mean prevents study of more recent differentials.

The mean age at first marriage for women aged 25-49 (who married at ages under 25) is shown in Table 4.2 for categories of various background variables. It is not necessary to show more detailed classification of the data by age since the pattern is the same for any five-year age group, apart from some unsystematic fluctuations. Figures in parentheses show estimates of the standard error.

Urban-rural and provincial differentials have already been discussed above. We note that the urban-rural difference of 1.7 years in mean age probably underestimates the actual difference for younger women who are not included in the mean. Similarly, as seen earlier, the difference between Bali on the one hand, and Jakarta and Yogyakarta on the other has probably narrowed for the younger women. Brief comments on other differentials follow.

Childhood Type of Place of Residence: The city-village difference by this variable is slightly more pronounced than the urban-rural difference by current place of residence.***

*It should be noted that the urban-rural classification here refers to the current type of place of residence, which is not necessarily the same as the type of place a woman resided prior to or at the time of her first marriage.

**The SMAM computed from the proportion ever-married women by age (see Section 4.3) is 22.2 for urban areas and 18.6 for rural areas.

***The difference of 0.4 years between those who spent their childhood in a city (mean = 17.5) and those who now live in an urban area (mean = 17.1) is small, though statistically significant; the 95 confidence interval for the difference being 0.1 to 0.7.

Table 4.2 Mean age at first marriage for women aged 25-49 who married at ages under 25 — by background variable

All Jawa-Bali	Type of Place		Province					
	Urban	Rural	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali
15.8*	17.1	15.6	17.2	15.3	15.9	17.7	15.7	18.6
(.06)**	(.11)	(.08)	(.14)	(.12)	(.12)	(.17)	(.11)	(.17)

	Level of Education				Husband's Occupation				Pattern of Work			
No. Sch.	Primary Incomp.	Primary Completed	Junior High	Senior High +	Professional, Clerical etc.	Sales Services	Manual	Farming	Before and After	Only After	Only Before	Never Worked
15.4	15.7	16.9	19.5	21.4	17.5	15.9	16.0	15.5	16.1	15.1	17.3	15.9
(.08)	(.11)	(.17)	(.25)	(.15)	(.15)	(.12)	(.12)	(.08)	(.09)	(.11)	(.22)	(.12)

Childhood place of residence			Woman's occupation before marriage					Work status before marriage				
										Family		Employee	
Village	Town	City	Professional, Clerical etc.	Sales Services	Manual	Farming	Did not work	Did not work	Self-employed	Paid	Unpaid	Cash	Kind
15.7	16.0	17.5	20.4	16.5	16.7	15.8	15.5	15.5	16.3	16.0	15.7	17.2	16.1
(.08)	(.12)	(.17)	(.25)	(.17)	(.22)	(.11)	(.08)	(.08)	(.17)	(.35)	(.12)	(.14)	(.22)

*The means presented here are in "exact" years, thus all figures given are 0.5 greater than those shown in Table 1.1.3
**Figures in parentheses give standard error for the means
(SOURCE: Table 1.1.3)

Level of Education: The usual strong differentials by women's level of education are present. The difference is minor between those with no schooling and those who attended school but failed to complete the primary level. The difference between these together and the next group ("primary completed") is more significant (1.4 years). The mean age at marriage is much higher for the minority who completed at least junior high school.

Occupation: Women with husbands in professional, technical, and clerical occupations have a mean 2.0 years higher than those with husbands in farming. There is no difference between sales and services and manual occupations; compared to these occupations, the slightly (but "statistically significant") lower value for farming reflects the urban-rural differentials. Differentials by women's own occupation before first marriage are more pronounced than those by husband's occupation. The minority of women with professional, technical or clerical occupations before marriage have distinctly higher ages at marriage. These women are also the better educated ones.

Work Status Before First Marriage: For work status before first marriage, the largest difference is between those who worked for cash for someone outside their family (mean 17.2) and those who did not work before marriage (mean 15.5). These two categories may be regarded as representing respectively, women most exposed to the outside world in their work experience before marriage, and women least exposed.

In the above commentary, the various background variables have generally been considered one by one, without regard to associations between them. This complex question cannot be considered in this report and must await more sophisticated research in the future. A preliminary attempt has been made in Table 4.3 where the mean age at first marriage for women aged 25-49 is classified by two background variables, Province and Level of Education, to investigate whether any part of the provincial differences can be "explained" by differences in the more basic individual level variable, namely education.

Except for the minority who have attended at least junior high school, the overall provincial differences are maintained within any educational category. For the better educated women, provincial differentials are relatively minor. The last row in Table 4.3 shows the weighted or "standardized" mean for each province with differences in levels of education between provinces removed. In other words, means for the various education group within each province are weighted in proportion to the size of that group in the whole sample (the last column in Table 4.3). This standardization by education appears to make no difference except in the case of Jakarta where the mean is lowered by 0.8 years. Hence, for Jakarta the above average age at marriage is in part associated with women being somewhat better educated, but overall the observed provincial differences cannot be "explained" by differences in educational level.

Table 4.3 Mean age at first marriage — by province and level of education

	Province							
	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali	All Jawa-Bali	'Standard' % Distribution
No Schooling	15.6	14.8	15.6	17.2	15.3	18.4	15.4	48.1
Incomplete Primary	16.2	15.1	15.9	17.8	15.8	18.5	15.7	35.5
Primary—Completed	18.1	16.3	16.7	18.6	17.0	19.6	16.9	11.8
Junior High +	20.9	19.8	20.2	20.5	20.6	(21.0)	20.3	4.6
All	17.2	15.3	15.9	17.7	15.7	18.6	15.8	100.0
Standardized on Education	16.4	15.3	16.0	17.7	15.9	18.7	15.8	

(SOURCE: Special tabulation, not presented in Volume II)

4.5 Stability of marriage

4.5.1 Overall Pattern

The subject of marriage stability has been examined by considering the following indicators:

1) Status of the first marriage
2) Prevalence of remarriage after dissolution of the first marriage; number of times married
3) Current marital status
4) Mean proportion of the time since first marriage spent in the married state.

The last indicator is a composite variable obtained from dates in the Marriage History. It consists of the sum, for women in a particular cell of the tabulation, of durations of all marriages divided by the total duration since first marriage for that category; the result is expressed as a percentage. A figure of 90 per cent, for example, means that on the average a woman has been in the married state for 90 per cent of the time since she first got married, the remaining 10 per cent consisting of intervals between the ending of one marriage and the beginning of the next (if any), i.e., intervals spent outside the married state.

The overall pattern is shown in Table 4.4 (first panel). Comments on each of the four indicators follow.

For the sample as a whole as many as two in five first marriages have dissolved. The incidence of dissolution increases, of course, with the duration since the first marriage, but is relatively high even for the most recent marriages. Of the marriages contracted within the past 5 years, one in five had ended by the time of the interview; of the earliest marriages—contracted 30 or more years ago—two in three had ended.

The main cause of dissolution of more recent marriages is divorce or separation. Despite increasing exposure to risk, the proportion ending in divorce or separation does not increase much after the 15-19 marriage cohort.* The uniformity implies either that the relative probability of divorce or separation is high only in the initial years of marriage or that marriage stability has been declining historically. To resolve this issue more detailed analysis is required and this will be done at a later stage.

As a reflection of the relatively high mortality rates that have hitherto prevailed in Indonesia, widowhood is common for the earlier cohorts; for women first married 30 or more years ago, one in five are reported to be widowed. Moreover, the high rate of divorce and separation prevents adult mortality from fully manifesting itself in the form of widowhood.

*The term "15-19 marriage cohort" is used to refer to the group of women who married between 15 and 19 (completed) years before the interview. "Recent marriage cohorts" will be used in a descriptive way, to refer to marriage durations under 10 years, and "earlier marriage cohorts" to durations over 19 years.

Table 4.4 Characteristics of marriage stability — by years since first marriage and age at first marriage

		Status of first marriage					% Married More than Once	Mean No. of Marriages	% Currently Married	% Time Spent in the Married State	% Currently Married and Fecund
		Still Married	Widowed	Divorced Separated	Total Dissolved	Of Dissolved, % Remarried					
All ages at marriage											
Years since marriage	**All**	**60**	**7**	**33**	**40**	**78**	**32**	**1.5**	**86**	**91**	**72**
	<5	79	1	20	21	35	7	1.1	85	92	85
	5- 9	71	2	27	29	76	22	1.3	91	93	90
	10-14	62	4	34	38	85	32	1.5	90	92	86
	15-19	56	6	38	44	85	37	1.5	89	91	79
	20-24	51	10	39	49	86	42	1.7	87	92	67
	25-29	47	16	37	53	83	44	1.7	83	90	45
	30+	36	20	44	64	81	52	1.9	75	88	27
Age at marriage <15											
Years since marriage	**All**	**49**	**8**	**43**	**51**	**87**	**44**	**1.7**	**86**	**90**	**68**
	<5	67	1	32	33	46	15	1.2	80	88	80
	5- 9	62	2	36	38	83	31	1.4	89	90	88
	10-14	57	4	39	43	92	40	1.6	91	92	88
	15-19	51	4	45	49	92	45	1.7	92	92	86
	20-24	44	7	49	56	95	53	1.9	91	92	75
	25-29	44	13	43	56	88	50	1.8	85	90	53
	30+	34	18	48	66	83	55	2.0	76	87	26
Age at marriage 15-19											
Years since marriage	**All**	**64**	**7**	**29**	**36**	**74**	**27**	**1.4**	**86**	**91**	**74**
	<5	81	1	18	19	36	7	1.1	87	93	87
	5- 9	73	2	25	27	78	21	1.3	92	94	92
	10-14	62	5	33	38	81	31	1.4	89	93	86
	15-19	57	7	36	43	82	36	1.5	86	91	76
	20-24	55	11	34	45	81	37	1.6	85	93	63
	25-29	48	18	34	52	78	40	1.6	82	90	41
	30+	40	24	36	60	74	44	1.7	73	88	29
Age at marriage 20+											
Years since marriage	**All**	**76**	**6**	**18**	**24**	**50**	**12**	**1.2**	**85**	**91**	**73**
	<5	83	2	15	17	14	2	1.0	85	94	84
	5- 9	83	3	14	17	(31)	5	1.1	88	95	84
	10-14	76	6	18	24	(71)	17	1.3	90	94	83
	15-19	71	7	22	29	62	18	1.2	87	91	69
	20-24	61	18	21	39	64	26	1.4	79	90	46
	25+	60	17	23	40	(64)	26	1.3	77	89	28

(SOURCE: Tables 1.2.1, 1.2.4, 1.2.5, 1.2.6 and 1.2.7)

Four-fifths of all women whose first marriage was dissolved had remarried. This proportion varies little by marriage cohort, except for the substantially lower figure for those first married within the past five years and the marginally lower figure for those married 5-9 years ago.

Table 4.4 also shows the percentage who married more than once (this column is simply the product of the two preceding columns in the table). One in three women in the sample, and one in two of the earliest marriage cohort, have married more than once.* The mean number of marriages is 1.5 for the whole sample of ever-married women, and nearly 2.0 for the earliest cohort. Note that these are mean figures; substantial minorities have married three or more times.

Of all ever-married women 86 per cent are currently married and the percentage varies only a little with marriage duration, except that it is slightly lower for the most recent cohort, and also declines for the earlier cohorts for which widowhood and possibly difficulties in remarriage due to age begin to become more important.

The proportion currently not married declines with increasing family size, and this negative association becomes much stronger when current age is controlled (see below, Table 4.6, Panel A). The only exceptions to this pattern are women aged 35 and over with no living children. For example, 26 per cent of those with no living children are currently not married; this figure is only 3 per cent for those with five or more children. To the extent that current marital status is an indicator of overall incidence of marital breakdown, it would appear that marital stability, or the lack of it, has an important bearing on fertility in Indonesia. The causation may, in fact, also be the other way: relatively sub-fecund women experiencing marriage dissolution more often. This point will be considered further when differentials in fertility are discussed in Chapter 6.

The proportion of time spent in the married state since the date of first marriage summarizes, like the proportion currently married, the *net* effect of marriage dissolution and remarriage. For the sample as a whole this proportion is around 90 per cent, and differs little by age or marriage cohort. This high figure suggests that marital dissolution tends to be followed by remarriage without long delay. More elaborate analysis of marriage histories is necessary to elucidate this point.

4.5.2 Marriage Stability by Age at First Marriage

As shown in Table 4.4, the incidence of marital dissolution is substantially higher among women who married young. Of course, for a given marriage duration, women marrying later in life are older (and have older husbands) and hence are more prone to widowhood; however, the dominant factor is the differences in rates of divorce and separation by age at marriage.

On the whole, differentials in marriage stability by age at marriage are almost completely compensated by similar but opposite differentials in rates of remarriage. The net effect, as measured by the proportion currently married or by the proportion of time since first marriage spent in married state, does not vary much by age at marriage.**

4.5.3 Differentials by Background Variable

The relationships between marriage stability and the background variables are shown in Table 4.5. To a certain extent the pattern in this table follows from that in Table 4.2: it reflects the association between background characteristics and age at marriage, and between that age and marriage stability. Generally, groups for which age at marriage is relatively high (for example, urban women, those who are better educated or who worked before first marriage, or have husbands in white collar jobs, or Balinese women) also have lower incidence of marriage dissolution. Nevertheless, the effect of background variable persists when age at marriage is controlled.

The net effect of dissolution and remarriage again tends to be invariant for different categories of the sample.

Detailed results by marriage duration, age at marriage and background characteristics are available in Tables 1.2.1 - 1.2.8 (Vol. II). Table 4.5 illustrates the important features for two marriage durations: 5-9 years (indicating features of early marriage stability) and 20-24 years (indicating features of "eventual" marriage stability).

Generally, differentials in the proportion of first marriages dissolved are more pronounced early in marriage (5-9 marriage cohort), though they persist at longer marriage durations.

Column (5) of Table 4.5 shows the percentage of first marriages dissolved by age at marriage. Within any background variable category, pronounced differences by age at marriage, noted earlier for the whole sample, are found. Controlling for or standardizing on marriage duration does not affect these differences.

4.5.4 Duration Since First Marriage as Control for Analysis

Apart from age, a basic classificatory variable used in presentation and analysis of results of the survey is the duration since first marriage. Below we briefly discuss the usefulness and note some limitations of this mode of presentation of the data with a view to promote a more critical understanding of the discussion to follow in subsequent chapters.

The main reason for classifying the sample by duration since first marriage is to control for exposure to the risk of child-bearing. Further, women marrying about the same time (i.e., women comprising a marriage cohort) often share certain values and experiences—for example, availability or non-availability of family planning or Mother and Child Health (MCH)—at similar points in their family building process. This consideration is specially important in a developing country like Indonesia where many of the relevant facilities are only of recent origin, or are likely to become available only in the future. It should be mentioned, however, that a

*Sample sizes for the various five-year marriage cohorts are similar, giving similar value for standard error. For the 15-19 marriage cohort, for example, standard error for the percentage with first marriage dissolved (44%) is 1.7 (i.e., the 95 per cent confidence interval for the percentage is 40.5 to 47.5). Of these, the percentage who remarried (85%) has standard error = 2.0 (95 per cent confidence interval 81% to 89%).

**Standard errors, for the 15-19 marriage cohort for example, are as follows: Difference in the percentage with first marriage dissolved between those marrying at ages under 15 and those marrying at ages 20 and over (difference = 49-29 = 20%) has a standard error = 4.0 (i.e., the 95 per cent confidence interval for the difference is 12% to 28%, which implies that the difference is statistically significant at the 5% level).

Table 4.5 Salient features relating to marriage stability for selected marriage cohorts — by background variable

	(1) % With First Marriage Dissolved			(2) % Remarried After Dissolution			(3) % Currently Married			(4) % Of Time Spent in Married State Since First Marriage			(5) **Col. (1) For All Marriage Durations:** By Age at First Marriage		
Years Since Marriage	All	5-9	20-24	All	5-9	20-24	All	5-9	20-24	All	5-9	20-24	<15	19-20	20+
All Jawa-Bali	40	29	49	78	76	86	86	91	87	91	93	92	51	36	24
Type of Place															
Urban	33	22	44	76	59	80	87	89	87	90	92	91	55	30	17
Rural	42	30	50	79	78	87	86	91	87	91	93	92	51	38	27
Province															
Jakarta	31	21	47	74	66	80	88	91	85	91	93	91	50	28	16
Jawa Barat	43	36	52	83	82	92	87	90	88	92	92	94	51	40	26
Jawa Tengah	42	27	48	81	76	88	87	93	88	91	94	93	54	39	19
Yogyakarta	32	18	39	72	(71)	75	88	93	86	92	94	92	56	30	21
Jawa Timur	41	26	51	73	68	83	84	90	85	89	92	91	50	35	33
Bali	12	9	17	45	*	*	93	96	89	96	98	96	21	11	11
Level of Education															
No Schooling	47	31	49	78	71	83	83	89	85	90	93	92	53	45	32
Primary Incomplete	40	31	53	81	78	95	88	90	92	91	92	94	52	33	27
Primary Completed	27	25	33	74	80	(78)	91	93	90	94	94	95	36	25	19
Junior High	16	18	(35)	(71)	*	*	93	93	(87)	96	96	(94)	*	19	7
Senior High	8	5	*	*	*	*	94	96	*	94	98	*	*	13	6
Husband's Occupation															
Prof., Clerical	29	21	39	83	85	(78)	91	95	85	93	96	92	53	28	13
Sales, Services	40	30	51	80	75	84	86	89	84	91	92	92	51	36	23
Manual	38	31	46	80	79	87	88	92	88	90	93	92	53	33	23
Farming	43	29	50	77	73	87	85	90	87	91	93	93	50	39	29
Pattern of Work															
Before and After	42	29	50	76	75	85	84	90	87	90	93	92	53	41	26
Only After	50	34	59	79	68	86	81	86	81	89	90	91	59	43	36
Only Before	26	19	30	85	(89)	*	95	97	96	93	97	95	42	26	9
Never Worked	30	26	37	82	81	90	93	94	94	94	94	96	39	26	15

(SOURCE: Tables 1.2.2 - 1.2.8)

marriage cohort lacks a strict biological basis due to dispersion in age at marriage.

Demographically, duration since first marriage is a satisfactory criterion of classification to the extent that it provides a good indication of the woman's total duration of regular sexual activity, i.e., of her exposure to the risk of conception. Apart from non-exposure within marriage, due for example to temporary separations of the spouses or sterility, duration since first marriage exceeds the period of exposure due to marriage breakdowns in the absence of immediate remarriage. The first factor (non-exposure within marriage) has not been covered by the present study, except for self-reported fecundity impairment (see below); but regarding the second the following may be noted: though as seen above the time spent in married state falls short of the duration since first marriage by about 10 per cent on the average, this percentage has been found to be rather *uniform across various sub-groups of the sample,* making duration since first marriage a generally consistent indicator of the period of exposure.

In relation to classification by age cohorts, comments were made in Chapter 3 on "truncation" bias. It is important to bear in mind that certain similar considerations apply to classification and analysis by marriage cohorts.

A sample of ever-married women provides an unbiased sample of marriage cohorts in the population at least for the more recent marriages. However, while overcoming the truncation bias inherent in age cohorts, marriage cohorts are themselves subject to a bias in the opposite direction: the earlier marriage cohorts (i.e., cohorts with longer marriage durations) in the sample become progressively less representative of those cohorts in the population as women who marry late in life progressively pass the upper age limit (49 years) of eligibility for the interview. Hence, for earlier marriage cohorts women who marry at younger ages are over-represented in the sample. For example, while the fertility of women aged 45-49 provides a measure of "completed" fertility of that group in the population, that of women married for 30 or more years generally does not. This latter group may, for example, have higher mean fertility than the "completed" fertility since it is a select group of women who married early in life (under age 20 in this case); women in this group who married at ages 20 or over are currently too old to be in the sample. Note, however, that in Indonesia virtually all marriages have hitherto taken place at ages below 25, so that only the cohorts with marriage duration of 25 or more years are affected by this bias.

4.6 Fecundity and exposure to conception

In the absence of reports on sexual activity and biological tests on fecundity, physical incapability to have a child was measured in the form of *self-reported fecundity impairment* in response to the following question:

"Do you think it is physically possible for you and your husband to have a child, supposing you wanted one?"

This question was preceded by the question on current use of contraception and was asked of all currently married, non-pregnant women not using contraception. Those who are currently pregnant or are using a method of contraception can obviously be taken as fecund; the

Table 4.6 Of ever-married women, (A) the percentage currently not married, (B) the percentage reporting fecundity impairment — by current age and number of living children

Living Children:	(A) % Widowed, Divorced, Separated 0	1	2	3	4	5+	All	(B) % Reporting Fecundity Impairment 0	1	2	3	4	5+	All	(C) Total: Not Married or Not Fecund 0	1	2	3	4	5+	All
Current Age: All	**22**	**18**	**13**	**13**	**10**	**8**	**14**	**13**	**9**	**11**	**13**	**16**	**23**	**14**	**35**	**27**	**24**	**26**	**26**	**31**	**28**
<25	21	10	5	1	(0)	*	**12**	1	0	1	1	(0)	*	**1**	22	10	6	2	(0)	*	**13**
25-34	26	23	10	7	4	3	**11**	13	5	6	2	2	6	**5**	39	28	16	9	6	9	**16**
35-44	19	30	22	23	11	8	**15**	38	83	29	27	26	22	**26**	57	63	51	50	37	30	**41**
45+	23	42	37	30	33	15	**26**	66	51	39	40	41	51	**49**	89	93	76	70	74	66	**75**

(SOURCE: Table 1.3.2)

variable is defined only for women currently in the married state.

It is probable that this self-reported condition provides an underestimate of the true extent of infecundity in the population. Further, being perception rather than an indication of physiological reality, it is subject to reporting biases dependent upon a particular interviewer's performance as well as upon culturally determined readiness or otherwise for the respondent to admit infecundity. Further, the respondents may have no precise knowledge about their fecundity.

The proportion of women reporting fecundity impairment is strongly related to current age. For example, virtually no women aged under 25 but as many as half of those aged 45-49 report fecundity impairment (Table 4.6, Panel B). This strong association with age is maintained when family size is controlled. For women aged 25-49, the proportion reporting impairment is negatively associated with the number of living children*, the most pronounced difference being generally between those with no living children and those with one or more living children. These results are consistent with the expectation that higher parity goes with higher fecundity.

Differentials by background variable in the proportion reporting fecundity impairment are shown in Table 4.7. In part the observed differentials may be real due to differences in health or other physical factors, and in part due to age differences *within* the broad-groups shown in the table (for example, for the educational categories). However, they may also reflect differences in reporting bias among various sub-groups; relatively large and unexpected differences, if present, are more likely to be a result of this last effect.

The table shows that the proportion reporting a fecundity impairment is slightly lower for women in urban areas, and for those with higher education, or with husbands in "higher" occupations, and generally for Yogyakarta. With the exception of Yogyakarta, differences in proportion reporting fecundity impairment are small.

In Yogyakarta, only one in three of the women aged 45-49 report fecundity impairment; this proportion is two-thirds of the proportion for this age group in the whole sample, and perhaps indicates uneven reporting bias.

In the study of use of contraception and fertility preferences, two sub-populations of ever-married women are of special interest:

Currently Married Fecund Women: This group consists of women who are currently in the married state and believe themselves to be physically able to have (more) children.** Seventy-two per cent of all ever-married women are reported as currently married and fecund.

Table 4.7 Percentage of ever-married women reporting fecundity impairment — by current age and background variable

Current age	<25	25-34	35-44	45+	All
All Jawa-Bali	1	5	26	49	14
Type of Place					
Urban	1	3	22	45	13
Rural	1	5	27	49	15
Province					
Jakarta	1	5	20	42	11
Jawa Barat	1	4	23	45	11
Jawa Tengah	0	5	33	56	18
Yogyakarta	0	0	9	32	8
Jawa Timur	1	6	25	47	15
Bali	2	6	23	(49)	12
Level of Education					
No Schooling	1	8	31	50	23
Primary Incomplete	1	3	18	46	8
Primary Completed	0	2	15	(44)	4
Junior High	0	1	11	*	6
Senior High +	0	2	3	*	2
Husband's Occupation					
Prof., Clerical	1	4	15	41	9
Sales, Services	0	4	25	45	13
Manual	1	4	26	46	12
Farming	0	5	28	50	16
Pattern of Work					
Before and After	0	6	27	25	16
Only After	1	5	27	21	17
Only Before	1	1	23	(28)	10
Never Worked	0	4	22	31	10

(SOURCE: Table 1.3.3)

This sub-group is relevant for questions on intentions regarding future child-bearing.

Exposed Women: This sub-group is confined to currently married, fecund, and non-pregnant women. Questions such as current use of contraception are of relevance to those who are actually exposed to the risk of conception at a given time. Exposed women represent 61 per cent of the total sample. (See Vol. II, Table 1.3.1).

In spite of the possibility of reporting biases of the kind mentioned earlier, introduction of the categories "currently married fecund" and "exposed" constitutes an important refinement in analysis of contraceptive use and fertility preferences.

*It is likely that the true extent of this association is diluted in Table 4.6 because of the rather broad age groups used. Within a ten year age group such as 25-34, women with larger number of living children are on the average also more likely to be older.
Also, the association is likely to be clearer and more pronounced if the results were tabulated by number of children ever born rather than the number currently alive.

**There are only 0.2 per cent of couples who are sterilized for contraceptive purposes and they are included in this category.

Chapter 5. Family Planning: Knowledge and use of contraception

5.1 Introduction

The use of modern means of contraception is of very recent origin in Indonesia. Over the past few years, however, vigorous efforts have been made particularly in Jawa and Bali to provide the population with facilities for family planning. The extent to which the knowledge and use of these facilities has spread is of immediate interest. Hence, the data concerning levels and differentials of contraceptive knowledge and use among Indonesian women discussed in this chapter are of considerable practical value in assessing the impact of the Family Planning Programme.

A clinic centered programme was started in Jawa and Bali in 1970 through the existing Mother and Child Health (MCH) clinics. When it was felt that the limits of that system had been reached, an innovative Village Family Planning Programme was launched to make information on and supplies of contraceptives available to the population of the country.

It has been estimated on the basis of programme statistics that in Bali one-fourth of the eligible couples were recruited to the use of the IUDs and oral contraceptives during the first four years of the programme. From 1974 onwards, a village based family planning programme developed to make contraceptive services readily available in every village (BANJAR) in Bali. This programme was based on training of the Banjar leaders (KLIAN) in the need of family planning, mapping, and identification of all households containing eligible couples and on registration of eligible couples. The Klian held monthly meetings with male heads of households at which family planning progress was reviewed, problems discussed and contraceptives distributed. The Banjar reported quarterly to the NFPCB, with feed-back of cumulative data and analysis to the Banjar. The major emphasis in Bali has hitherto been on the IUD.

The pattern of development was similar in Jawa Timur and was followed in the other provinces in Jawa. In Jawa the programme has been based on participation of the formal and informal leaders, including religious leaders, of the village and sub-village. Supply depots have been established in most villages, with volunteer villagers in charge who register eligible couples and maintain records of contraceptive use status. The programme has also been concerned with the development and support of sub-village family planning groups linked to the contraceptives supply depots. These field workers accompanied by paramedical workers from the Ministry of Health visit households to educate couples, do simple health checks, leave cycles of contraceptive pills and refer programme acceptors to the village supply depot. The main method promoted in Jawa has been the contraceptive Pill, followed increasingly by the IUD.

Apart from the official statistics on performance and the Quarterly Survey of the Family Planning Programme and the present survey, another major source of data from which levels of contraceptive practice can be estimated is the 1973 Fertility and Mortality Survey. That survey obtained data on past and current use (in 1973) of family planning from currently married women aged 15-49. This included information on the type of methods used and sources of family planning supplies. The data on current use from the 1973 survey are of interest because they provide a base for comparison with the present survey. The use of family planning has increased rapidly during the three years from 1973 to 1976. At the time of the 1973 survey the Family Planning Programme was in its early phase, having started in 1970-1971.

The discussion that follows refers mainly to the results from the 1976 Fertility Survey (IFS), being the most recent survey.

At the outset it should be re-emphasized that the IFS is confined to Jawa and Bali, about two-thirds of the Indonesian population. The reader should bear in mind that major differences in the levels of contraceptive knowledge and practice may exist between Jawa and Bali on the one hand, and the "outer islands" on the other. No data on the latter are included in the present discussion.

The IFS questionnaire (see Appendix I) is based on a list of fourteen specific methods of contraception, plus one "other" category. This list is intended to include all methods that are likely to be known or used in Indonesia. The methods were described in the questionnaire in the following terms:*

1) **Pill** ("... to take a pill every day")
2) **IUD** ("... loop or coil of plastic or metal, the intrauterine device, inserted in the womb")
3) **Condom** ("... men wear a condom during sex")
4) **Injection** ("... women get shots every three months or so")
5) **Female Sterilization** ("... women have an operation ... such as having their tubes tied")
6) **Male Sterilization** ("... men have a sterilization operation, called vasectomy")
7) **"Female Scientific"** ("... women use other methods such as diaphragm, tampon, sponge, foam tablets, jelly, or cream")
8) **Abstinence** ("... go without sex for several months or longer to avoid getting pregnant")
9) **Rhythm** ("... avoid having sex on particular days of the month when women are most able to become pregnant")
10) **Withdrawal** ("... men ... are careful to pull out before climax")
11) **Douche** ("... women wash themselves immediately after sex ... to avoid getting pregnant")
12) **Herbs** ("... women take medicine made of herbs to avoid pregnancy")
13) **Massage** ("... women have abdomen massaged in order not to have any more children")
14) **"Uterus Inversion"** ("... women have midwife ... turn the uterus around so that pregnancy would not take place")
15) **Other** ("... any other methods which women or men use ...").

*The order here differs from the order in which the methods are listed in the questionnaire. (See Appendix I, Section 4: Contraceptive Knowledge and Use.)

The various contraceptive methods have been classified into two groups, each of which is further subdivided as follows:

Modern Methods: These methods are characterized by the historical recency of their discovery or widespread application, and are subdivided into two sub-groups:

a) Programme Methods, namely the Pill, IUD and Condom. As will be seen later these are the most well-known and commonly used methods, being almost the only methods which the Family Planning Programme in Indonesia has hitherto endeavoured to spread.

b) Other Modern Methods, namely the Injection, Female and Male Sterilization, and other "Female Scientific" methods. These methods are of only minor importance in Indonesia at the present time.

Traditional Methods: These consist of:

a) General Traditional Methods, namely Abstinence, Rhythm, Withdrawal and Douche, which have been customarily practiced in many countries.

b) Indonesia Specific or "Folk" Methods, which include herbs of various kinds, massage, and some sort of physical manipulation believed to be "inversion of the uterus". It is possible that some methods included in this category involve abortion rather than contraception per se.

In Section 5.2 the levels and differentials in *contraceptive knowledge* are discussed. In Section 5.3 levels and differentials in *current use* of contraception are treated, followed in Section 5.4 by a description of *ever-use* of contraception. Section 5.5 provides a description of the "pattern" of contraceptive use, which identifies the prevalence of ever-use, and the timing in a woman's life of the *first* as well as the *most recent use* of contraception.

Finally in Section 5.6, a brief description is provided of the practice of breast-feeding during the last closed birth interval.

The role of contraception in explaining fertility patterns, birth-interval specific use, the relationship of contraceptive use to fertility preferences, etc., will be considered in subsequent chapters.

The present chapter will by no means fully exploit the KAP (family planning knowledge, attitudes, and practices) data collected during the IFS. In particular, data relating to family planning supplies and services (Section 6 of the individual questionnaire) are included here only in a marginal way. It is hoped that a separate report will analyse those data more fully.

5.2 Knowledge of contraception

Knowledge of contraceptive methods can be regarded as a pre-condition for use. Knowledge is defined here as having *heard of* any method or any specific method to delay or avoid pregnancy. No reference is made to knowledge of how to use a method or, for a supply method, where to obtain it.

Knowledge as defined above was ascertained at two levels. First, a woman was asked to name "spontaneously", i.e., herself without probing, any methods she had heard of. Following that, each method not mentioned by the respondent was described to her and the question "Have you ever heard of this method?" asked. In the following no distinction is made between these two levels of knowledge. A respondent is classified as having heard of a method irrespective of whether she acknowledges this spontaneously or only after probing.*

5.2.1 Knowledge of Any Method

Seventy-seven per cent of the women interviewed had heard of at least one method of contraception. This figure is 82 per cent if attention is confined to the more relevant group of currently married fecund women. Table 5.1 shows the percentage of women who know of any method within levels of age and family size (number of living children).

Generally, the level of knowledge rises with family size, both for the sample as a whole and for any particular age group. Except for women with no children, the range of variation is, however, not great (see Table 2.1.1, Vol. II). By age, the pattern is generally an inverted U-shape, with women in the middle age groups having the highest level of knowledge. The highest figure in Table 5.1 is for women aged 35-39 with seven or more living children (88 per cent), and the lowest figure is for women aged 45-49 with fewer than four living children (61 per cent).

Table 5.1 Percentage of women who have heard of at least one method of contraception — by current age and number of living children

	Current Age							
Ever-married women	<20	20-24	25-29	30-34	35-39	40-44	45-49	All
All	69	81	80	80	79	74	67	77
<4 Living Children	69	82	79	77	73	64	61	75
4-6 Living Children	—	77	85	85	82	79	70	81
7+ Living Children	—	—	*	83	88	87	81	85
Currently married fecund women (All)	73	84	83	83	84	84	84	82

(SOURCE: Table 2.1.1)

An analysis of the sampling errors (see Appendix III) indicates that this variable tends to be relatively clustered by sample areas. In other words, individuals within a sample area tend to be relatively homogenous regarding level of knowledge.

5.2.2 Knowledge of Specific Methods

Table 5.2 shows the percentage of ever-married women who have heard of any specific method, classified by family size. The following observations may be made:

1) The Pill is the most widely known method. As noted earlier, 77 per cent of the respondents have heard of any method, and among those, 71 per cent have heard of the Pill. In other words, only a small

*For some of the main methods, the unweighted numbers of respondents mentioning the method spontaneously and acknowledging only after probing is as follows:

Method	Pill	IUD	Condom	Rhythm	Withdrawal	Abstinence
Mentioned spontaneously	4992	3711	2398	359	37	40
Only after probing	1548	1639	1936	1160	922	1597

It would appear that the "non-scientific" traditional techniques such as Rhythm or Withdrawal of reducing the risk of conception were not spontaneously defined by most women to be family planning methods. This difference may also be due to shyness on the part of the respondents in spontaneously mentioning these methods.

Table 5.2 Percentage of ever-married women who have heard of specified contraceptive methods — by number of living children

	Programme Methods			Other Modern Methods				Traditional Methods				Folk Methods			
	Pill	IUD	Condom	Injection	Sterilization Female	Sterilization Male	'Female Scientific'	Abstinence	Rhythm	Withdrawal	Douche	Herbs	Massage	'Uterus Inversion'	Other
Living Children															
All	71	50	41	17	11	8	4	13	12	7	3	20	19	14	0
<4	69	47	39	16	10	7	4	12	10	7	3	19	18	13	0
4-6	74	55	45	20	13	9	5	15	14	8	4	22	21	17	0
7+	80	63	48	22	17	12	6	16	18	12	4	25	23	19	1

(SOURCE: Table 2.1.1)

minority (6 per cent) have heard of some method but not of the Pill. The IUD and Condom are known only to 50 per cent and 41 per cent of the respondents respectively. Nevertheless, the three Programme methods are by far the most widely known methods. We also note that a majority of the respondents mentioned these methods spontaneously.

2) No other method is known to more than a quarter of the respondents. The next important group is the three "Folk" methods, though in a vast majority of the cases women acknowledged their knowledge only after probing.

3) Of the other modern non-programme methods, the Injection is the most widely known (22 per cent), followed by Female Sterilization (17 per cent).

4) The fact that the three Programme methods dominate the list implies that the level of knowledge reflects the emphasis of Family Planning Programme. Familiarity with contraception tends to be concentrated on a few methods: the average number of methods known per woman is 2.9; for the 77 per cent who know of any method, the average number known is 3.8.

5) The vast majority of women who know of any method know of a Modern method. Only 2 per cent report knowledge of a Traditional method but not of any Modern method.

6) As for the knowledge of any method (Table 5.1), knowledge of any specific method is also related positively to family size. The range of variation between different family sizes shown is, however, not great.

5.2.3 Differentials in Contraceptive Knowledge

The percentages of women who have heard of any method within categories of the background variables are shown in Table 5.3. This pattern remains generally the same when the data are classified by age or family size, since variation by these variables is generally only moderate. One in four women in rural areas and one in six in urban areas have never heard of any method of contraception. We note the relatively high level of knowledge in Bali (87 per cent) and the low level of knowledge in Jawa Barat (63 per cent). Association with Level of Education is strong and in the expected direction. By Husband's Occupation, the only outstanding category is professional, technical, and clerical (i.e., "white-collar") occupations (93 per cent), with no significant difference among other groups.

5.2.4 Knowledge and Utilization of Family Planning Facilities

The IFS individual questionnaire contains useful information on the knowledge and use of family planning services. However, as noted earlier, these data have not been tabulated in detail in the present report. The following is a summary of the main points. As an exception to the rest of this commentary, the figures below refer to *unweighted* numbers of respondents in various categories. The objective is merely to convey to the reader a qualitative impression of the nature of responses obtained to various questions.

Knowledge of Place or Person to Visit for Family Planning: Of the 7974 currently married respondents, 46 per cent did not know of any place or person one could visit for family planning advice or services, and 54 per cent knew of at least one such source. Of the latter, 43 per cent mentioned a family planning clinic and 20 per cent mentioned a hospital; 56 per cent had actually visited some place or person for this purpose at some time, and 39 per cent had visited that place or person in the past twelve months. Of the 1697 currently married women who had visited some place or person for family planning advice or services within the past twelve months, 41 per cent had gone to a family planning clinic and 14 per cent to a hospital during their most recent visit. Apart

Table 5.3 Percentage of ever-married women who have heard of at least one modern method of contraception — by background variables

All	Type of Place		Province					
Jawa-Bali	Urban	Rural	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali
75	83	74	84	63	81	80	78	87

Level of Education					Husband's Occupation				Pattern of Work			
No Sch.	Primary Incomp.	Primary Completed	Junior High	Senior High +	Professional Clerical etc.	Sales, Services	Manual	Farming	Before and After	Only After	Only Before	Never Worked
65	81	89	97	99	93	72	76	73	76	71	83	77

(SOURCE: Table 2.1.2)

from the first registration fee, 18 per cent reported they had to pay for their supplies and the remaining 82 per cent said they did not have to pay for the contraceptives.

There were 2607 currently married women who had heard of family planning but had not visited any place or person for that purpose during the past twelve months. Of these, 24 per cent had "seriously thought" of making such a visit and 76 per cent had not.

Source of Information about Family Planning: All currently married women were asked whether or not they had ever heard about family planning through a specified medium such as newspapers or radio.

The results were as follows:

Medium	Radio	Posters	Newspapers Magazines	TV	Movie	Leaflets Booklets
Percentage who had heard of FP from Medium	35.6	18.4	13.0	12.0	11.1	7.3

We note that radio is the most common source of information.

5.3 Current use of contraception

The prevalence of current use of contraception is perhaps the best available indicator of the success of the Family Planning Programme in Indonesia and of the probable effect of contraception on fertility.

In the IFS Questionnaire, all women who had reported ever-use of contraception and were currently married and non-pregnant were asked the question:

"Are you or your husband using a method to keep you from getting pregnant?"

If the response was "Yes", they were asked to specify the method they were using.

All non-pregnant women except those who were currently contracepting or were currently widowed, divorced or separated were asked:

"As far as you know, is it physically possible for you and your husband to have a child supposing you wanted one?"

If the response was "No", they were asked whether they or their husband had had a sterilization operation, and in the case of female sterilization, whether one of the purposes of sterilization was to avoid having more children.

In defining the variable "current use of contraception", all methods including Traditional methods as well as contraceptive sterilization are considered.

In discussion of the results, analytical precision and ease of interpretation are enhanced when attention is focused on the group of women who are currently *exposed* to the risk of conception, rather than to all ever-married women. Thus prevalence rates are calculated after excluding women who are currently not married, or are pregnant, or believe themselves to be infecund (unless sterilized for contraceptive purposes). Nevertheless, for convenient reference and comparison with other sources, some of the main results will be shown below recomputed on different bases.

5.3.1 Current Use of Any Method

Of the exposed women 37 per cent are currently using contraception. The most remarkable feature is that the survey indicates levels of use which are much higher than previous estimates. (For example, the prevalence rate is nearly three times higher than that found in the 1973 Fertility and Mortality Survey.)

Table 5.4 shows the percentage of women currently using contraception, classified by age group. For convenience, prevalence rates computed for four different base populations are shown: all ever-married women (23% being current users), currently married women (26%), currently married non-pregnant women (30%), and exposed women (37%). Apart from the youngest women (aged under 25) the proportion of *exposed* women using contraception varies little by age. Hence the familiar pattern, observed in many countries with relatively recent spread of family planning, of distinctly higher levels of use for women in the middle-age groups is not prominent here. The high level of use recorded among older (but exposed) women is remarkable, as one might have expected some resistance among them to an innovation such as family planning.

The above comments do not imply that for the population of *ever-married* women there is little variation in usage by age. As an increasing proportion of women or couples become sterile with age, the proportion of all women or couples using contraception naturally declines as shown in Table 5.4.

In Table 5.5 the percentage of exposed women who are currently using contraceptives is examined by age and family size. Association with family size appears to be stronger than that with age. Within a given age group the level of use rises with family size up to a point after which there is little change. This transition point varies with current age from 1 or 2 children for the youngest women to 3 or 4 children for the oldest (more detailed results are shown in Table 2.3.5, Vol. II). Only a very small minority (4%) of those with no children are current users. This would imply that concern to delay the first birth is not generally felt. Contraceptive use is 27 per cent for those with one child and 40 per cent for those with two living children, after which it tends to remain relatively unchanged. This is indicative of some acceptance of birth spacing early in marriage, and is also consistent with the observation that, for small families, age is *negatively* associated with current use

Table 5.4 Percentage of women who are currently using contraception (any method) — by current age

	Current Age							
Current users as percentage of:	<20	20-24	25-29	30-34	35-39	40-44	45+	All
All ever-married women	11	24	30	29	27	19	9	23
Currently married women	12	27	33	33	30	24	12	26
Currently married, non-pregnant women	16	33	39	38	32	24	12	30
Exposed women	16	33	40	43	42	43	36	37

(SOURCE: Tables 2.3.4, 0.2.1)

when the number of living children is controlled—i.e., at a given family size younger mothers are more likely to be practising contraception. The question of spacing is likely to be less relevant to older women with small families, and they are also likely to be less fecund than their younger counterparts.

Table 5.5 Percentage of exposed women who are currently using contraception (any method) — by current age and number of living children

	Living Children						
Current Age	0	1	2	3	4	5+	All
All	4	27	40	47	43	51	37
<25	5	30	41	41	(22)	*	27
25-34	4	24	44	51	45	48	42
35-44	0	15	30	41	44	53	42
45+	*	*	(16)	(39)	(33)	46	36

(SOURCE: Table 2.3.5)

5.3.2 Current Use by Specific Method

A vast majority (87%) of current users are using a Modern method; in fact, 85 per cent of the users are using one of the three Programme methods supported by the Family Planning Programme. The Pill is the most commonly used method (used by 56% of the users), followed by IUD (21% of the users) and Condom (7% of the users). Table 5.6 shows the distribution of current users according to the method being used, classified by family size and also by current age. The relative popularity of the Pill declines with family size and that of the IUD increases. This commonly observed pattern probably reflects the fact that the Pill is used more often as a method for *spacing* of children while the IUD is used as a method for *limitation* of family size (in fact, not a single woman without living children reported using the IUD).

There is a slight increase in the popularity of the Condom with increasing family size, though the figure is under 10 per cent for all family sizes. The relative popularity of Traditional methods (mainly Rhythm, Abstinence, and Herbs) shows little variation with family size.

Variation by current age (Table 5.6, B) is generally similar to that by family size, except that Traditional methods (in particular abstinence) appear to be somewhat more popular among older women.

5.3.3 Differentials in Current Use

Table 5.7 shows the association between current use and background variables, classified by family size (number of living children). Examining first the overall figures, we note that the urban-rural differential is not marked.*

Association with Level of Education is very pronounced and in the expected direction. By Husband's Occupation, the "professional, technical, clerical" category is the outstanding one, though we note that farming (which is mainly rural) is slightly higher than sales and services and manual occupations (37% versus 32%).**

Women who have worked both before and after marriage show slightly higher levels of current use.

The most remarkable feature of Table 5.7, however, is the very marked provincial differences. Only 22 per cent of exposed women report current use in Jawa Barat; the level is 51 per cent in Yogyakarta and Bali. Jakarta, though wholly urban, falls in the middle with levels similar (around 40 per cent) to those in Jawa Tengah and Jawa Timur.

*The overall percentages of exposed women currently using contraception are: Urban = 40%, rural = 36%. The standard error of the percentage difference (40-36 = 4%) is 1.5, so that the 95 per cent confidence interval for the difference is 4±2 (1.5) = 1 to 7 per cent. Hence, the observed difference is statistically significant. See Appendix III for interpretation of sampling errors.

**Standard error for the percentage difference is 2.0.

Table 5.6 Percent distribution of current users according to specific method being used — by (A) number of living children, (B) current age, (C) province, (D) type of place of residence

	Current Users								
	Pill	IUD	Condom	Other Modern	'Worldwide' Traditional	Folk	Total	Users as % of exposed	Users as % of currently married
All Jawa-Bali	56	21	7	2	8	5	100	37	26
(A) Living Children									
0	(80)	0	0	0	(12)	(7)	100	4	2
1	71	11	4	1	9	4	100	27	20
2	65	18	5	1	8	4	100	40	31
3	56	21	9	1	7	5	100	47	35
4	50	26	8	2	9	5	100	43	32
5+	46	27	9	4	9	5	100	51	34
(B) Current Age									
<25	68	15	5	1	7	4	100	27	22
25-34	58	21	7	2	7	5	100	42	33
35-44	47	26	9	3	10	5	100	42	27
45+	43	28	3	5	16	5	100	36	12
(C) Province									
Jakarta	35	15	15	4	20	11	100	39	28
Jawa Barat	75	6	3	4	6	5	100	22	16
Jawa Tengah	59	19	10	2	6	4	100	41	28
Yogyakarta	8	18	17	2	54	1	100	51	40
Jawa Timur	58	27	4	2	5	5	100	44	32
Bali	14	69	11	3	2	0	100	51	38
(D) Type of Place									
Urban	32	18	17	6	18	10	100	40	29
Rural	62	22	5	1	6	4	100	36	26

(SOURCE: Tables 2.3.2, 2.3.3)

Table 5.7 also shows that the pattern of current use by family size is similar for various background variable categories: rapid increase up to two living children, and little difference among women with three or more children. Notable exceptions are (1) little variation after one living child in Jawa Barat (2) more pronounced increase up to three living children in Bali and Jakarta, and (3) sustained increase with family size among better educated women (those who have completed primary school or attended a higher level), and among women with husbands in professional, technical, or clerical occupations.

We may also note that for women with exactly one living child, the reported level of use is higher in rural areas than in urban areas.

The last column (marked "X") in Table 5.7 shows the level of contraceptive use for exposed women aged 25-34 with 2 to 4 living children. This sub-group is included to abstract partially the effect of "demographic composition" from the socio-economic differentials being studied.* When these demographically homogenous groups are compared, the observed differentials become more prominent compared to the overall figures examined earlier. For example, the figure is 29 per cent for Jawa Barat, and 67 per cent for Bali. The relative position for any category, however, is not affected.

To examine further differentials by Province and Type of Place of Residence, Table 5.6 (C and D) shows the distribution of current users according to the method being used. Noteworthy features of the data are: (1) in Bali, the IUD is the predominant method (over two-thirds of the users are using this method), with the Pill playing a relatively minor role, (2) in Jawa Barat the Pill predominates (being used by three-fourths of the users) with a relatively minor role for the IUD, (3) in Yogyakarta, over half of the users are using a Traditional method; the corresponding figure among all users in Jawa-Bali is only 8 per cent. Hence, if only Modern methods are considered, Yogyakarta comes lower than all other provinces except Jawa Barat, and even here the difference is not great,** (4) urban-rural differentials by the type of method used are also very marked. Nearly twice as many rural users are using the Pill. In urban areas (and hence also in the province of Jakarta), the Condom, other Modern methods, and Traditional methods are being more commonly used. The more widespread use of non-modern methods in urban areas is suprising: 28 per cent of the urban users are using a non-modern method, compared to only 10 per cent of the rural current users. In fact, if the use of Modern methods only is considered, the small urban-rural differential noted earlier is actually reversed: 29 per cent of exposed women in urban areas are currently using a Modern method, the figure being 33 per cent for rural women. This can be attributed to the more widespread use of the Pill in rural areas, and it is a reflection of the fact that in the second phase the Family Planning Programme in Jawa Bali placed much emphasis on rural areas with supplies and services centred on the village (Village Distribution Center, VDC) as the organizational unit using local leadership. These rural-urban differences also indicate that the urban population has a tradition of contraception that precedes the Family Planning Programme.

Figure 5.1 displays the percentage of exposed women who are currently using any method, and breakdown of the current users according to the method being used — by family size and current age for all Jawa-Bali, and also by Province and Type of Place of Residence.

Table 5.7 Percentage of exposed women who are currently using contraception (any method) — by number of living children and background variable

	Living Children							
	0	1	2	3	4	5	All*	X**
All Jawa-Bali	**4**	**27**	**40**	**47**	**43**	**48**	**37**	**47**
Type of Place								
Urban	2	17	40	50	52	56	40	55
Rural	4	29	40	46	41	46	36	46
Province								
Jakarta	4	19	31	49	51	52	39	50
Jawa Barat	7	20	22	29	20	25	22	29
Jawa Tengah	3	30	47	50	43	48	41	50
Yogyakarta	11	40	58	51	57	62	51	62
Jawa Timur	2	33	50	56	56	65	44	56
Bali	(0)	23	54	65	65	61	51	67
Level of Education								
No Schooling	2	22	32	39	32	37	31	37
Primary Incomp.	5	30	43	48	45	57	39	49
Primary Completed	6	27	44	55	61	44	40	54
Junior High	(4)	(32)	(39)	(56)	(75)	(92)	52	63
Senior High +	(10)	41	58	(81)	(83)	(95)	62	74
Husband's Occupation								
Prof., Clerical, etc.	7	35	58	70	66	78	57	70
Sales, Services	1	28	36	38	38	32	31	40
Manual	1	21	29	36	39	54	32	40
Farming	5	28	42	47	41	46	37	46
Pattern of Work								
Before & After	4	28	44	54	47	56	41	51
Only After	5	27	38	48	44	40	36	47
Only Before	(0)	21	37	28	(45)	51	32	35
Never Worked	4	28	37	38	36	42	33	45

(SOURCE: Table 2.3.5)
*Including 6 or more children
**For exposed women aged 25-34 with 2 to 4 living children

5.4 Ever-use of contraception

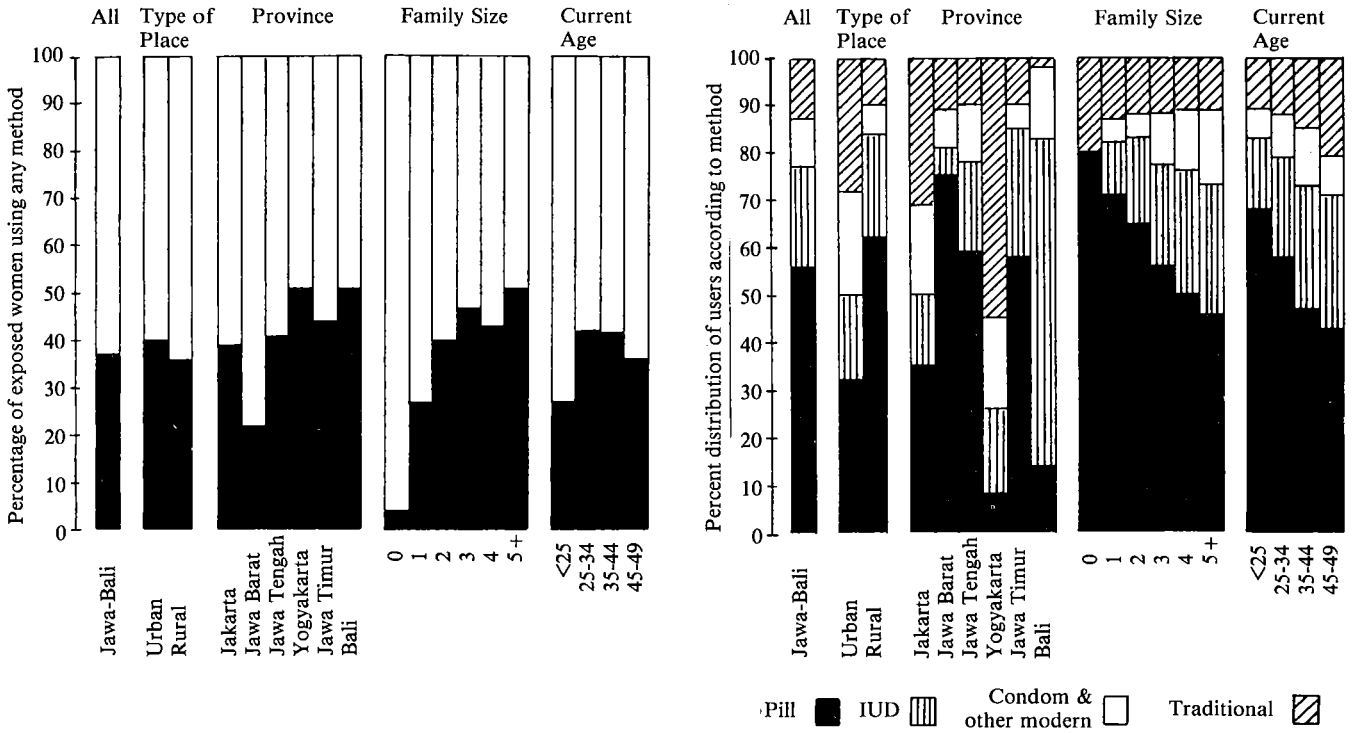
Alongside the questions on knowledge of specific methods the questionnaire included a sequence on "ever-use" of each method. For each method the woman had ever heard of, she was asked, "Have you ever used this method?" or some appropriate variation of this question.

As will be seen from the discussion below, the relatively widespread use of contraception is of very recent origin in Indonesia. For this reason, the pattern of ever-use is very similar to that of current use already described in the previous section. Hence, it will suffice here to consider ever-use of contraception only briefly.

Overall, 34 per cent of ever-married women reported ever-use of any method, including both Modern and Traditional methods. The pattern by current age and number of living children is summarized in Table 5.8 and by specific method and current age in Table 5.9.

*This sub-group of respondents is also important as it comprises women in the middle of their reproductive life, a group of particular relevance to the Family Planning Programme.
**On the other hand, the proportion currently using computed on the basis of exposed women may have a downward bias for Yogyakarta, since an unusually low proportion of the women reported fecundity impairment, thus inflating the denominator in the computation (see Section 4.6).

Figure 5.1 Percentage of exposed women currently using contraception according to method — classified by type of place, province, family size, and current age



For all ever-married women, the level of ever-use by age (Table 5.8, row "A") is an inverted U-shape, with a rather flat high plateau (around 40-45%) for women aged 25 to 39. Overall, as well as within any specific age group, the level of ever-use is generally associated positively with family size.

For more direct comparison with current use, row "B" in Table 5.8 shows the percentage of ever-users among *currently married fecund* women. Forty-four per cent of these women have ever-used. There is little variation by current age among women aged 25 and over, particularly for those with four or more living children. The positive associaton with family size is also somewhat attenuated compared to the same for all ever-married women.

Table 5.8 Comparison of levels of ever-use and current use of contraception (any method) (A) percentage of all ever-married women who have ever used, (B) percentage of currently married fecund women who have ever used, (C) Percentage of exposed women who are currently using

		Current Age							
		<20	20-24	25-29	30-34	35-39	40-44	45-49	All
Living Children									
	(A)	16	35	46	44	40	29	18	34
All	(B)	18	38	50	51	52	49	47	44
	(C)	16	33	40	43	42	43	36	37
	(A)	16	35	43	35	25	13	12	29
<4	(B)	18	38	48	45	40	25	32	37
	(C)	16	34	40	36	28	21	23	31
	(A)	—	34	58	55	49	36	17	44
4-6	(B)	—	34	58	57	57	52	48	55
	(C)	—	(21)	43	49	49	49	35	46
	(A)	—	—	*	55	59	52	38	49
7+	(B)	—	—	*	61	63	67	63	64
	(C)	—	—	*	52	55	56	53	54

(SOURCE: Tables 2.3.3, 2.4.1)

Row "C" in Table 5.8 shows the percentage of *current* users among exposed women. The population in this row differs from the previous row in only that currently pregnant women, for whom the question of current use is obviously not relevant, are excluded in row "C". In so far as women who happen to be currently pregnant do not on the whole differ significantly from other (currently married fecund) women, rows "B" and "C" can be considered directly comparable. The two sets of figures are close, with very similar pattern of variation. Except in the unlikely event of very persistent use by all ever-users, this closeness points to the *recency of spread of contraceptive use.*

Table 5.9 Percentage of all ever-married women who have ever used a specified method of contraception — by current age

	Current Age							
	<20	20-24	25-29	30-34	35-39	40-44	45-49	All
% ever used								
Pill	11	27	33	30	26	17	9	23
IUD	1	6	9	10	10	6	3	7
Condom	2	4	7	6	5	5	2	5
Any of above	13	32	42	39	35	23	12	30

(SOURCE: Table 2.4.1)

Table 5.9 shows the percentage of ever-married women who have ever used a specific Programme method, classified by current age. Overall, 23 per cent have used the Pill, 7 per cent the IUD and 5 per cent the Condom; 30 per cent have used at least one of these methods. In fact, only a small minority of the women have ever used any other method. (Figures are above one per cent only for Abstinence (4%), Herbs (3%), Rhythm (3%), Massage (2%), Withdrawal (2%). See Table 2.4.1, Vol. II.)

The overall difference between the Pill and the IUD is somewhat more pronounced in ever-use than it is in current use. This may be due to more persistent use of the IUD once started, or to the spread of IUD being more recent.

The mean number of methods used by all ever-users is around 1.9; the mean number of Modern methods used by those who have ever-used a Modern method is around 1.5: approximately, one may say that of women who have used a Modern method, one in two has tried two such methods.

Differentials in ever-use of any method as well of any Modern method, classified by the number of living children, are available in Tables 2.4.2 and 2.4.3 in Volume II. For reasons noted earlier, it is not necessary to comment on these here.

5.5 Pattern of contraceptive use

By "pattern" of use is meant here the timing of initiation of contraceptive use, persistence in or termination of use and intentions regarding future use of contraception. The logical components of this pattern may be stated as follows:

Ever-use of contraception
Timing of the first use
Use in specific birth intervals
Most recent use; termination of use
Current use
Intention regarding future use

Ever-use and current use of contraception have already been discussed above, while contraceptive use in specific birth intervals (namely the last closed interval and the open interval) will be considered in the next chapter in conjunction with the study of those intervals.

To summarize the history of contraceptive use for each survey respondent, a composite variable "Pattern of Contraceptive Use" (defined in Appendix V) has been used. This variable identifies the timing of the most recent or last use of contraception for ever-users. For fecund never-users it identified intentions regarding future use. The variable is based on the data on ever-use, use in the open and the last closed birth intervals, current use, and intentions regarding future use.

5.5.1 Timing of the First Use

Timing of the first use is based on the question asked of all ever-married women who had ever-used contraception:

"How many living children did you have when you used contraception for the first time?"

Ever-users were also asked the very first method used, though data relating to that have not been included in this report.

Table 5.10 shows the distribution of ever-users according to the difference between the number of living children at the time of the *first use* of any contraceptive method and the number currently living, classified by the latter variable. Overall, 68 per cent of the users (with 0-7 living children) report the same number of living children at first use as their current family size. Except for the effect of subsequent death of children, we may regard this figure as an indication of the proportion who started using contraception only after the birth of their last child. While recall lapse may have exaggerated these results, the data offer a direct

Table 5.10 For all ever-users, the number of living children at first use of contraception compared to the current number of living children

	Current number of living children							
	0	1	2	3	4	5	6	7
Number at first use compared to current number of living children								
Same*	100	89	69	64	58	58	62	57
One fewer	.	11	26	19	20	20	18	16
Two or more fewer	.	.	5	17	22	22	20	27
All	100	100	100	100	100	100	100	100
No. of women	78	465	630	583	453	348	262	158

(SOURCE: Table 2.2.2)
*Includes small number of women who report more living children at first use than their current family size.

illustration of the *recency* of spread of contraceptive practice, and indicate that as many as two-thirds of the ever-users may have started using contraception only since their last child's birth. The proportion in this group is almost constant around 60 per cent for women with 3 or more living children. In fact, this uniformity is maintained in other rows of Table 5.10 also: around 20 per cent of users with 3 or more children first used contraception when they had one fewer child than their current number, and the remaining 20 per cent have given birth to two or more additional children since they first used a contraceptive method.

Table 5.11 shows the mean number of living children at first use by background variable. The point made above about the recency of use is generally confirmed for all categories. The only noteworthy differentials are con-

Table 5.11 Mean number of living children at first use of contraception — by current number of living children and background variable

	Current number living				
	1	2	3	4	5
All Jawa-Bali	0.9	1.7	2.6	3.3	4.1
Type of Place					
Urban	0.8	1.5	2.2	2.7	3.6
Rural	0.9	1.7	2.7	3.5	4.3
Province					
Jakarta	(0.8)	1.4	2.1	2.7	3.7
Jawa Barat	0.9	1.7	2.8	3.3	4.1
Jawa Tengah	1.0	1.7	2.7	3.5	4.4
Yogyakarta	0.7	1.3	1.4	1.7	2.1
Jawa Timur	1.0	1.7	2.6	3.4	4.2
Bali	(1.0)	1.8	2.8	3.9	(4.6)
Level of Education					
No Schooling	1.0	1.8	2.8	3.6	4.2
Primary-incomp.	0.9	1.7	2.6	3.2	4.3
Primary completed	0.9	1.7	2.3	3.2	4.0
Junior High	(0.9)	(1.2)	(2.3)	(2.6)	(3.5)
Senior High +	(0.8)	1.2	1.9	(2.3)	(3.2)
Husband's Occupation					
Prof., clerical	0.8	1.4	2.2	2.9	3.6
Sales, services	0.8	1.6	2.3	3.2	4.0
Manual	0.9	1.8	2.6	3.3	4.2
Farming	1.0	1.7	2.7	3.5	4.3
Pattern of Work					
Before and After	1.0	1.7	2.7	3.4	4.1
Only After	1.0	1.7	2.6	3.4	4.2
Only Before	(0.9)	(1.6)	(2.3)	(2.4)	*
Never Worked	0.9	1.7	2.4	3.3	4.2

(SOURCE: Table 2.2.3)

fined to women with three or more living children, and are as follows: (1) urban women appear to start using contraception somewhat earlier in their lives, (2) women in Yogyakarta even earlier though here, as noted before, Traditional methods play an important role, (3) women in higher educational categories, and those with husbands in the professional, administrative, and clerical occupations also report slightly early initiation of contraceptive use. There are no differentials by Pattern of Work.

It should be pointed out that the pattern in Table 5.11 is influenced by many complex factors such as timing of the start of Family Planning Programme, type of method commonly used (for example, the IUD in Bali, Traditional methods in Yogyakarta), prevailing levels of current fertility, and above all, the possibility of differential recall lapse. Nevertheless, the point of interest here, namely the extreme recency of the spread of contraceptive use, is clearly illustrated.

5.5.2 Most Recent Use

Table 5.12 shows that 44 per cent of the currently married fecund women have used contraception: 32 per cent are currently using,* 5 per cent used earlier in the open interval but are currently not contracepting, 6 per cent used in the last closed interval but did not use in the open interval, and only around 1 per cent used contraception in an earlier interval but did not use in the last closed or the open interval.** Note that currently pregnant ever-users can appear only in the last two of the above categories. We make the following observations:

1) While it is possible that memory lapse results in serious under-reporting of use in the open and the last closed intervals, this bias is likely to be less serious regarding ever-use (first row in Table 5.12). Hence, these data may be regarded as indicative of the recency of the spread of contraceptive practice in Jawa-Bali.

2) A vast majority of ever-users are "recent users". By recent users is meant (a) exposed women who are currently using or have used contraception earlier in the open interval, plus (b) currently pregnant women who used contraception during their last closed interval, i.e., during the interval leading to their current pregnancy. By this definition, over 95 per cent of ever-users are also recent users.

3) By combining these results with those discussed earlier it is possible to construct a very approximate measure of the proportion who started using contraception but subsequently terminated use more or less definitely. Of the relatively small number (around 450) of women who first used contraception when they had at least two fewer living children than their current family size, around one in five report no contraceptive use during or subsequent to their last closed interval. Hence, at least one in five of the relatively early users may be regarded as having subsequently stopped using contraception. The reader is reminded of the approximate nature of these figures and the somewhat arbitrary nature of the measure of "drop-outs".

5.5.3 Intentions Regarding Future Use

Currently married fecund women who had never used any contraceptive method were asked:

"Do you think you and your husband may use any method at any time in the future so that you will not become pregnant?"

Table 5.12 Percent distribution of currently married fecund women according to the timing of most recent use and intentions for future use of contraception — by number of living children

	Number of living children								
	0	1	2	3	4	5	6	7+	All
Has used contraception - Total	7	33	50	56	54	55	60	63	44
Current user	3	23	35	41	39	42	47	49	32
Most recent use:									
Open interval	3	4	6	6	6	4	5	4	5
Last closed interval	1	5	8	7	7	8	6	8	6
Some earlier interval	.	1	1	2	2	1	2	2	1
Has never used contraception - Total	93	67	50	44	46	45	40	37	56
Intends Future Use	28	21	14	9	10	9	9	7	15
Does Not Intend	65	46	36	35	36	36	31	30	41
All (currently married fecund)	100	100	100	100	100	100	100	100	100

(SOURCE: Table 2.2.1)

Among currently married fecund women, 56 per cent had never used contraception; of these, 15 per cent stated that they intended to use contraception at some time in the future, and 41 stated that they did not intend (or were undecided). Note that the group of currently married fecund women who were asked the above questions included 18 per cent who had *never heard* of any method of contraception.

Of course, responses to a difficult attitudinal question such as the one being considered cannot be regarded as good predictors of future behaviour. Nevertheless, the proportion who have neither used contraception nor intend to use in the future changes little by family size, except for those with none or only one living child (see Table 5.12). Of women with two or more living children, around one in three are in this category and may be regarded as indicative of the "hard core resistors" to family planning.

The proportion not intending future use is much higher for those with no living children. Though this category includes a considerable number of relatively older or sub-fecund women, it consists of mainly young women still at the early stages of family building. As noted earlier, women with two or fewer children have markedly lower level of use compared to those with larger families. One may reasonably expect that a significant proportion of the former will in fact use contraception in the future following the pattern prevailing for their counterparts with larger families. This casts serious doubt on the validity of the question on intentions regarding future use.

5.6 Breast-feeding

Despite widespread interest, the exact role of breast-feeding in delaying conception is not fully established. It is not possible here to address this issue in an extensive

*This figure differs from the earlier quoted 37 per cent since here the denominator also includes currently pregnant women, while the earlier figure was based on exposed (currently married, fecund, non-pregnant) women.

**For definition of the open and the last closed interval, see Appendix V.

Table 5.13 Distribution according to months of breast-feeding in the last closed interval, and mean length by selected demographic variables

	% Distribution																		
	Did not b-feed	<3	3-5	All <6	6	7-11	12	13-17	18	19-23	24	25-29	30	31-35	36	37+	All	Mean	No. of women
(A)*	3	6	3	12	1	7	13	7	11	6	22	3	5	1	9	3	100	19.2	6519
(B)	2	1	2	5	1	7	20	11	19	11	26	.	.	.	.	.	100	16.7	1848

	Mean Length (months)											
	Current Age					Age at marriage**			Children ever born***			
	All	<25	25-34	35-44	45+	<15	15-19	20+	2	3	4	5+
(A)	19.2	17.3	19.1	20.0	19.8	20.4	18.9	15.9	—	—	—	—
(B)	16.7	17.3	17.0	16.6	15.9	17.4	16.6	14.5	16.5	16.7	16.2	17.0

(SOURCE: Tables 3.7.3, 3.7.4)

* (A) All ever-married women with at least two live-births (including any current pregnancy)
(B) Restricted among above to those whose closed interval exceeded 32 months and whose child being breast-fed survived at least 24 months. In computing distribution and mean, *one-half* of durations reported as 24 months are included, and all durations over 24 are excluded.

** (B) Not shown in Vol. II.

***Including any current pregnancy. (A) Not tabulated.

way; only a brief description of breast-feeding during the last closed birth interval will be presented, leaving an in-depth analysis to a later date.

Table 5.13 (row A) shows the distribution of women who have had at least two live births (including any current pregnancy) according to the length of breast-feeding in the last closed interval. There is a tendency for the responses to be heaped at 12, 18, 24, 30 and 36 months—particularly at 24 months where 22 per cent of all responses are concentrated. There is, nevertheless, considerable dispersion in reported durations. Three-fifths of the women report breast-feeding for 12-24 months (inclusive), one in five for less than 12 months and a similar proportion for more than 24 months. Only a very small minority (3%) did not breast-feed at all. The overall mean duration is 19.2 months.

In comparing the mean duration of breast-feeding among categories of the sample, it is desirable to control for exposure to, or opportunity for, breast-feeding. For this purpose a duration of 24 months was set as the period of observation. This implied excluding women who could not have breast-fed for at least 24 months; either because they became pregnant before that period elapsed (i.e., the length of the closed interval was less than 24 + 9 = 33 months), or because the child died within 24 months. Further, in computing the mean, women who breast-fed for more than 23 months* were also excluded.

These restrictions, though making mean durations for different sample categories more comparable, resulted in reducing the sample from 6519 (women with a closed birth interval) to only 1848. As many as 2810 respondents were excluded for having a closed birth interval shorter than 33 months; 290 were excluded because the child breast-fed did not survive for at least 24 months, and 1571 were excluded for breast-feeding for more than 23 or 24 months. This major reduction in sample size seriously limits the usefulness of the comparisons being made.

Table 5.13 (row B) shows the distribution of the reduced sample according to duration of breast-feeding. The overall mean is 16.7 months (only 2.5 months less than the unrestricted mean in row A; exclusion of women breast-feeding for more than 23 or 24 months being balanced by more frequent exclusion among the rest of women breast-feeding for shorter durations).

There is little variation in the mean length by mother's current age or parity, indicating the absence of any notable trend in breast-feeding practice. Association with age at first marriage is negative: those married at ages 20 or over breast-feeding for 3-4 fewer months than those married at ages under 15. The difference probably reflects the divergent education or urban-rural background of these two groups (see below).

Table 5.14 shows that the practice of breast-feeding is virtually universal among all socio-economic categories. The only groups in which more than 5 per cent did not breast-feed during their last closed interval are: urban women (6%), women in Jakarta (8%), and those who completed at least junior high school (7%). Various categories also show considerable uniformity in the mean length of breast-feeding. The mean for most categories is just under one and a half years, exceptions are urban women, women in Jakarta, better educated women, and those with husbands in white collar occupations. The mean length for these overlapping subgroups is of the order of one year. In view of the absence of any notable historical decline in the practice of breast-feeding, the pronounced urban-rural differential is probably a long standing one.

*Actually, the mean included one-half of cases with reported duration 24 months. Due to the tendency in responses to be heaped at 24 months, it is unreasonable to assume that all durations reported as 24 months actually exceed 23 completed months.

Table 5.14 (A) Mean length of breast-feeding in the last closed interval, (B) Percentage who did not breast-feed — by background variable*

	All Jawa-Bali	Type of Place		Province					
		Urban	Rural	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali
(A)	16.7	12.8	17.7	12.5	16.1	17.7	18.8	17.0	17.5
(B)	2	6	1	8	2	2	0	2	0

	Level of Education				Husband's Occupation				Pattern of Work			
	No Sch.	Primary Incomp.	Primary Completed	Junior High +	Prof., Clerical	Sales, Services	Manual	Farming	Before & After	Only After	Only Before	Never Worked
(A)	17.5	17.0	15.1	11.2	13.9	15.6	15.3	18.0	17.4	16.4	15.4	16.2
(B)	2	2	4	7	4	3	5	1	2	2	4	2

(SOURCE: Table 3.7.5)
*Restricted as row (B) in Table 5.13

Chapter 6. Fertility and Child Mortality

6.1 Introduction

The estimation of levels, differentials, and trends in fertility is a primary objective of the IFS. Particular care was taken to devise a set of questions and interviewing procedures which would yield accurate data on the number of children ever born and the timing of births in a respondent's life. The total number of births was obtained by a sequence of questions eliciting separately the number alive and deceased, the former classified by sex, survivorship status, and residence in the household. Following this, the interviewer ascertained—beginning with the first birth and referring to each child by name—the date of birth, sex, survivorship and age at death if applicable for each child. The date was asked as the calendar year and month of birth, but if this could not be obtained the duration in completed years and months since birth occurred was requested. As a check, the interval between successive births was also ascertained directly.

One of the main measures of fertility employed here is based on the cross-sectional view at the time of the interview. This measure is the *current parity,* or number of children ever born, and makes no direct reference to the timing of fertility of individual respondents. Current parity by age, marriage duration, and age at first marriage is discussed in Section 6.2.

Section 6.3 considers the pattern of *early marital fertility*. Measures employed in this description are the first birth interval, i.e., the interval between first marriage and first birth, the mean number of births in the first five years of first marriage, and proportion childless after those five years.

Current or recent fertility is discussed in Section 6.4. The approach here is based on period or cross-sectional measurement of fertility, i.e., on the number of births which occur to a defined population during a specified calendar year or other historical time period. Measures employed are the mean number of live births during the last five years to all ever-married women and to women continuously in the married state during that period, the proportions reporting a current pregnancy, and finally, conventional age-specific fertility rates for the year preceding the survey. Section 6.5 provides an over-view of the pattern and *differentials in fertility*. The major focus is the fertility of women first married 10-19 years ago. Differentials in early marital fertility, recent fertility and current parity of these women are considered simultaneously.

Retrospective birth histories permit computation of age-specific fertility rates for a number of years preceding the survey on the basis of which recent *trends in period fertility* may be ascertained. The investigation of trends in Section 6.6 must be regarded as preliminary pending a more thorough evaluation of quality of the birth history data on which they are based. Section 6.7 provides a brief description of the mean length of specific *birth intervals* in relation to contraceptive use. The complex question of contraceptive efficacy is explored here only in a most elementary way.

The question of levels, trends and differentials in *infant and child mortality* in Indonesia is of particular relevance in view of the relatively high rates which have hitherto prevailed. Section 6.8 provides a descriptive account of the experience and incidence of child deaths by survey respondents, on the basis of which findings on fertility behaviour and preferences may be placed in their proper context. Direct and indirect estimates of infant mortality rates are also given.

Finally, in an explanatory note (Section 6.9) for the more interested reader, a comparison is made of birth and marriage cohorts in the timing of their fertility. This discussion is closely related to, and is followed by, a preliminary analysis of the quality of the birth history data.

6.2 Number of children ever born

Number of children ever born, or current parity, as a measure of fertility makes no reference to the timing of fertility of individual women but refers merely to the cross-sectional view at the time of the interview.

Table 6.1 Per cent distribution of ever-married women according to the number of children ever born — by curent age

	Current Age							
Children ever born	<20	20-24	25-29	30-34	35-39	40-44	45-49	All
0	53	16	8	6	6	5	9	13
1-2	45	63	36	22	18	15	18	32
3-4	2	19	14	29	20	20	17	22
5-6	—	2	13	29	30	24	18	16
7+	—	—	2	14	26	36	38	17
All	100	100	100	100	100	100	100	100
Mean	0.6	1.7	2.8	4.1	4.8	5.3	5.2	3.5

(SOURCE: Table 3.1.1)

Table 6.1 provides an over-view by showing the distribution of ever-married women by current age and parity. For the sample as a whole, the mean number of children ever born is 3.5; around one in eight of the women are childless, a third have 1-2 children, a fifth 3-4, a sixth 5-6 and the remaining sixth have 7 or more children ever born. The mean steadily rises from 0.6 for women aged under 20, to just over 4 for the 30-34 age group, and over 5 for women aged 40 to 49.

The mean number of children ever born to women aged 45-49 is 5.2. For a traditional society where most of the older women married at very young ages and apparently did not use any modern method of contraception throughout most of their child-bearing life, this is a low figure for completed fertility. A quarter of the women aged 45-49 have had fewer than three children each and nearly one in ten (9%) are childless; on the other hand nearly two-fifths have had seven or more children (see Table 6.1).

The proportion reported childless is marginally larger among women aged 45-49 than in any of the groups 25-29 to 40-44. This is a somewhat unexpected result, and probably reflects under-enumeration of births among the oldest women in the sample. It may also have been caused by selective displacement of women of this age-group out of the sample. (See Chapter 3, Section 3.3.) In view of this inconsistency, the age-group 40-44 will be used in preference to 45-49 age-group to describe the overall pattern of "completed fertility". While a few of these women will bear children in the future, this increment will be slight and will not affect seriously the

Table 6.2 For women aged 40-44, (A) the per cent distribution according to the number of children ever born, (B) parity progression ratios (PPR) — by current marital status

		Children ever born												Mean by age at marriage		
		0	1	2	3	4	5	6	7	8	9	10	11+	Mean	<15	15-19	20+
All ever-married women	(A) % dist.	5	9	7	10	10	11	13	11	9	7	4	5	5.3	5.5	5.5	4.0
	(B) PPR	.95	.91	.92	.87	.86	.82	.74	.69	.64	.58	.57	—	(.09)*	(.14)	(.13)	(.24)
Currently married women	(A) % dist.	5	7	6	9	9	11	14	12	10	7	5	6	5.6	5.8	5.7	4.2
	(B) PPR	.95	.93	.93	.89	.88	.83	.75	.70	.64	.60	.57	—	(.10)	(.15)	(.14)	(.26)
Women married continuously since first married	(A) % dist.	3	4	6	7	7	12	14	13	13	8	5	9	6.2	6.7	6.4	4.7
	(B) PPR	.97	.96	.94	.92	.91	.84	.78	.73	.63	.63	.62	—	(.13)	(.18)	(.18)	(.30)

(SOURCE: Tables 3.1.1, 3.1.2)
*Figures in parantheses give standard error of the mean number of children ever born. For individual values of PPR, standard error is generally of the order of 0.05.

discussion. The mean parity of this age-group is 5.3 for all ever-married women, 5.6 for currently married women and 6.2 for women continuously in the married state since first marriage. The mean parity of women aged 40-44 whose first marriage was *dissolved* is only 4.4*. These figures indicate a substantial association between marital stability and fertility, though the direction and precise nature of causation cannot be established.

The percentage of childless women is the same—5 per cent—for ever-married and currently married women, whereas 3 per cent of the women continuously in the married state since first marriage are reported childless. This indicates a relatively low level of primary sterility for all groups, although the continuously married subgroup may consist of relatively more fecund women.

Another way of describing the (nearly) completed fertility of these women is in terms of Parity Progression Ratios (PPR). Of women who ever achieved specified parties the PPR's give the proportions who later had at least one more child. For example, PPR for parity four is the number who have five or more children divided by the number who have four or more children. The PPR for parity zero is 0.95 (i.e., 95 per cent of ever-married women have at least one birth), and it declines gradually in a very regular fashion to 0.57 at parity 10. In other words, over a half of the women who have had 10 children go on to have at least one more. For women continuously in the married state since first marriage the PPR at any parity is generally 3 to 5 per cent higher than the corresponding PPR for all ever-married women.

The last three columns in Table 6.2 show the mean parity of women aged 40-44 by age at first marriage. The small minority who married at ages 20 or over have a substantially lower mean. For women continuously in the married state, those marrying at ages under 15 have a slightly higher mean (6.7) compared to those marrying at ages 15-19 (6.4); this difference (which is statistically significant) is not observed when all ever-married women are considered, and reflects the association of age at marriage with marriage stability discussed in Chapter 4.

Turning now to the parity of younger women, Table 6.3 shows the mean number of children ever born by age at first marriage and current age for all ever-married women as well as for women continuously in the married state since first marriage. Considering first all ever-married women (Panel A), we note that for younger women (up to age 25) there is a pronounced effect of age at marriage on parity of a given cohort. For example, for women aged 20-24, those married at ages under 13 have a mean parity 2.4 compared to 0.8 for those married at ages 20 and over. The difference is obviously due to differences in the length of marital exposure. However, the effect of age at marriage diminishes as we move to older cohorts, the implication being that late marrying women have higher rates of child-bearing at older ages.

At a given age, the negative association with age at marriage tends to become stronger when attention is confined to women continuously in the married state (see Table 6.3,(B)). This probably reflects the association between marriage stability and age at marriage.

*It should be borne in mind that the continuously-married group is likely to be a selective sub-sample of the whole: it includes a relatively larger proportion of urban, or better educated women, or women with husbands in white collar occupations (see Chapter 4). This, however, is not an unusual association: for example, the commonly used classification by age at marriage is also selective of certain socio-economic groups. More importantly, the group is probably selective in terms of fecundity, as low fecundity may lead to marital dissolution.

Table 6.3 Mean number of children ever born — by current age and age at first marriage (A) for all ever-married women, (B) for women continuously in the married state since first married

	(A) Ever-married women							(B) Continuously married women						
Current Age	<20	20-24	25-29	30-34	35-39	40-49	All	<20	20-24	25-29	30-34	35-39	40-49	All
Age at marriage														
<13	0.9	2.4	3.3	4.4	4.8	5.6	4.1	1.0	3.0	4.1	5.0	6.0	7.3	4.9
13-14	0.7	2.1	3.5	4.9	5.3	5.3	3.8	0.8	2.5	3.9	5.5	6.3	6.5	4.1
15-17	0.5	1.7	2.9	4.1	5.2	5.4	3.3	0.6	1.9	3.3	4.7	5.9	6.5	3.4
18-19	0.2	1.1	2.5	3.8	4.4	5.4	3.1	0.2	1.2	2.6	4.2	5.0	6.2	3.1
20+	.	0.8	1.6	2.7	3.7	4.2	2.7	.	0.8	1.7	3.0	4.3	5.0	2.9
All	0.6	1.7	2.8	4.1	4.8	5.3	3.5	0.6	1.8	3.1	4.5	5.6	6.3	3.6

(SOURCE: Table 3.1.3)

Table 6.4 Mean number of children ever born — by years since first marriage and age at first marriage. (A) For all ever-married women, (B) For women continuously in the married state since first marriage

	(A) Ever-married women							(B) Continuously married women						
Years since marriage	<5	5-9	10-14	15-19	20-24	25+	All	<5	5-9	10-14	15-19	20-24	25+	All
Age at marriage														
<13	0.3	1.6	2.8	3.7	4.5	5.4	4.1	0.5	2.0	3.4	4.4	5.1	6.9	4.9
13-14	0.6	1.8	3.3	4.5	5.3	5.3	3.8	0.7	2.1	3.7	5.0	6.4	6.5	4.1
15-17	0.7	2.1	3.1	4.4	5.3	5.4	3.3	0.8	2.3	3.7	5.1	6.2	6.4	3.4
18-19	0.8	2.2	3.5	4.2	5.3	5.4	3.1	0.8	2.3	3.8	4.8	6.0	6.3	3.1
20+	0.9	2.1	3.5	4.2	4.4	5.1	2.7	0.9	2.4	3.9	4.8	5.3	(6.0)	2.9
All	0.7	2.0	3.2	4.2	5.0	5.3	3.5	0.8	2.3	3.7	4.9	5.9	6.6	3.6

(SOURCE: Table 3.1.4)

Table 6.4 shows current parity by marriage duration (years since first marriage), classified by age at first marriage and whether the first marriage has continued. Women marrying at higher ages tend to have a higher tempo of fertility during the early (5-9) years of marriage. This effect persists at all marriage durations among the minority who first married at ages under 13, but generally this effect disappears for longer marriage durations. This is to be expected, as the late-marrying women are older and, therefore, are becoming less fecund than the younger-marrying members of the same marriage cohort.

At a given marriage duration, the positive association of parity with age at marriage tends to become *weaker* when attention is confined to women continuously in the married state. This is perhaps again due to the association between marriage stability and age at marriage.

6.3 Early marital fertility

In this section, two aspects of early marital fertility—the interval between marriage and first birth and the mean number of births in the first five years of marriage—are considered. Study of the first birth interval in the IFS was complicated by the fact that calendar month of first marriage was not available for two-fifths of the cases. The month of first birth was not available for a similar proportion (but not necessarily the same individual cases). Further, where the calendar date of a marriage was not obtained, the date of marriage was reported in relation to respondent's birth-date (i.e., directly as age at marriage); where the calendar date of a birth was not obtained, the date of birth was reported in relation to the interview (i.e., the number of years ago the birth occurred). Hence, any bias in reporting of the respondent's age is likely to affect the reported length of the

Table 6.5 Of ever-married women classified by marriage cohort and age at first marriage. (A) The cumulative percentage having their first birth by a specified marriage duration, (B) Mean number of births within the first five years of first marriage, (C) Percentage childless after five years of marriage (D) Mean length of the first birth interval for those having a child within first five years of marriage

		Marriage Cohort							
		5-9	10-14	15-19	20-24	25-29	30+	All (5+)	
(A) Per cent having first birth by duration:									
(All ages at first marriage)	0	1	1	2	1	1	1	1	
	1	23	17	19	15	12	7	16	
	2	53	44	43	40	30	22	40	
	3	71	61	61	55	47	36	57	
	4	79	73	70	67	58	46	67	
	5	84	80	77	74	69	54	74	
	Median*	1.9	2.4	2.4	2.7	3.3	4.5	2.6	
		Marriage Cohort							
		5-9	10-14	15-19	20-24	25-29	30+	All (5+)	No. of women
(B) Births within first 5 years									
	<13	0.98	0.91	0.91	0.96	0.85	0.64	0.84	1652
Age at marriage	13-14	1.14	1.32	1.32	1.33	1.16	1.04	1.22	1516
	15-17	1.45	1.38	1.39	1.32	1.13	0.98	1.31	2693
	18-19	1.67	1.53	1.44	1.62	1.37	*	1.53	856
	20+	1.69	1.69	1.64	1.53	1.20	.	1.60	773
	All	1.42	1.34	1.33	1.27	1.09	0.84	1.24	7490
	STAD**	1.33	1.31	1.31	1.28	1.11	.	1.24	—
		(C) % childless after 5 years				(D) First birth interval (months)			
Years since marriage		5-9	10-19	20+	All	5-9	10-19	20+	All
Age at marriage	<13	33	38	50	45	29	30	31	31
	13-14	25	21	28	25	24	26	26	26
	15-17	13	19	27	21	24	24	27	25
	18-19	9	16	19	15	19	22	24	22
	20+	11	13	24	15	18	19	25	20
	All	16	22	33	26	22	25	27	25

(SOURCE: Tables 3.4.1, 3.4.2, 3.5.1)
*Duration in years by which 50% have their first birth, obtained by linear interpolation.
**Standardized for age at marriage using weights proportional to the right most column.

first birth interval*. For these reasons, a very cautious interpretation of the findings is necessary.

To compute the various measures of early marital fertility, missing months were imputed. The procedure used was as follows: a logical range was computed based on the available date, and a random point in the range was taken as the month in which the birth had occurred for the cases with missing months.

The relevant data are summarized in Table 6.5. Overall *one quarter* of the women (first married at least five years ago) were still childless by the fifth anniversary of their first marriage. This proportion increases monotonically from 16 per cent for women married 5-9 years ago to 31 per cent for those married 25-29 years ago, and to 46 per cent for those married 30 or more years ago. The median length of the interval from first marriage to first birth (i.e., the interval after first the marriage by which 50 per cent of the ever-married women have had their first child) increases from 1.9 years for women married 5-9 years ago to 3.3 for those married 25-29 years ago, and to 4.5 for those married 30 or more years ago. This apparent trend towards shorter first birth intervals for younger women is partly related to the decreasing proportion marrying at ages under 15 (see Chapter 4); in part it is perhaps also due to understatement of respondents' current age, or event displacement, or omission of births for the oldest women.

Panel (B) shows the mean number of births within first five years of first marriage classified by age at first marriage (including a negligibly small number of premarital births). For all marriage cohorts except 0-4 duration, the mean number of births is 1.2. The positive relation to age at marriage is apparent for all marriage cohorts. Women marrying after the age of 20 experience twice as many births on average as women marrying before the age of thirteen. Thus the effects on fertility performance of an early start to married life are partially off-set by the effects of adolescent sub-fecundity. A similar relationship with age at first marriage can be observed from Panel (C) which shows the percentage childless after five years of marriage.

The overall difference in early marital fertility between 5-9 to 20-24 cohorts is small, and virtually disappears when standardized on age at first marriage. The difference of approximately 0.2 birth remains for the 25-29 marriage cohort. The mean is substantially lower for women married 30 or more years ago (all of these married at ages under 20, and a majority are currently aged over 44). In view of possible mis-dating of marriages and early births by older women, the safest conclusion to be drawn at this preliminary stage of the analysis is that the tempo of early marital fertility has probably remained unchanged, except for an upward tendency due solely to increasing age at marriage.

Panel (D) shows the mean length (in months) of the interval from marriage to first birth computed for women who had a birth within the first five years. The overall mean length is 25 months, and varies inversely with age at marriage from 31 months for those married before 13 years of age to 20 months for those married at ages 20 and over. For women first married 20 or more years ago, however, this inverse relationship with age at marriage is not observed. This somewhat unexpected pattern for the earliest marriage cohorts is a further indication of the quality of reporting of dates by older women.

Comments on socio-economic differentials in early marital fertility will be made in a following section when the pattern of fertility for women married 10-19 years ago is considered in greater detail.

6.4 Recent and current levels of fertility

Of all the topics considered in this chapter, the current level of fertility is perhaps of most practical importance and relevance. Its importance, in the case of Indonesia, is enhanced by the fact that, as we shall see later, fertility is undergoing rapid change and, therefore, measures based on behaviour of the last 30 years are no longer indicative of the present situation or future prospects. In this section, we consider three measures of recent period fertility, namely the mean number of births in the last five years, the proportion currently pregnant and age-specific fertility rates.

6.4.1 Births in Past Five Years

Table 6.6, Panel (A), shows the mean number of births in the past five years classified by mother's current age. The denominator for the first row is all women (including those never married, estimated from the household schedule); the numerator is the reported births to ever-married women. Since premarital fertility is negligibly small, the figures shown are akin to conventional age-specific fertility rates centered on ages 15, 20, 25.....45 (multiplied by 5), averaged over the past five years. The sum (4.75) for all age groups is approximately the total fertility rate averaged over five years.**

*Data on length of the first birth interval in completed years (and months if available) were also directly obtained, though not used in the present report.

**These five years do not correspond exactly to a 5-year calendar duration due to 2-3 month spread in the dates of interview. For any individual woman the period covered is exactly 5 years prior to the date of her interview.

Table 6.6 Mean number of births in past five years — by (A) Current age, (B) Years since first marriage

	(A) Current Age							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Sum
All women (including never married)	0.21	1.00	1.22	1.02	0.72	0.41	0.17	4.75
Continuously married women	1.36	1.57	1.41	1.16	0.81	0.49	0.22	7.02
	(B) Years since first marriage							
	5-9	10-14	15-19	20-24	25-29	30+	All (5+)	
All ever-married women	1.43	1.20	0.95	0.72	0.37	0.19	0.87	
Continuously married women	1.57	1.33	1.06	0.81	0.43	0.23	0.98	

(SOURCE: Tables 0.1.3, 3.1.7, 3.3.2, 3.6.1, 3.6.4)

The second row in Panel (A) is confined to women continuously in the married state for the past five years. The aim is to obtain a measure which, like a *marital* fertility rate, consists of number of marital births divided by the accumulated interval of marital exposure corresponding to those births. The present measure has a similar logic but any particular women will contribute either for full five years or not at all. The virtue of the measure is that it is easily computed with a minimal review of the individual marriage histories. On the other hand, this measure favours women who married younger (which in the main affects only the first two age groups, 15-19 and 20-24), and women with greater marriage stability.

Comparison of the two rows in Panel (A) indicates the total effect of spinsterhood and marriage dissolution. The sum of rates in the second row for all ages (7.0) is the mean number of births a woman would have from puberty to menopause *if* she was continuously in the married state throughout this period and reproduced at the prevailing rates. It must be stressed that this "total" marital fertility rate is rather an artificial measure since an "average" woman continuously married from the youngest age may not continue child-bearing at the prevailing marital fertility rates. We note, however, that for women currently aged 40-49 who married at ages under 13 and remained continuously in the married state, the mean number of children ever born is 7.3 (see Table 6.3) which is close to the "total" rate (7.0) quoted above.

Panel (B) of Table 6.6 is analagous to panel (A) except that the comparison here is between ever-married and continuously married women, and years since first marriage replaces age. On average, a woman continuously in the married state for the last 5 years has had about one birth during this period, which is just over 10 per cent more than the overall average for all ever-married women first married at least five years ago. This difference corresponds almost exactly to the average proportion of time since first marriage which ever-married women have spent in the married state (see Chapter 4). Moreover, approximately the same level of difference in fertility between all ever-married and continuously married women is observed for any specific marriage cohort (except for slightly larger difference for the earliest cohorts). This again corresponds to the point noted earlier that (again with the exception of the longest marriage durations) the proportion of time spent in the married state varies little by duration since first marriage. A consistent picture of the relationship between nuptiality and fertility is emerging.

6.4.2 Current Pregnancy

The percentage of women reporting a current pregnancy is, in a sense, the most "current" measure of fertility since it actually anticipates the fertility of the next few months. However, as a measure of current fertility the proportion of women currently pregnant is subject to inaccurate reporting due to uncertainty, especially during the first trimester of pregnancy, and to deliberate concealment out of shyness (particularly among older women) or for other reasons. There is also a smaller bias in the opposite direction: some reported pregnancies will terminate in non-live births.

As a measure of current marital fertility, the proportion currently pregnant is computed for currently married women, and is shown in Table 6.7 classified by current age. Overall, 12 per cent of currently married women report a current pregnancy. One in five women aged under 25 are pregnant, and one in seven of those aged 25-34. After this, the proportion rapidly declines with age; under 1 per cent of women aged 45-49 report a current pregnancy. Panel (B) shows distribution of current pregnancies according to the duration of pregnancy. In spite of the possible effect of seasonality, it is obvious that pregnancies of short duration are under-reported. Seventy per cent of all pregnancies are reported as durations of 5 to 9 months. If these indicate the *true* level of current pregnancies, that would imply that on the whole current pregnancies are under-reported by $(1 - 5/(9 \times 0.70)$, i.e., by 25 per cent. This level of under-reporting would imply that around 15 per cent of currently married women are actually pregnant. This percentage of pregnancies at any time implies $(5 \times .15/.75) = 1.0$ live births per married women during five years,* where 0.75 years or 9 months is the average gestation period. This is virtually identical to the mean number of live births during the past five years to women continuously in the married state (see Table 6.6, Panel (B)).** This agreement, in spite of the limitations mentioned earlier, offers some validation of the easily obtained indicator of current fertility based on the percentage reporting current pregnancy. There is also reasonable agreement for individual age groups. When the percentage for age groups is estimated from Table 6.6, it is found that current pregnancies actually reported comprise between 72 and 88 per cent of the estimate for women aged 20-39.

Table 6.7 Current pregnancy:

(A) Percentage of currently married women reporting a current pregnancy — by current age

Age	<20	20-24	25-29	30-34	35-39	40-44	45-49	All
% pregnant	21	19	15	13	7	3	1	12

(B) Per cent distribution of current pregnancies according to the month of pregnancy

Month of pregnancy	1	2	3	4	5	6	7	8-9	All	No. of pregnancies
% distribution		2	8	10	10	11	13	16	30	100	937

(SOURCE: Tables 3.6.5, 3.6.7)

6.4.3 Age-Specific Fertility Rates

An age-specific fertility rate (ASFR) is defined as the ratio of births to an age group in a specified interval of time to the total number of women-years spent in that age group in that interval of time. That is, the births in the numerator are classified according to the age of the mother at the date of childbirth, and the woman-years of exposure in the denominator do not depend on the woman's marital status (conventionally, this ratio is computed per 1,000 woman-years of exposure). The Total Fertility Rate (TFR) is the unweighted sum of ASFR's for all ages in single years and represents the mean number of live births per woman in a life-time of exposure if she bears children at the prevailing (specific to a calendar period) ASFR's.

*This procedure gives only a crude measurement, because it does not take into account the impact of foetal losses.

**Note that Table 6.6 excludes women first married within the past five years. This introduces some approximation into the comparison being made, but its effect should not be too important.

ASFR's will be considered in greater detail in Section 6.6 concerning trends in period fertility and the specialist reader is referred again to the Explanatory Note at the end of this chapter for a preliminary evaluation of the birth history data. However, no discussion of current fertility levels can be complete without a mention of age-specific rates and the figures for 1975, the first full calendar year preceding the survey, are shown below.

Age-Specific Fertility Rates for 1975

	Age Group								
	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Fertility Rates	1	93	239	198	159	82	37	20	4.15

For a "small" sample of under 10,000 women the rates for a single year are subject to appreciable sampling fluctuation but the analogous figures averaged for 1973 to 1975, with their correspondingly greater sampling precision, show a similar pattern and level. Nevertheless, the results may be affected by non-sampling errors, namely omission of births or mis-statement of ages and dates, and the reported rates must be regarded as preliminary at this stage.

Fertility peaks at ages 20-24, reflecting the early pattern of marriage in Indonesia, declines steadily for the next two age groups and falls steeply for age group 35-39 upwards. The total fertility rate of 4.15 contrasts with the reported completed fertility of over 5 births for the older women in the sample. On the basis of this evidence, the current level of fertility, if sustained, implies a 20 per cent decline in completed fertility.

6.5 Differentials in fertility

So far in this chapter we have presented figures for different demographic components of the whole sample. In this section the focus shifts to a consideration of differences in fertility between regional, residential and socio-economic groupings. Indeed, an examination of such differences is one of the aims of the survey and represents a first step towards an understanding of the determinants of fertility. A brief discussion of differentials in completed fertility is followed by a more detailed account for the large cohort of women married 10-19 years ago.

6.5.1 Differentials in Completed Fertility

Table 6.8 shows differentials in completed fertility (parity of women aged 45-49) by background variable. The urban-rural difference is minor. Provincial differences are marked with Jawa Timur at the lower end (mean parity 4.8) and Jakarta at the higher end (6.1). The higher figure for Jakarta which is wholly urban is noteworthy. This implies that in urban areas *other than* Jakarta the mean completed fertility is around 4.6, which is significantly lower than the mean for rural areas (5.3). There are no differences by Husband's Occupation. Women who have worked after marriage have had on the average around one child less than those who have not worked after marriage. The small sample sizes involved prevent investigation by Level of Education except for noting the unusual result that those who have had no schooling report *lower* mean completed fertility (5.0) than those who have attended school (around 6.0)*.

Differences in age at marriage between regional and socio-economic groups are minor for the oldest women in the sample and, therefore, the observed fertility differentials do not simply reflect variations in marital exposure. This assertion is confirmed by the fact that few substantial differences are made after standardization by age at marriage (see Table 6.8). The only means notably affected by this standardization are those for Jakarta, Yogyakarta, and Bali, and for women with husbands in professional, administrative, and clerical occupations. Note that all the figures affected are based on relatively small samples with appreciable sampling variability.

6.5.2 Differentials for Women Married 10-19 Years Ago

To comment in more detail on differentials by background characteristics, we will consider the fertility of women first married 10-19 years ago. It was noted in Chapter 3 that the *average* length of marital exposure within this broad ten-year group is generally similar for different categories of the sample, so that finer control by marriage duration is not necessary for the present purpose.

*This result, however, is not peculiar to the present survey. Similar curvilinear relationship between period fertility rate and education is indicated by the 1971 Census. See "Estimation of Fertility and Mortality in Indonesia", 1971 Census Report SP76-L02, CBS, January 1976.

Table 6.8 Mean number of children ever born to ever-married women aged 45-49 — by background variable

	All Jawa-Bali	Type of place		Province					
		Urban	Rural	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali
Mean	5.2	5.1	5.3	6.1	5.3	5.6	5.5	4.8	5.6
SE*	(.10)	(.18)	(.13)	(.28)	(.24)	(.20)	(.28)	(.20)	(.40)
Stand**	5.2	5.2	5.2	6.5	5.1	5.6	6.1	4.8	5.1

	Level of Education				Husband's Occupation				Pattern of Work			
	No School	Primary Incompl.	Primary Completed	Junior High +	Prof. Clerical	Sales Services	Manual	Farming	Before & After	Only After	Only Before	Never Worked
Mean	5.0	6.0	(5.9)	(4.3)	5.3	5.1	5.3	5.3	5.3	4.7	6.0	6.0
SE	(.12)	(.24)	(.40)	(.50)	(.28)	(.24)	(.24)	(.13)	(.15)	(.18)	(.40)	(.28)
Stand	5.0	5.9	(6.2)	—	5.7	5.0	5.3	5.2	5.3	4.6	5.9	6.0

(SOURCE: Table 3.1.5)
*(Estimated) standard error
**Standardized on age at first marriage

Table 6.9 Pattern of fertility of women first married 10-19 years ago: (A) Births in first five years of first marriage, (B) Births in past five years and (C) Mean number of children ever born — by age at marriage and whether continuously in the married state

	(A) Early fertility: births in first 5 years				(B) Recent fertility: births in past 5 years		(C) Cumulative fertility: mean number of children ever born							
							All ever-married				Continuously married			
	Age at marriage:				All ever-married	Continuously married for 5 years	Age at marriage:				Age at marriage:			
	All	<15	15-19	20+			All	<15	15-19	20+	All	<15	15-19	20+
All Jawa-Bali	1.3	1.1	1.3	1.7	1.08	1.20	3.7	3.6	3.8	3.8	4.3	4.1	4.3	4.3
Type of Place														
Urban	1.6	1.2	1.6	1.9	1.04	1.17	4.0	3.8	4.2	3.8	4.5	4.5	4.8	4.2
Rural	1.3	1.1	1.4	1.6	1.09	1.20	3.7	3.6	3.7	3.9	4.2	4.1	4.2	4.4
Province														
Jakarta	1.8	1.4	1.8	2.1	1.10	1.18	4.2	3.8	4.6	4.0	4.7	(4.7)	5.1	4.2
Jawa Barat	1.3	1.1	1.4	1.7	1.19	1.32	3.9	3.6	4.0	4.0	4.6	4.3	4.9	4.7
Jawa Tengah	1.3	1.0	1.4	1.7	1.16	1.26	3.9	3.6	3.9	4.3	4.3	4.1	4.3	4.7
Yogyakarta	1.2	(0.9)	1.2	1.4	0.95	1.06	3.4	(3.4)	3.5	3.2	3.9	*	3.9	3.8
Jawa Timur	1.3	1.1	1.3	1.5	0.94	1.06	3.3	3.5	3.2	3.3	3.9	4.0	3.8	3.9
Bali	1.9	(16)	2.0	1.8	0.99	1.07	4.4	(4.6)	4.6	4.0	4.5	(4.8)	4.7	3.9
Level of Education														
No Schooling	1.3	1.2	1.3	1.4	1.01	1.16	3.6	3.7	3.5	3.7	4.2	4.2	4.1	4.2
Primary Incomp.	1.2	1.1	1.3	1.4	1.13	1.24	3.6	3.4	3.8	3.6	4.2	4.0	4.4	4.1
Primary Completed	1.6	1.2	1.7	(2.1)	1.25	1.33	4.1	3.9	4.3	(4.1)	4.6	4.3	4.7	(5.0)
Junior High	2.0	*	(2.0)	(2.2)	0.95	1.00	4.2	*	(3.9)	(4.5)	4.3	*	(4.1)	(4.6)
Junior High +	2.2	—	(2.1)	2.2	0.71	0.77	4.4	—	(4.8)	4.3	4.5	—	*	4.4
Husband's Occupation														
Prof., Clerical	1.7	1.2	1.9	2.0	1.02	1.08	4.1	4.0	4.3	3.8	4.5	(4.5)	4.6	4.3
Sales, Services	1.4	1.1	1.4	1.8	1.20	1.37	3.9	3.6	4.1	3.9	4.7	4.6	4.8	4.6
Manual	1.5	1.2	1.5	1.8	1.06	1.22	3.8	3.6	4.0	4.2	4.4	4.1	4.6	(4.3)
Farming	1.2	1.1	1.3	1.4	1.06	1.16	3.5	3.5	3.5	3.7	4.0	4.0	4.0	4.2
Pattern of Work														
Before & After	1.3	1.1	1.2	1.7	1.01	1.10	3.6	3.6	3.4	3.9	4.1	4.1	4.0	4.4
Only After	1.3	1.0	1.4	1.5	0.96	1.11	3.4	3.2	3.5	3.4	4.0	3.9	4.1	4.1
Only Before	1.4	(1.0)	1.5	(1.9)	1.40	1.42	4.1	(4.0)	4.1	(4.2)	4.5	*	(4.6)	(4.2)
Never Worked	1.5	1.3	1.7	1.7	1.29	1.39	4.3	4.0	4.5	4.0	4.7	4.3	5.0	4.5

(SOURCE: Tables 3.1.7, 3.5.2, 3.6.7)

To illustrate the pattern of fertility, we will consider simultaneously the following measures: early marital fertility (births within first five years of first marriage) by age at marriage; recent fertility (births in the past five years) by whether continuously in the married state; and current parity (i.e., cumulative fertility or mean number of children ever born) by age at first marriage and marital continuity. These measures for women first married 10-19 years ago classified by background variable are summarized in Table 6.9.

On the average, women married 10-19 years ago have been married for just under 15 years, and are aged just over 30.* They have had an average of 3.7 children ever born, which is only slightly higher than the average (3.5) for the whole sample of ever-married women. In terms of duration of exposure they are approximately in the *middle* of their child-bearing period. In terms of achieved fertility, they have reached around 70 per cent of completed fertility of the oldest women, though in view of the recent decline in fertility (see below) they have reached perhaps a higher proportion of their own future "completed" fertility. Hence, these women would appear as a prime target for a family planning programme.

For all women married 10-19 years ago in Jawa and Bali, the mean number of children born within the first five years of marriage is 1.3. Mean parity after just under 15 years is 3.7, i.e., almost exactly three times this figure, implying on the average the same rate of child-bearing for 15 years. On the other hand, the mean for the last five years is lower (1.08), suggesting a higher rate of child-bearing in the second five years after marriage, i.e., during the period when a majority of these women were aged 20-29.

During the first five years of marriage, urban women had on the average 1.6 children, i.e., 0.3 more than their rural counterparts. This level of difference is maintained after 15 years (urban and rural mean parity being, respectively, 4.0 and 3.7). On the other hand, urban-rural differences in recent fertility are minor.

Regarding regional differentials, women in Jakarta and Bali are characterized by above average fertility rates in the first years of marriage and these differences are reflected after 15 years of marriage. Higher fertility in Jawa Barat and Jawa Tengah compared to Yogyakarta and Jawa Timur appear to emerge only after the first years of marriage. The mean number of births in the past five years is the highest among all provinces in Jawa Barat (1.19) and the lowest in Jawa Timur (0.94).

*Distribution of these women by age is as follows: 8% are aged 20-24, 36% aged 25-29, 39% aged 30-34 (i.e., 75% are aged 25-34), 15% aged 35-39, and 3% aged over 39 (see Table 1.1.4, Vol. II).

If urban areas *other than Jakarta* are considered, urban-rural differentials in early marital and cumulative fertility are somewhat smaller than the total (including Jakarta) urban-rural differentials—though in the same direction, namely higher urban fertility at a given marriage duration. On the other hand, recent fertility in urban areas outside Jakarta turns out to be slightly lower than recent fertility in rural areas.

Differentials by Level of Education are pronounced and consistent with previous findings for Indonesia. Women who have completed at least primary school have significantly higher fertility early in marriage, and these differentials are partly reflected in their current parity. On the other hand, for women in the two highest educational categories these differentials are *reversed* when recent fertility is considered. The same pattern is found for women with husbands in professional, administrative, and clerical occupations. Those in farming are characterized by lower fertility throughout.

Women who have *not* worked after marriage have a higher level of current fertility as well as a higher mean number of children ever born. Differentials in early marital fertility are relatively minor.

Socio-economic differentials in early marital fertility persist when age at marriage is controlled, except for relatively little difference among those marrying at ages under 15—whose fertility in all categories is substantially lower than that of late marrying women.

Generally speaking, recent as well as cumulative fertility of continuously married women* is 10-15 per cent higher than all ever-married women. None of the differentials discussed earlier are reversed when attention is confined to women continuously in the married state. The magnitude of the differentials is affected, though not in all cases. The pattern may be summarized as follows. For variables for which categories with *lower* fertility have greater marriage stability, differentials tend to become somewhat more marked when continuously married women are considered (for example, recent fertility by Level of Education, Husband's Occupation, and Pattern of Work); for variables for which categories with *higher* fertility also have greater marriage stability, differentials tend to become somewhat less marked (for example, cumulative fertility by Province, Level of Education and Husband's Occupation).

6.6 Trends in age-specific fertility rates

In this section, extensive use is made of the birth history data to compute age-specific rates for different time periods and thus obtain an indication of trends. The computation involves two steps: first, all births recorded in birth histories are classified by calendar year of occurrence and by age of mother at the time of birth; second, the person-years lived by all women, regardless of marital status are calculated by single years of age for each calendar year using the data for women ever-married and then adjusting the total to take into account never-married women.**

Because fertility information was elicited only for women aged under 50 years, the further we go back in time from the date of interview, the less complete the age-specific fertility schedule becomes. For example, it is impossible to estimate the fertility more than five years prior to the survey of women then aged 45-49. In estimating the total fertility rates for the 15 years (1961-1975) preceding the survey, older women in the earlier years were asigned the rates at those ages prevailing for the immediately following years for which data were available. In the case of unchanging fertility of older women, this approximation is of no consequence; when fertility is declining it is likely to underestimate somewhat the magnitude of decline in the TFR.

The rates are subject to error due to possible understatement of the number of births and mis-reporting of birth dates. Further, in view of the relatively small sample sizes involved, sampling error particularly for single year rates are large. Hence, the rates shown in Table 6.10 are computed as three-year moving averages.

The age-specific fertility rates presented here should be considered as preliminary, pending a more thorough appraisal of the quality of the birth history data on which they are based. Though some doubt has been cast

*Note that in considering recent fertility, we are concerned with women continuously in the married state for the past five years, irrespective of whether they underwent a marriage dissolution in an earlier period. In relation to cumulative fertility, on the other hand, attention is confined to women continuously in the married state since first marriage.

**Actually, in view of the fact that the month of respondent's birth was not obtained in a large proportion of the cases, a simplification was introduced in calculating woman-years of exposure: it was assumed that women born in a particular calendar year were on the average born at the middle of the year.

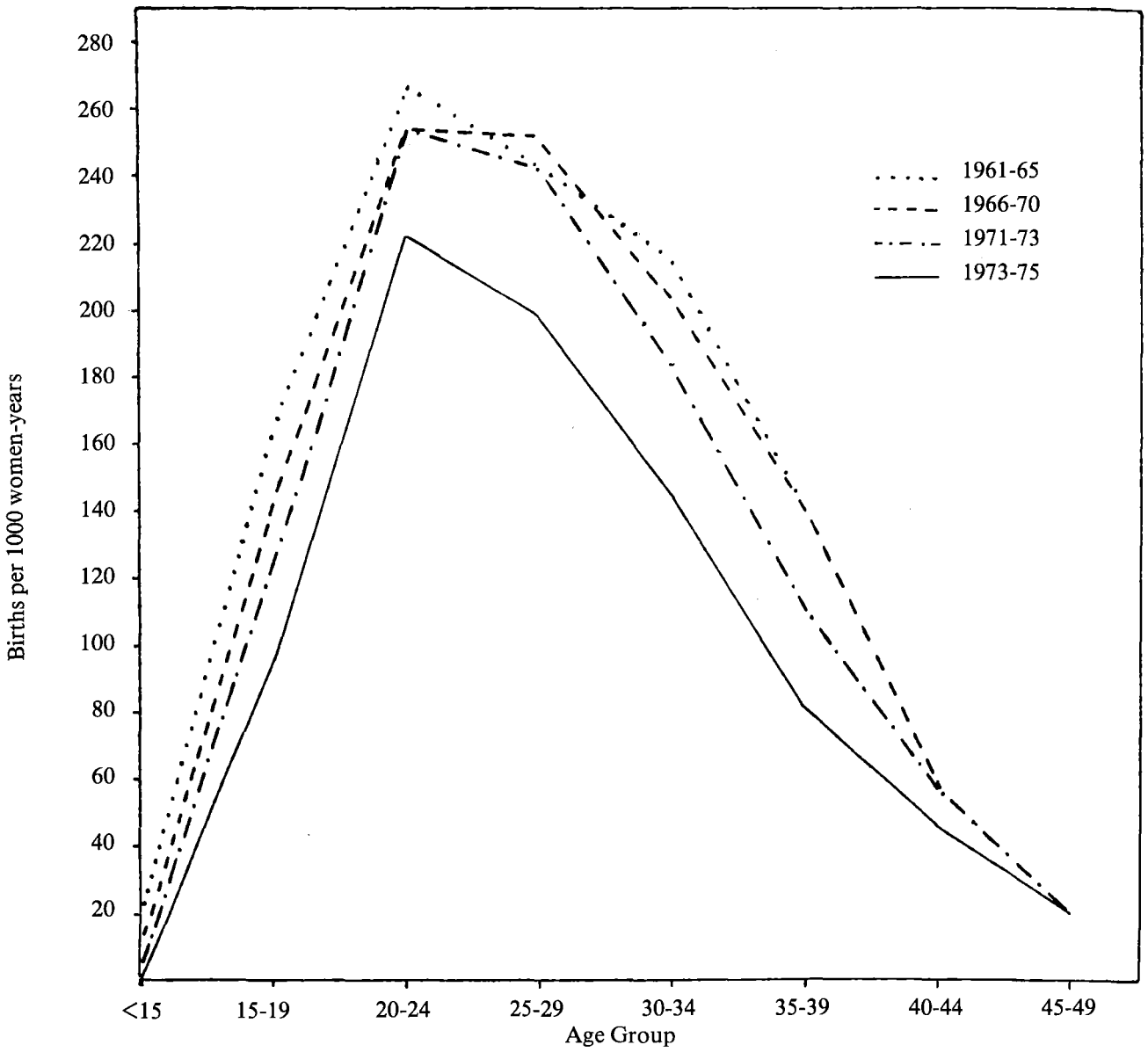
Table 6.10 Age specific fertility rates for all Jawa-Bali

	Calendar Year											Average		
	1975[1]	1974[2]	1973	1972	1971	1970	1969	1968	1966-67	1964-65	1962-63	1971-75	1966-70	1961-65
Age group														
10-14	001	001	002	004	006	008	010	012	013	018	012	002	011	020
15-19	093	092	101	122	133	141	146	150	142	153	162	103	141	164
20-24	239	222	227	254	262	258	253	257	263	266	260	238	254	266
25-29	198	198	211	242	250	258	256	259	250	244	236	221	251	242
30-34	159	145	159	184	202	202	200	202	214	220	204	168	204	214
35-39	082	082	092	112	126	139	137	139	138	140	140	108	140	140
40-44	037	046	051	059	063	(060)	(060)	(060)	(060)	(060)	(060)	051	(060)	(060)
45-49	020	(020)[4]	(020)	(020)	(020)	(020)	(020)	(020)	(020)	(020)	(020)	(020)	(020)	(020)
TFR[3]	4.15	4.04	4.32	4.98	5.31	5.43	5.43	5.50	5.50	5.61	5.52	4.56	5.41	5.63

(SOURCE: Tables 0.1.3, 3.3.4, 3.3.5)

Notes: [1] Based on data for a single calendar year.
[2] Three year moving average centred on the specified year from 1974 to 1962.
[3] Total fertility rate.
[4] Values in brackets are assumed on the basis of preceding values.

Figure 6.1 Age-Specific Fertility Rates 1961-1974 for All Jawa-Bali



on the reported fertility pattern of women currently aged 45-49, no adjustments for possible bias have been made here.

Table 6.10 shows that the Total Fertility Rate for Jawa and Bali has remained constant at around 5.5 throughout the 1960s. At the end of the decade a slow decline started and by 1972, the TFR had come down to around 5.0. After this the decline in fertility appears to have accelerated greatly and by 1974-1975 the TFR was apparently approaching 4.0. It is noteworthy that this decline coincides with the remarkable expansion of the family planning programme noted in Chapter 5. These figures represent a decline of around 25 per cent since the late 1960s (i.e., an average rate of 4-5 per cent a year); since 1972, the evidence suggests a decline of 20 per cent within a short duration of under 3 years.

The near constancy in the observed TFR's for nearly ten years following 1961 gives a measure of confidence in the quality of the data. The value (5.5) is almost exactly the same as would be obtained from the reported number of children ever born (5.3) to women currently aged 40-44, once allowance is made for the future fertility of these women at the prevailing rates. Figure 6.1 shows the ASFR's for 1961-1974. The curves for 1961-65 and 1966-70 are remarkably similar. More recent data show a rapidly accelerating decline which appears to affect almost all age groups in a uniform way without substantially affecting the *shape* of the fertility schedule. This is consistent with the observation made in Chapter 5 that the recent increase in levels of contraceptive use is not confined to any particular age group but involves women at all child-bearing ages.

Table 6.11 and Figure 6.2 show the TFR for all Jawa and Bali (which is around 82 per cent rural) compared to the TFR's for (a) all urban areas, and (b) each of the three larger provinces in Jawa, namely Jawa Barat, Jawa Tengah, and Jawa Timur.*

The general pattern is the same for each segment of the sample considered: near constancy during the 1960s, followed by a rapid decline. We note that the urban-rural differentials have always been rather minor. Pronounced regional differences in levels of fertility of the three provinces have persisted; from highest to lowest fertility level the ordering is always the same: Jawa Barat, Jawa Tengah, and Jawa Timur.

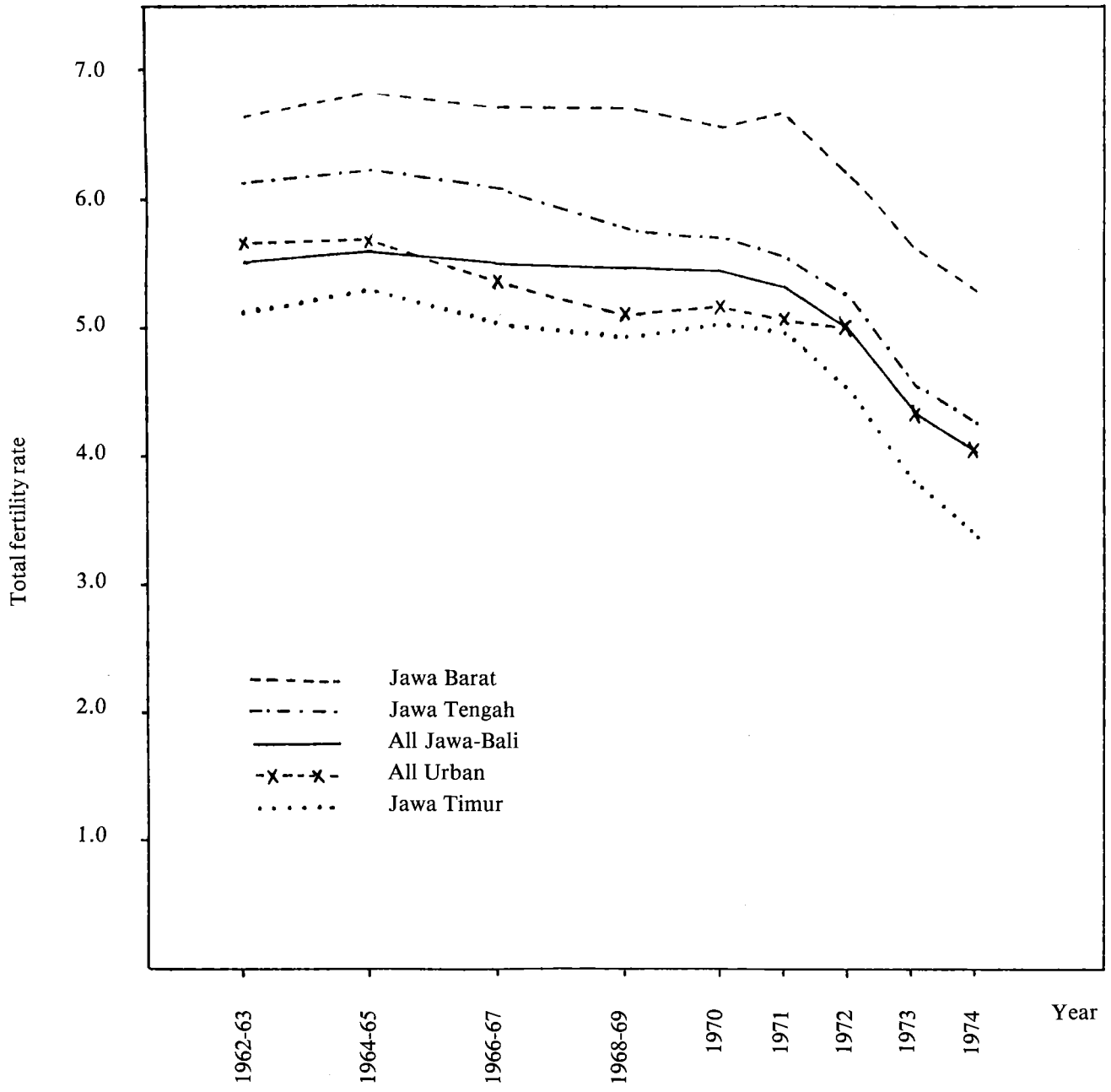
*Detailed tabulations in Vol. II provide the required information to make similar computations for the remaining provinces. Due to the relatively small samples for those provinces, a greater degree of aggregation will be desirable.

Table 6.11 Total fertility rates for the urban sector and for the three largest provinces

	1974	1973	1972	1971	1970	1968-69	1966-67	1964-65	1962-63
All Jawa-Bali	4.04	4.32	4.98	5.31	5.43	5.47	5.50	5.61	5.52
All Urban	4.00	4.32	4.98	5.08	5.17	5.10	5.36	5.63	5.66
Province									
Jawa Barat	5.29	5.62	6.17	6.65	6.56	6.70	6.70	6.82	6.65
Jawa Tengah	4.26	4.57	5.24	5.54	5.70	5.77	6.07	6.23	6.12
Jawa Timur	3.36	3.81	4.53	4.97	5.06	4.92	5.02	5.30	5.12

(SOURCE Tables 0.1.3, 3.3.4, 3.3.5)

Figure 6.2 Total Fertility Rates 1962-1974 (Three-Year Moving Averages)—For Jawa-Bali, All Urban, and the Three Largest Provinces



6.7 Birth intervals and contraceptive use

This section is confined to brief comments on the last closed and the open birth intervals in relation to contraceptive use in those intervals. The last closed birth interval refers to the interval between the last two births for women currently not pregnant, and to the interval between the last birth and expected date of termination of current pregnancy for currently pregnant women. This interval is defined for 6519 women (71.4 per cent of the sample) who have had at least two live births, including any current pregnancy. The open birth interval is defined only for non-pregnant women and refers to the interval between the last birth and the date of interview. In the present context only the open birth interval for 5024 exposed women (excluding a handful of sterilized women) with at least one live birth is considered.

Despite widespread interest in the exact role of contraception in reducing fertility, a detailed treatment is not attempted here. Only a brief discussion will be presented.

In computing the mean length of the last closed interval, intervals longer than 5 years were excluded. This is to ensure that the mean is not unduly affected by excessively long intervals. Long intervals can be obtained for subfecund women or women who experienced long periods of non-exposure due to marriage dissolution. In all, 1003 women out of 6519 women who have had a closed birth interval were excluded.

The overall mean length of the last closed birth interval is 31.9 months and is remarkably stable by woman's current age: it is 29.8 months for women aged under 25; 32.0 months for those aged 25-34; 32.9 months for 35-44; and 32.3 for women currently aged 45-49. (See Table 3.7.6, Vol. II.)

The study of contraceptive efficacy, i.e., the effect of contraceptive use on length of the closed interval, is complicated by the possibility of under-reporting of contraceptive use in the closed interval and also by the possibility of selection bias, in that women with otherwise longer intervals have a higher chance of using contraception.* The first bias would diminish the effect being investigated and the second, if present, would tend to exaggerate it. The mean length of the interval is 3 to 4 months longer for those who report use of a modern method than for those who did not use contraception.** The difference between those who used only a traditional or folk method and non-users is minor. (The figures for modern, traditional, and non-users are 35.1, 32.5 and 31.5 respectively; see Table 3.7.6, Vol. II.) Controlling the length of breast-feeding, which itself might affect interval length, does not affect these small differences.

The efficacy of contraceptive use in the open interval, i.e., the effect of contraception on the length of the interval, cannot be studied simply by comparing the mean length for those who have used contraception with those who have not. This is because use of contraception can itself be *selective* by length of the interval. For example, if generally contraceptive use is initiated after a substantial lapse following a birth, non-users are selectively those with shorter intervals irrespective of efficacy of use itself. This bias may give a misleading impression that the interval is being lengthened by contraceptive use. An opposite selection bias can exist for older women: to the extent that highly fecund women tend to be more prone to contraceptive use, the never users include an excess of older and possibly subfecund women with long birth intervals. This bias is reduced here by excluding women who believe themselves to be infecund. It can be eliminated more comprehensively by controlling age at parity, a degree of control not attempted here.

The data shown in Table 6.12 illustrate these points. The mean length of the open interval for women aged under 25 is 22.7 months for those who are currently contracepting*** and 14.5 months for those who have not used any method during the interval. However, while only 32 per cent of the users have had a birth within the past year, as many as 61 per cent of the non-users have had one.

For older women, the relationship is reversed: among women aged 35-44, the users have a mean length of 57.2 months, and non-users 79.9 months. However, while 37 per cent of the current users have not had a birth within the past five years, this figure is 47 per cent for the non-users. This bias is particularly strong in the present case due to the very recent spread in the use of contraception. Women (theoretically exposed) who did not have a child for some time before contraceptive methods became widely available perhaps continue to remain non-users.

The last column in Table 6.12 shows the mean length of the open interval recomputed after excluding women who had a birth within the past year as well as those who *did not* have a birth during the past five years. This exclusion should substantially reduce the selection biases mentioned above, but tends to reduce data on the open intervals to a form similar to that for the closed interval, resulting in the loss of an opportunity to study contraceptive efficacy for termination of child-bearing, as opposed to efficacy for spacing purposes. For this sub-sample, the difference between users and non-users is more or less constant among various age groups, the mean interval for users being 3 to 4 months (i.e., by around 10 per cent) longer than the mean for non-users. These results are practically identical to those for the last closed interval considered above. In the absence of information concerning the timing and duration of contraceptive use, it is doubtful whether a precise estimate of the effect of contraception on fertility of individual couples can be obtained from the survey. But the results above indicate that the use of modern contraception is associated with a lengthening of birth intervals; the precise magnitude of the effect, however, has not been assessed in the report.

6.8 Infant and child mortality

The question of levels, trends, and differentials in infant and child mortality in Indonesia is particularly important, in view of the relatively high rates which are believed to have hitherto prevailed.

*Another basic limitation of the present data is that only just over one in ten women report use in the last closed interval. Apart from possible under-reporting, this low proportion is probably due to the extreme recency of the spread of contraceptive practice.

**Standard error of the difference is 1.3 months. The observed difference is, therefore, statistically significant.

***Only a small minority report earlier use during the open interval but not current use.

Table 6.12 Per cent distribution of exposed women according to length of open interval — by contraceptive use in the interval and current age

Current Age		Per cent distribution by open interval in months								Mean Length	No. of Women	App. Mean 12-59**
		<12	12-23	24-35	36-47	48-59	12-59	60+	All			
25	(A)*	32	33	16	9	6	64	4	100	22.7	491	27.8
	(B)	(22)	(33)	(19)	(4)	(19)	(75)	(3)	100	(26.6)	43	31.2
	(C)	61	22	8	3	2	35	4	100	14.5	912	24.7
	All	50	26	11	5	4	46	4	100	17.6	1447	26.4
25-34	(A)	18	22	19	15	11	67	15	100	35.8	859	32.5
	(B)	19	13	19	10	15	57	24	100	43.2	133	35.5
	(C)	37	18	13	6	5	42	21	100	39.9	983	29.1
	All	27	20	16	10	8	54	19	100	38.3	1975	31.4
35-44	(A)	9	12	15	15	12	54	37	100	57.2	599	36.2
	(B)	4	7	16	13	10	46	50	100	78.6	87	37.1
	(C)	17	13	10	8	5	36	47	100	79.9	690	31.7
	All	13	12	13	11	8	44	43	100	69.9	1376	34.4

(SOURCE: Table 3.7.1)
*(A): Currently using; (B): Used earlier in interval but not currently using; (C): Did not use in open interval.
**Approximate values obtained from grouped data, confined to exposed women who had their last birth 12 to 59 months ago.

There are also other more general reasons for the study of mortality. Within any population, a relatively high rate of mortality prevails during the first years of life. The infant mortality rate (deaths within the first year of life per 1,000 births) is a sensitive indicator of the health conditions enjoyed by a community, and the levels of child mortality are generally associated with mortality levels at older ages. Finally, it is useful to know—in broad outline at least—the impact of child mortality on family size in order to place findings on fertility preference and behaviour in their proper context.

This section begins with a description of the incidence of child deaths and its impact on family size. Next, proportions dying classified by age at death, calendar period of birth and mother's age cohort are considered to obtain direct estimates of infant and child mortality rates. Some idea regarding trends in these rates is also obtained. Data on proportions of children deceased by current age of the mother (given in Vol. II) have also been used to obtain indirect estimates of mortality levels.

6.8.1 Incidence of Dead Children

Comparison of the number of living children with the number of live births provides insight into survivorship. Though the tables in this sub-section are purely descriptive presentations of the experience of child deaths, they do highlight the relatively high levels of mortality which have prevailed in Jawa and Bali. From Table 6.13 it can be seen that a large proportion of women have experienced a child loss. As expected, the number of losses is positively correlated with parity, that is, the number of children ever born.

On the average a woman has 2.8 living children out of 3.5 ever born, representing an average loss of 0.7 children per woman, or 20 per cent of all live births.

Panel (A) of Table 6.13 shows the percentage of women who have lost at least one child, classified by parity and woman's current age. Nearly half of the women with 4 children ever born and four-fifths of those with 8 children ever born have experienced one or more child deaths. Except for women of low parity (say, up to two or three children ever born), and for youngest women of relatively high parity, the percentage experiencing child deaths varies little by age, notwithstanding the extended risk of death by the children of older women. For obvious reasons, this percentage is positively associated with parity in a pronounced way.

Panel (B) of Table 6.13 shows the percentage of children who have died, classified by mother's parity and current age. The pattern is similar to the previous panel, with the association with parity attenuated. Overall, one in five children have died; for women who have had 5 or more births, one in four of their children have died.

Table 6.13 Experience of child deaths — by current age and parity

(A) Percentage of ever-married women who have lost at least one child by death:

	Parity (Number of children ever born)								
	1	2	3	4	5	6	7	8	All †
Current Age									
All	**11**	**24**	**37**	**47**	**55**	**61**	**72**	**82**	**39**
<25	7	25	47	62	(75)	*	*	*	**22**
25-34	10	19	31	46	58	63	77	94	**39**
35-44	18	25	37	41	51	57	70	78	**48**
45-49	30	47	39	49	53	69	71	81	**56**

(B) Percentage of children ever born who have died:

	Parity (Number of children ever born)								
	1	2	3	4	5	6	7	8	All †
Current Age									
All	**11**	**14**	**16**	**16**	**18**	**19**	**23**	**25**	**20**
<25	7	13	19	22	(25)	*	*	*	**15**
25-34	10	11	13	16	18	19	24	30	**18**
35-44	18	16	17	14	16	17	21	23	**21**
45-49	30	26	17	19	18	25	23	24	**27**

(C) Percentage distribution of women aged 25-34 according to child losses:

	Parity (Number of children ever born)								
	1	2	3	4	5	6	7	8	All †
No. of Child Deaths									
0	90	81	69	54	42	37	23	6	**59**
1	10	16	23	34	37	30	24	27	**24**
2	.	3	7	9	14	17	27	23	**9††**
3+	.	.	1	3	7	16	26	44	**8††**
All	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Currently Alive	0.9	1.8	2.6	3.4	4.1	4.9	5.3	5.6	**2.9**

(SOURCE: Table 3.2.2)
†'All' based on parities 1-8 for panels (A) and (C); it includes parities 9+ in panel (B).
††Each of these figures is around 10% if the denominator excludes, respectively, women with fewer than two and women with fewer than three children ever born.

Panel (C) shows the distribution of women aged 25-34 according to the number of child losses, classified by parity. We have focussed on women aged 25-34 as this provided a more homogeneous group, most of whose child births and, therefore, child deaths occurred during the past ten to fifteen years. The proportion who have *not* experienced any child loss declines rapidly with parity from 90 per cent for those with one birth, to 23 per cent for those with 7 births, and to only 6 per cent for those with 8 births. Two-fifths of mothers aged 25-34 have lost at least one child; one in four have experienced exactly one child death. Of those who have had more than two births, one in ten have lost exactly two children; among those who have had at least three births, one in ten have lost exactly three children.

The above descriptive account illustrates that experience of child death is widespread, and is almost universal among older women of high parity.

6.8.2 Direct and Indirect Estimates of Infant Mortality Rates

Preliminary estimation of recent levels of infant mortality have been obtained from the information relating to births in the five years immediately preceding the survey. Figures for five years have been aggregated to reduce sampling errors; the period covered is 12 to 71 months prior to the survey (i.e., approximately mid-1970 to mid-1975), so that the exposure to risk of death within the first year of life is the same for all births considered. For Jawa and Bali the infant mortality rate is 91 per 1,000.* There is a danger of underestimation due to the possibility of omission of infant deaths. There is an added reason for expecting a downward bias in this figure: all deaths reported as occurring at "one year" of age have been excluded from the rate since, in principle, the age at death is reported in *completed* years and months. However, due to the probable tendency among respondents to heap deaths at ages such as "one year", this procedure may have resulted in the exclusion of some deaths which actually occurred within the first year of life.**

These suspicions are strengthened by the results of an indirect estimate of the recent level of infant mortality, which is not sensitive to mis-reporting of age at death. Brass*** (1968, 1975) developed a method to estimate the infant and child mortality from the data on child survivorship. The method assumes that the proportion of children surviving or dead is correctly reported by younger women. These proportions dead, when classified by age of women, can be converted into probability of dying or surviving from birth to age x. This is achieved by a set of multiplying factors designed to take into account the variations among populations in the age pattern of fertility.

Table 6.14 shows the infant and child mortality estimated by the Brass's technique. The estimated l_x values are rather inconsistent, for instance, survivorship to age 3 (.850) derived from the data for the 25-29 age group of women is higher than survivorship to age 2 (.847), based on the 20-24 age group. In order to reduce the fluctuations of the estimated l_x, we have graduated the values by the Brass logit system. The infant mortality estimated from the logit system and the Coale-Demeny model life tables are 116 and 121 respectively, and are higher than the direct estimate (91). It must be mentioned that the methods assume that fertility and mortality have remained unchanged during the past. Neither of these assumptions is justified in the case of Indonesia, but it is unlikely that the mortality estimates based on the experience of the last few years will be seriously affected.

6.8.3 Trends and Differentials in Child Mortality

It would perhaps be unwise to attempt to measure the historical trend in infant mortality on the basis of retrospective birth histories which are probably subject to recall-lapse particularly in relation to infant deaths occurring a long time ago. Nevertheless, classification of reported deaths by duration before the survey does indicate a substantially higher level of mortality in the past. Furthermore, a more detailed investigation of the pattern of mortality in Section 6.9 below reveals a certain consistency over the last 20 years. While the levels of infant mortality shown in Table 6.15 should be treated with scepticism, there is sufficient evidence to substantiate a declining infant mortality. A similar decline is observed for deaths within the first five years of life.

*Standard error is 5 per thousand, the "95 per cent confidence interval" for the infant mortality rate being 91 ± 10, i.e., 81 to 101.

**The form in which data on age at death have been coded does not permit us to investigate the extent to which heaping at one year biases the computed IMR downwards.

***Brass, W. and Coale, A.J., Methods of Analysis and Estimation, in: Brass, W. (ed.), The Demography of Tropical Africa, Princeton (Princeton University Press), 1968, pp. 88-150.
Brass, W., Methods for Estimating Fertility and Mortality from Limited and Defective Data, Chapel Hill, N.C. (University of North Carolina), 1975, pp. 50-59.

Table 6.14 Estimation of infant and child mortality — by Brass's Technique

Age of women at the survey	Average children ever born per woman P_i	Proportion of children dead D_i	Exact age of children x	Estimated* l_x	Graduated** l_x	Infant mortality estimated by logit system	Infant mortality as implied by fitted l_2 in the West model life table
15-19	.215	.133	1	.871	.884	116	121
20-24	1.349	.152	2	.847	.850		
25-29	2.703	.151	3	.850	.833		
30-34	3.954	.198	5	.802	.818		
35-39	4.718	.197	10	.801	.802		
40-44	5.286	.218	15	.785	.770		

(SOURCE: Tables 0.1.3, 3.2.3)
*The reported proportion of children dead were translated into life table functions by the Brass multiplying factors. The multiplying factors were chosen on the basis of the parameter P_2/P_3.
**Graduated by the Brass Logit Transformation System.

Table 6.15 Infant and child mortality rates — by period of occurrence

Completed years since birth	Deaths within first year per 1000 live births	Deaths within first five years per 1000 live births
1- 4	93	—
5- 9	99	158
10-19	120	206
20+	172	281
All[1]	118	206

(SOURCE: Table 3.8.5)
[1]Restricted to births occurring at least one year ago for deaths within first year or to births occurring at least 5 years ago for deaths within first 5 years.

It is premature at this stage to investigate differentials in infant and child mortality in detail. The main reason for this is the possibility of differential under-reporting among various categories of the sample. The relatively small sample sizes involved present another difficulty.

As a first step, Table 6.16 displays reported deaths classified by Type of Place of Residence and Province. Considering first all births reported in the survey, irrespective of period of occurrence, the percentage dying within the first two years is 12 per cent in urban areas, and 16 per cent in rural areas. These figures indicate a fairly pronounced urban-rural differential in child mortality, which contrasts with the minor differential in fertility noted earlier. A similar level of difference exists between Jakarta and Yogyakarta (12%) on the one hand, and the three largest provinces in Jawa, and Bali on the other (around 16%).

Row (A) of Table 6.16 shows infant mortality rates (average mid-1970 to mid-1975), along with approximate standard errors. Though differentials by Province appear pronounced, the figures are not conclusive due to sampling variability.* The urban-rural difference is marked; infant mortality rate for urban areas is estimated as 62 per 1,000 births, and for rural areas as 97 per 1,000 births. The estimates are subject to large sampling and non-sampling errors.**

6.9 Explanatory note: cohort analysis of fertility trends and preliminary evaluation of birth history data

6.9.1 Introduction

In previous sections of this chapter, trends in period age-specific rates and cohort analysis of births in the first five years of marriage have been discussed, alongside other aspects of fertility. In this note, the cohort approach is extended to provide further measures of fertility change based on birth histories. Both birth and marriage cohorts will be examined. The investigation proceeds simultaneously with preliminary evaluation of the quality of birth history data; it depends upon that evaluation and at the same time provides the means for the evaluation.

The decision to place this material in a special "Explanatory Note" has been influenced by several factors. First, the material presented here does not alter any of the findings presented earlier; rather it presents an alternative and demographically more refined approach to the same phenomena. Second, some of the presentations will be unfamiliar to the general reader and, third, the methodological content will be of interest mainly to more specialized students of demography.

6.9.2 Dates in the Birth History

The most obvious problem in investigation of the timing of fertility is the lack of complete information on dates in the birth history. Ideally, these consist of the calendar year and month of each birth. At the worst we may have cases where no information at all, in whatever form, on the date of a birth is available. The latter situation was very rare in the IFS: only 30 odd births out of a total of over 30,000 were completely undated, and these came from only four birth histories. Dates in the IFS birth histories were obtained in the following form:

1) Calendar year of birth—asked for all births, and obtained for around 60 per cent of the births (unweighted figures).
2) Where the calendar year was not available, child's current age in completed years and months (or duration since birth occurred) was asked. Age in years was given by all except 0.1 per cent of the cases where calendar year was not available; age in months, however, could be supplied in only 20 per cent of these cases.
3) In either case (i.e., whether or not the calendar year was given), the calendar month was asked and obtained for just over 60 per cent of the births. In fact, the calendar month was stated in a slightly larger proportion of the cases than the calendar year of birth.

*Standard error of the difference between two provinces is generally of the order of 15 per 1,000 births.
**However, the urban-rural differences 97-62 = 35 is statistically significant; standard error for the difference being 10 per 1,000 births.

Table 6.16 (A) Average mid-1970—mid-1975 infant mortality rates, (B) Percentage of all children reported in survey who died before two years of age — by type of place of residence and province

	All Jawa-Bali	Type of place		Province					
		Urban	Rural	Jakarta	Jawa-Barat	Jawa-Tengah	Yogyakarta	Jawa-Timur	Bali
(A) IMR 1970-75*	91	62	97	62	104	78	76	96	110
SE**	(5)	(7)	(6)	(10)	(10)	(10)	(15)	(10)	(15)
(B) % Dying before age two***	16	12	16	12	16	15	12	16	16

(SOURCE: Tables 3.8.2 and 3.8.4)
*Direct estimation from reported age at death of deceased children
**Approximate value of standard error of (A) For urban-rural *difference,* the standard error is approximately 10, and for provincial differences it is generally of the order of 15 per thousand live births
***Includes all reported children, i.e., *not* confined to 1970-75

4) In all cases, the duration in completed months and years from the previous birth (from the first marriage for the first birth) was asked. The duration in years was stated in all but 0.4 per cent of the cases; while months were stated in only around 60 per cent of the cases. These data on durations between births have not been used in the present report (except in the few cases where no other form of data was available).

To summarize, for three-fifths of the reported births, calendar year as well as the month was obtained. In the remaining two-fifths of the cases, only the duration in years since birth was available, with only a small proportion reporting the duration in months also. Though duration between births to the nearest year was directly obtained in most cases, this additional source of data has not been utilized at present except in a marginal way.*

Even when dates of births have been reported, there can be cases where given dates are obviously implausible in relation to each other or to other events such as the mother's own date of birth. Such inconsistencies can (and often do) also arise from coding and punching errors. This requires editing and correction of birth history data, procedures which are complicated due to incomplete information on calendar month and year for all events.**

The problems of incomplete information and obviously inconsistent data mentioned above are the easiest to detect and even to "correct" (though their consequences in relation to analysis of the data are not easy to investigate). The birth history data can also suffer from other shortcomings, such as omission of births or systematic displacement in reporting of dates. These are difficult to detect and can bias the levels, trends, and differentials of fertility and infant/child mortality derived from these data. This necessitates a thorough evaluation of the birth history data before any firm conclusions can be reached. *A detailed evaluation is beyond the scope of the present report and hence the discussion to follow must be regarded as tentative.* Nevertheless, a preliminary investigation of the quality of the data will be presented in Section 6.9.5.

6.9.3 Retrospective Birth Cohort Fertility

Table 6.17 shows mean parity achieved by specified ages for various five-year age cohorts. The denominator consists of *all women* in each cohort, including never married women (on the basis of the percentage ever-married from the household schedule).*** Examining the table it is obvious that, with the exception of the five years immediately preceding the interview which are not fully covered in the table, there has been no significant change in the level of fertility in recent years. Figures for the two cohorts 30-34 and 35-39 are virtually identical. The small reduction for the younger women is at least in part due to the recent trend towards later marriage.

Turning to the two oldest cohorts, we note that the mean parity by age 35 for the 40-44 cohort is identical to that for the immediately younger cohort 35-39 (4.5 births). This would again suggest constant fertility. Parity cumulated to ages 20, 25, and 30 for the 40-44 cohort is around 0.1 lower than the same for the 35-39 cohort. This is a small difference, and statistically not significant (standard error of the difference is of the order of 0.1). Comparing the oldest cohort (45-49) to the 40-44 cohort, the cumulative parity for the former is lower by 0.08 at age 20 and by around 0.4 at ages up to 35 (this last difference is statistically significant). A rather low value of completed fertility for the oldest women was also noted earlier. This may be attributed either to variations in the sample, or it may be caused by memory lapse resulting in omission of births, or over-

*Details for birth of order 1 to 5 are as follows (unweighted figures):

Birth Order	No. of Births	Calendar year not stated (NS)			Calendar Month NS	Duration from Previous Event	
		Total	Age also NS	Age in months NS		Years NS	Months NS
1	8026	3196	1	2604	2712	40	3332
2	6472	2736	3	2212	2402	21	2455
3	5084	2203	4	1797	1997	15	2038
4	3964	1758	4	1425	1613	10	1676
5	2988	1376	4	1119	1272	10	1282
1-5							
Number	26534	11269	16	9157	9996	96	10783
%	100.0	42.5	0.1	34.5	37.7	0.4	40.6

**The IFS birth history data were edited by using a comprehensive procedure described in the World Fertility Survey Guidelines on Data Processing. The procedure is also used to assign months where not available, and ensures that the risk of dating a birth too early equals the risk of placing it too late, such that in the aggregate measures and rates are probably not biased, though any specific imputed month can differ significantly from its "correct" (unknown) value.
In spite of the comprehensive editing, a small number of obviously implausible dates still remain uncorrected as can be seen from some detail tabulations in Vol. II. It is believed that the effect of this imperfection is minor on the overall pattern of results discussed here, due to the relatively small number of cases involved.

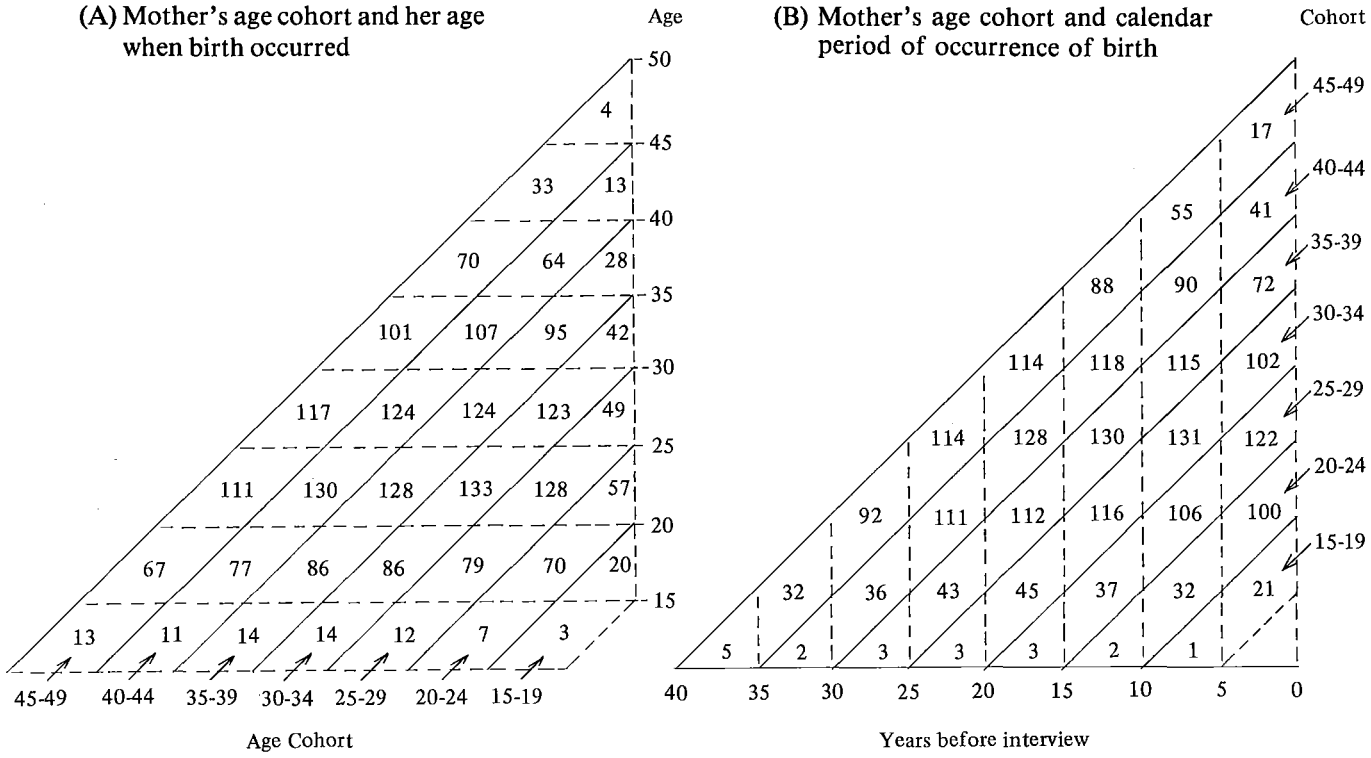
***Never married women are assumed to have borne no children.

Table 6.17 Mean parity by a specified age — by age cohort (including never-married women)

	Mean Number of Children born by age:							Current Mean	No. of Women**	% Ever-Married
	15	20	25	30	35	40	45			
Age Cohort										
15-19*	0.03	.	.	.	.	.	.	0.23	2660	37.4
20-24	0.07	0.77	.	.	.	.	.	1.34	2043	79.8
25-29	0.12	0.91	2.19	.	.	.	.	2.68	1576	94.9
30-34	0.14	1.00	2.32	3.55	.	.	.	3.97	1443	98.0
35-39	0.14	1.00	2.28	3.52	4.46	.	.	4.75	1422	98.5
40-44	0.11	0.88	2.18	3.43	4.49	5.13	.	5.26	1254	99.2
45-49	0.13	0.80	1.91	3.08	4.09	4.97	5.12	5.16	964	99.3

(SOURCE: Tables 0.1.3, 3.3.3)
*Includes a small number of women currently aged under 15.
**No. of ever-married women in the Individual Interview Sample, divided by proportion ever-married in the cohort from the Household Schedule. This gives the estimated number of all women (including single) in the cohort, and is used above as the denominator in computing the mean.

Table 6.18 Mean number of births per 100 women* — classified by mother's age cohort and by (A) Her age when birth occurred, (B) Calendar period of occurrence of birth



Total (up to 45-49 cohort)	271	402	491	530	475
Total (excluding 45-49)	157	288	403	475	458

(SOURCE: Tables 0.1.3, 3.3.3)

reporting of the age of high parity mothers. Further investigation of these possible sources of error is necessary before a more definite statement can be made.

To summarize, it appears from retrospective birth histories that except for the youngest women (who are marrying somewhat later) or for the most recent period (not covered in Table 6.17), the pattern and level of fertility have remained constant for several years. On the average, the following pattern has prevailed: the mean number of children ever born is approximately 1.0 by age 20, 2.3 by age 25, 3.5 by age 30, 4.5 by age 35, probably approaching 5.5 by the end of child-bearing.

Table 6.18 shows the same data organized in another way. Diagonals from bottom left hand to top right indicate the experience of 5-year age cohorts. In panel (A) horizontal lines divide the birth history of each cohort into 5-year age groups, the figures shown being the number of births per 100 women—or "500 woman-years of exposure"—within a given age group to women of a particular cohort (Table 6.17 was simply an accumulation of these figures along diagonals). Horizontal distance from right to left corresponds to duration before the interview. Generally, each figure spans a calendar period of ten years.

In panel (B) vertical lines divide the birth history of each cohort into 5-year periods before the interview, the figures shown being the number of births per 100 women within a given period* to women of a particular cohort. Each figure corresponds to births at ages spanning 10 years.

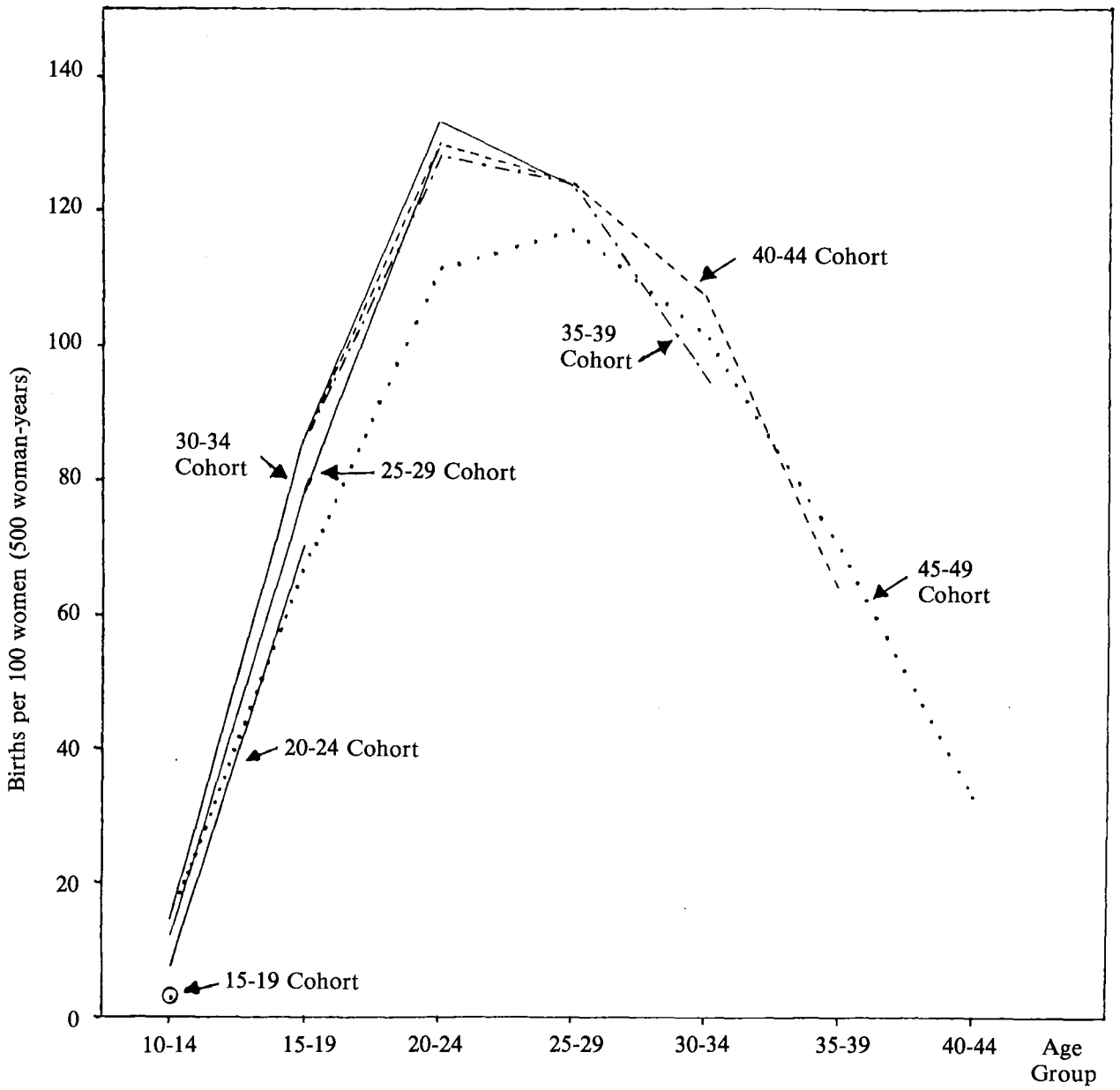
Panel (A) controls the mother's age at birth more finely (within 5-year groups) and is better suited to the study of trends in age-specific fertility. Panel (B) controls mother's age at birth only within 10-year groups, but controls calendar periods more finely (within 5-year groups), and hence is better suited to the study of calendar trends in total fertility rates.

The pattern of cohort fertility from retrospective birth histories from Panel (A) is illustrated in Figure 6.3. Curves for the various cohorts except for the 45-49 are remarkably similar with the peak at ages 20-24. The oldest cohort exhibits generally lower fertility (which may be due to possible omissions) and somewhat "older" pattern of fertility (which may be due to a tendency towards shifting births towards the date of interview, or over-reporting of the mother's current age).

Summing columns of Panel (B), we obtain period "total" fertility rates up to a specified age group. The sum (divided by 100) for the right most column is 4.75, which is the total fertility rate for the past five years except for the negligibly small number of births during this period to women *currently* aged over 49. Excluding the 45-49 cohort, the sum for this column is 4.58 which can be compared to the sum (5.30) for the next column on the left. These two figures give the "total" fertility rates to age 40 for the two 5-year periods immediately preceding the interview and indicate a decline in fertility (for women aged up to 40) of around 13 per cent in the five-year period centered approximately on 1971. Similarly, comparing the sum (4.75) for the second column from the right excluding the 45-49 cohort with the sum

*These do not correspond exactly to five year calendar periods due to 2-3 months spread in the interviewing time.

Figure 6.3 Age-Specific Fertility from Retrospective Birth Histories



(4.91) for the next column on the left, a very small decline (around 3%) in fertility to age 35 is observed over the five-year period centered approximately on 1966. Proceeding backwards in a similar way, we observe more or less constant level of fertility to age 30, age 25, etc. Progressively more and more women in the child-bearing age are excluded for being *currently* aged over 49.

To summarize, it appears that following a period of constant fertility, a small decline started towards the end of the 1960s, and accelerated in the early 1970s.

6.9.4 Retrospective Marriage Cohort Fertility

Table 6.19 shows mean number of live births to ever-married women, classified by marriage cohort (i.e., current years since first marriage) and marriage duration when birth occurred. Leaving aside the cohort married 30 or more years ago (which comprises only of women married at ages under 20, and consists substantially of women currently aged 45-49), the pattern for other marriage cohorts is fairly regular and similar.* More recent marriage cohorts tend to have slightly more births in the first five years of marriage, and this small difference persists when age at marriage is controlled (see Panel (C)).**

There is little variation among cohorts for the second five years after marriage: the mean number of births varies between 1.3 and 1.4 for women married 10 to 30 years ago. In fact, the rate of child-bearing remains more or less constant for the first 10-15 years (1.3 births every five years), after which an accelerating decline sets in. At least on the basis of these data, it may be stated that there is little long term historical change in marital fertility except perhaps a slight increase in the first year and a compensating small decline in later years. It must be emphasized however, that this mode of organization of the data is not sensitive to *very recent* changes. As described earlier in this chapter (Section 6.6), more

*It was noted on Chapter 4 that the data on age at first marriage indicate high degree of internal consistency.
For about three-fifths of the first marriages, and for a similar proportion of the births, calendar dates of occurrence were specified. While in the remaining two-fifths of the cases the date of first marriage was reported in relation to the respondent's date of birth (i.e., directly as her age at marriage), births for a similar proportion were dated in relation to the date of interview (i.e., directly as child's current age or years ago birth occurred). This difference makes the observed regularity more remarkable.

**Generally, standardization by age at first marriage makes little difference to the overall results shown in Table 6.19.

Table 6.19 Mean number of live births to ever-married women — classified by woman's marriage cohort and marriage duration when birth occurred

(A) Distribution of births

	Duration when birth occurred						
	<5	5-9	10-14	15-19	20-24	25-29	30+
Marriage Cohort							
0- 4	0.72*	.	.	.	.	.	.
5- 9	1.42	0.62	.	.	.	.	.
10-14	1.34	1.39	0.47*	.	.	.	.
15-19	1.33	1.39	1.16	0.36*	.	.	.
20-24	1.27	1.37	1.23	0.93	0.25*	.	.
25-29	1.09	1.30	1.23	1.02	0.58	0.10*	.
30+	0.84	1.18	1.15	0.96	0.78	0.35	0.07

*Data censured by the interview

(B) Cumulative distribution for all ever-married women (mean parity by specified marriage duration)

	Mean number of births by marriage duration:							
	5	10	15	20	25	30	Current Mean	No. of Women
Marriage Cohort								
0- 4	.	.	.	.	.	.	0.72	1643
5- 9	1.42	.	.	.	.	.	2.04	1456
10-14	1.34	2.73	.	.	.	.	3.20	1369
15-19	1.33	2.72	3.88	.	.	.	4.24	1312
20-24	1.27	2.63	3.86	4.79	.	.	5.03	1311
25-29	1.09	2.40	3.62	4.65	5.23	.	5.33	1140
30+	0.84	2.01	3.16	4.12	4.90	5.24	5.31	905

(C) Cumulative distribution for women marrying at ages 15-17

	Mean number of births by marriage duration:							
	5	10	15	20	25	30	Current Mean	No. of Women
Marriage Cohort								
0- 4	.	.	.	.	.	.	0.73	753
5- 9	1.45	.	.	.	.	.	2.14	593
10-14	1.38	2.71	.	.	.	.	3.14	511
15-19	1.39	2.81	4.02	.	.	.	4.39	489
20-24	1.32	2.76	4.07	5.04	.	.	5.32	455
25-29	1.13	2.48	3.72	4.76	5.30	.	5.38	394
30+	0.98	2.15	3.33	4.26	5.05	5.34	5.37	252

(SOURCE: Table 3.4.2)

precise focus of the recent period (in terms of single calendar years) clearly substantiates a large and very recent decline in fertility. The point being made in this section is that there is little evidence for any *long term* change in marital fertility. This leads to the conclusion that the data show a high degree of internal consistency.

6.9.5 On Quality of the Birth History Data

As mentioned earlier, a detailed investigation of the quality birth history data is beyond the scope of the present report. However, some preliminary evaluation is attempted here, particularly since the data have been used to investigate *trends* in fertility.

No fool-proof methods exist for detecting bias in birth history data. The task is even more difficult in the absence of independent external information, in which case the evaluation necessarily is confined to internal consistency only. Further, different sources of bias can produce similar distortions, so that separation of various sources of bias is not easy. Methodologically, a limited degree of separation may be achieved by considering measures which are more sensitive to some sources of bias and less sensitive to others.

Tables 6.17 and 6.18 (and Figure 6.3) provide some insights into the consistency of the data. Apart from the 45-49 cohort for which somewhat lower fertility rates were noted, age-specific fertility for other cohorts exhibit a high degree of internal consistency (Table 6.17, Panel (A)). Again with the same exception, age-specific fertility classified by calendar period is virtually constant from 5 to 25 years before the interview, except for a small and recent decline at ages under 25 (Table 6.17, Panel (B)).

A more sensitive indicator of the quality of reporting is provided by considering births of *specific order*. Cumulative frequencies of first births can provide a good indication of differential bias in reporting a mother's age, and also of systematic displacement of birth dates among older women whose first births occurred many years ago. Further, if these frequencies show a tendency to decrease for older cohorts it can perhaps be taken as an indication of omission of births.

Table 6.20 Classification of births to ever-married women — by mother's age cohort, her age at birth of child and birth order

(A) Cumulative percentage of ever-married women who have had their first birth by a specified age

	First birth by age:																		
	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	35	Current
Age Cohort																				
25-29	3	6	10	18	26	36	47	58	68	76	81	86	89	.	.	.	.	.	.	93
30-34	4	6	11	18	29	40	51	59	67	74	79	84	86	88	90	91	91	92	.	93
35-39	3	7	12	19	29	33	49	58	67	73	79	83	86	87	89	90	91	92	94	94
40-44	3	5	9	16	24	34	44	53	64	70	76	80	85	87	89	90	91	92	94	95
45-49	2	5	9	15	22	29	37	48	57	63	68	73	76	79	80	82	84	86	90	91

(B) Mean cumulative births of fifth or higher order (per 100 ever-married women) by a specified age

	Mean number of births of order 5+ by age:																		
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Current
Age Cohort																				
30-34	4	6	10	15	23	31	43	54	66	.	.	.	.	.	.	.	.	.	.	97
35-39	3	5	9	14	21	30	40	53	66	79	95	110	122	134	.	.	.	.	.	158
40-44	2	4	7	11	17	25	34	47	59	73	88	103	117	133	145	160	171	180	188	200
45-49	5	6	9	14	19	26	35	44	55	67	78	92	104	119	132	145	158	168	176	208

(SOURCE: Table 3.1.1)

This measure is expected *not* to be sensitive to changes in fertility levels since in developing countries at least the proportions of women who become mothers are not likely to change significantly with relatively moderate trends in fertility. When attention is confined to ever-married women only, this measure is likely to become relatively less sensitive also to trends in age at marriage. At higher ages in particular, it is not sensitive to omission of births unless *all* births of a respondent were omitted (which can happen if there is a tendency among women with only one birth not to report that birth). On the other hand, cumulative frequency of first births is likely to be sensitive to age mis-statement and systematic misplacement of early births.

Table 6.20 (Panel A) shows that the cumulative distribution of first births to ever-married women is virtually identical for cohorts up to 35-39. The small discrepancy between the 40-44 cohort and the two immediately younger cohorts (30-34 and 35-39) could possibly be explained by a relative over-statement of women's age in the 40-44 group by half a year on the average.

On the other hand, the pattern for the 45-49 cohort is more complex and cannot be explained by a simple shift in the age distribution. Fourteen per cent of these women are reported childless at age 30 compared to only 8 per cent for younger cohorts. In addition the reported pattern of first births is, relatively, somewhat "older". The discrepancy appears to *increase* with mother's age, and points to a tendency among women aged 45-49 with only one birth to omit that birth or, alternatively and less plausibly, to a higher prevalence of primary infertility.

Table 6.20 (Panel B) shows the cumulative mean of births of fifth and higher order.* In the case of births of higher order, omission of births can be expected to have an exaggerated effect. Each omitted birth of *any* order has the effect of reducing by one the number of births that appear as births of fifth or higher order.

The very close agreement between the 30-34 and 35-39 cohorts may be noted in Table 6.20. As before the discrepancy for the 40-44 cohort in relation to these could be explained by a relative over-statement of women's age in that cohort by around half a year on the average. For the 45-49 cohort, the degree of departure from younger cohorts is similar to that noted for first birth frequencies, even though the measure based on higher order births can be expected to be relatively more sensitive to omissions. This would point to the possibility of omission of births, particularly among women of parity one.

Data on infant and child mortality can provide direct test for omissions. It is often argued that certain categories of births are more likely to be omitted than others, among them births occurring a long time ago, female births, and children (especially girls) who died early in childhood. Data shown in Table 6.21 indicate that such selective omissions have probably not occurred to a major extent. For example, the sex-ratio of reported births varies in the narrow range of 103 to 107 males per 100 females for all births classified by period of occurrence from 5 years prior to the interview to 20 or more years ago. Deaths reported within one month of birth are around one-half of the deaths within the first year for all period of occurrence, which is close to the proportion observed in many other populations. Relationship between infant mortality rates (deaths within the first year after birth) and child mortality (deaths by fifth birthday) is also more or less invariant by period of occurrence, and corresponds fairly closely to that predicted by suitable model life tables at appropriate mortality levels. The same applies to deaths classified by sex; the relative levels of infant or child mortality for males being only slightly lower than those expected from reported female mortality levels on the basis of commonly found sex differences in mortality. The overall level of infant or child mortality increases substantially as births in earlier periods are considered. While these data do not prove that no omissions have occurred, the consistency in the overall results is nevertheless encouraging.

Classification of proportion of children dying by two years of age by mother's age cohort and her age at birth of child is shown in Table 6.22. Diagonals from bottom left to top right correspond to the retrospective experiences of women's cohorts. Horizontal lines in the table correspond to retrospective ages. Horizontal distance from right to left corresponds to duration before the interview. The proportion reported dead varies little by cohort for a given period of occurrence of the birth (except for the substantially higher proportion dying among births occurring at maternal ages under 15). For each cohort, the proportion reported dead increases monotonically as we move further back into the past.

*This table, as well as all tables on "birth order" in Vol. II, refers actually to the order of *fertile pregnancies* i.e., of pregnancies resulting in one or more live births. A set of twins, for example, was assigned the same birth order, and counted as two births of that order; an immediately following birth was assigned the next order in sequence. Departure from more conventionally used definition of birth order should be noted.

Table 6.21 Distribution of births to ever-married women — by period of occurrence, sex and age at death

Completed Years Since Birth	Number of births	Sex Ratio at Birth[1]	(A) Deaths within first month[2]				(B) Deaths within first years				(C) Deaths within first 5 years				(D) Sex Ratio of children surviving to age 5
			All	Male (M)	Female (F)	Ratio M/F	All	M	F	Ratio M/F	All	M	F	M/F	
1- 4	6059	104	48	55	41	1.33	93(16−)[4]	109(15+)	77(17−)	1.40	.	.	.		.
5- 9	7509	105	49	51	47	1.09	99(15+)	108(15+)	89(15+)	1.22	158	173	143	1.21	102
10-19	11450	103	56	67	44	1.54	120(14−)	136(13+)	103(14+)	1.32	206	228	183	1.25	98
20+	4905	107	83	103	62	1.65	172(10+)	196(10−)	148(10+)	1.32	281	301	259	1.16	101
All[3]	**29923**	**104**	**57**	**67**	**47**	**1.42**	**118(14−)**	**133(13+)**	**101(15−)**	**1.32**	**206**	**225**	**186**	**1.21**	**100**

(SOURCE: Table 3.8.5)

NOTES:

[1]Male births per 100 female births

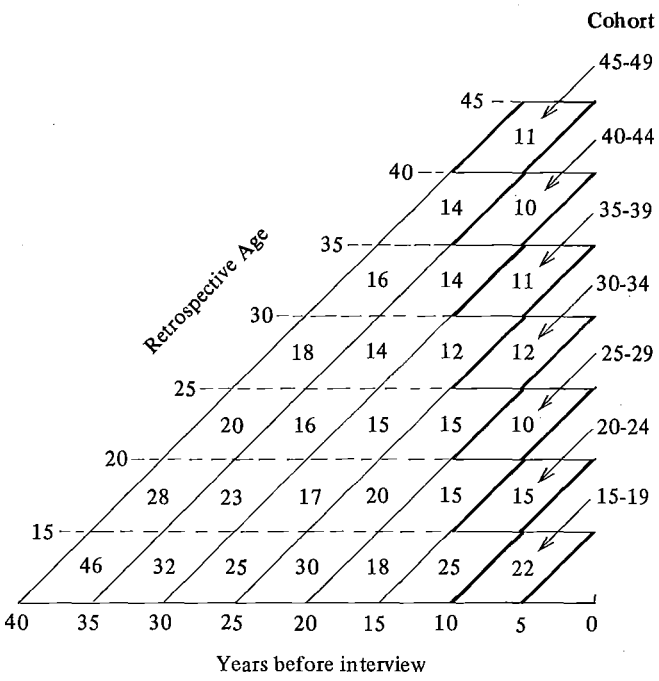
[2]Per 1000 births in the appropriate category

[3]Restricted to births occurring at least one year ago in Panels (A) and (B); and to births occurring at least 5 years ago in Panels (C) and (D)

[4]Figures in parentheses give the corresponding mortality level of "West" Model Life Table.

To summarize, it appears that, except for the oldest women, quality of reporting of numbers and dates of child births is not deficient in any obvious way. The reported pattern and level of fertility for the oldest (45-49) women indicates a degree of departure from younger women, though data on infant and child mortality do not substantiate omission of any particular category of children. More definite conclusions regarding quality of the data can be reached only after more in-depth analysis.

Table 6.22 Percentage of children who died before age two — by mother's age cohort and her age at birth of the child



(SOURCE: Table 3.8.2)

Notes:

Diagonals (from bottom left to top right) represent experience of a particular cohort. The horizontal lines specify ages of women at various locations in the past. "Diamonds" in the same vertical position, such as the ones shown in thicker line, relate to the experience of different cohorts at approximately the same calendar period.

A small number of women currently aged under 15 have been included in the 15-19 cohort.

Chapter 7. Preferences for Number and Sex of Children

7.1 Introduction

As a part of the effort to gain a better understanding of fertility and contraceptive behaviour of survey respondents, the IFS Questionnaire included a set of questions to elicit preferences for number and sex of children. Fertility preferences acquire added importance in view of the expansion of contraceptive practice and the recent decline in fertility in Jawa-Bali; these preferences may form a major factor in the continuation and acceleration of these trends. The identification of women wanting to stop child-bearing, and in particular of those who have failed to regulate their fertility, is of considerable practical importance to those in charge of family planning policy and implementation.

The present chapter is concerned with three inter-related questions: the desire to stop child-bearing and preferred family size; preferences regarding sex of children and their possible effect on preferred family size; and contraceptive knowledge and use in the light of fertility preferences.

Fertility preferences were measured through the following sequence of questions. First, all currently married fecund women were asked:

Q.1* "Do you want to have another child sometime?"

If the answer was "YES", the woman was asked:

Q.2 "How many more children do you want to have?"

Otherwise, if she had had at least one live birth, she was asked:

Q.3 "Thinking back to the time before you became pregnant with your last child, had you wanted to have any more children?"

For currently pregnant women, Q.1 referred to the desire for more children after the birth of the child being carried, Q.2 to the number more wanted *in addition to* the current pregnancy, and Q.3 to whether or not the current pregnancy was wanted. Though these questions are not strictly comparable with the set for non-pregnant women, this difference will be generally ignored in the following discussion.

All respondents, irrespective of the current exposure status, were asked:

Q.4 "If you could choose exactly the number of children to have in your whole life, how many children would that be?"

Finally, sex preference was studied on the basis of the following question, asked of all currently pregnant women, as well as those answering "YES" to Q.1:

Q.5 "Would you prefer (to have, your next child to be) a boy or a girl?"

Depending on the characteristics of each category of respondents, the actual wording of the above questions differed slightly; for details see Appendix I.

It should be noted that a major problem in the study of fertility preferences concerns the stability and predictive value of these attitudinal questions. In relation to Q.1, one difficulty is to convey to the respondent the time reference implied by that question, namely, desire to have another child *at any time* in the future. There is a possibility of misunderstanding this question as relating to the desire to have another child in the near future or even immediately. The time reference for Q.3 is *any time* during the last closed interval.

Interpretation of data on desired family size (Q.4) is always problematic, and is especially so when the information is gathered from a cross-sectional survey of women at widely differing stages of the life-cycle. For women at the start of marriage, the data represent statements of long term goals whose stability and predictive value are unknown. For women at the end of their reproductive careers these statements are inevitably influenced by past experience. Translation of concepts like "desire", "want", "like to" etc, is also problematic. It is, therefore, necessary that the results and specially the interpretation with regard to trends be treated with caution. The emphasis should be on the general pattern of the data rather than on individual figures.

7.2 Family size preferences

7.2.1 Demographic Aspects

Of all currently married fecund women, 39 per cent want to stop child-bearing, 10 per cent are undecided and the remaining half want to have another child at some time in the future.**

There is a strong positive association between the porportion wanting to stop child-bearing and current family size; there is also independent, though somewhat weaker, association with woman's age (see Table 4.1.1, Vol. II). Only 4 per cent of those with no living children and 9 per cent of those with one child want to stop child-bearing, these proportions consisting mainly of older women. Childlessness, or even one child family, is clearly regarded as undesirable. For the sample as a whole the interpolated family size at which a majority (i.e., over 50%) want to stop child-bearing is between 3 and 4 children (interpolated "median" value is 3.4 children). The interpolated family size at which 50 per cent want no more children drops from 4.0 for women aged 25-29 to 1.5 children for those aged 40-44.

Table 7.1 Percentage of currently married fecund women who want no more children — by current family size

Family Size*	0	1	2	3	4	5	6	7	8	9+	All
% Wanting no more	4	9	29	45	57	68	78	87	84	94	39

(SOURCE: Table 4.1.4)
*Number of living children including any current pregnancy

The most remarkable feature of the data summarized in Table 7.1 is, however, the absence of any abrupt increase in the proportion wanting to stop child-bearing as family size rises from 3 to 9. (The increase tends to be even less steep when age is controlled.) On the basis of this evidence, there is a considerable variability in family size preferences and no widely endorsed small family size norm, at least among the older half of the sample on which the data for larger family sizes in Table 7.1 are mainly based.

*The actual numbers of the questions can be found in the questionnaire (Appendix I) Section 5: Fertility Regulation.

**There are no cases with answers to Q.1 (see Introduction) not stated. The proportion "undecided" is marginally higher among women in the middle-age groups (for example, 13 per cent for women aged 25-34).

Among the younger women with less than 4 living children, a majority want to have more. Over one-half of those with no children want to have 2 or 3, with one in seven wanting 4. Of women with one living child, one-half want to have 1 or 2 more, one in six want 3 more, while another sixth want to stop child-bearing or are undecided (see Table 4.2.1, Vol. II). The pattern is such that the total obtained by adding the additional number wanted to the current family size is similar among women with small families. The mean "totals" for women with zero, one, two, and three living children are, respectively, 2.7, 3.0, 3.2, and 3.5.

Turning to the direct question on the desired family size (see Q.4, Introduction), it is found that except for women with small families, the responses are highly correlated with current family size. Once family size is controlled, there is almost no association with current age or marriage duration. Approximately 40-50 per cent of women with 3 or more living children state their desired family size to be identical to the actual number of children they have. The mean desired size increases from 4.0 for those with three children, to 6.0 for those with six, and to 8.4 for those with nine or more living children. The mean is slightly smaller than the actual family size only for women with seven or more living children (see Tables 4.3.1 and 4.3.2, Vol. II).

Table 7.2 shows the distribution of currently married women according to whether or not the desired family size is surpassed. The sum of the first two rows—those who have already surpassed and those who have exactly achieved their stated desired family size—may be compared to the percentage who want no more children (Table 7.1). Generally, the agreement between these two measures—which are based on different questions—is extremely close, notwithstanding the slightly different populations covered by the two sets of figures.* This agreement at the aggregate level, of course, does not necessarily imply consistency at the level of individual respondents.

The two measures, additional number of children wanted (see Q.2, Introduction) and the desired family size (Q.4) are comparable only for women with relatively small families. This is because the former measure makes no allowance for the preference of a family size smaller than that already achieved (except for assigning "−1" for the "additional" number wanted to those who did not want their last child). On the other hand, the desired family size tends to be determined increasingly by the actual family size among older women. Nevertheless, Table 7.3 illustrates the fairly close agreement between the two measures for women with up to four living children. The diagonals from bottom left to top right represent constant values of the sum of current family size and the additional number wanted. Generally, the mean desired sizes along any diagonal of Table 7.3 are fairly close to this sum for that diagonal. The mean desired family sizes for women with zero, one, and two children are, respectively, 2.9, 3.2, and 3.5. These values are close to (around 0.2 above) the values quoted earlier for the sum of current family size and mean additional number wanted.

Table 7.2 Per cent distribution of currently married women according to whether desired family size has been surpassed — by achieved family size

	0	1	2	3	4	5	6	7	8	9+	All
% with desired size:											
(A) Surpassed		0	1	3	7	10	22	35	32	—	—
(B) Exactly achieved	1	8	26	39	47	51	48	48	38	—	—
(C) Not yet achieved	99	92	73	58	46	39	30	17	30	—	—
All	100	100	100	100	100	100	100	100	100	—	—
Mean desired size	2.9	3.2	3.5	4.0	4.8	5.6	6.0	6.4	7.3	8.4	4.2
% who did not want their last child*	5	2	7	13	20	30	39	46	50	64	17

(SOURCE: Tables 4.1.3, 4.3.2)
*Confined to ever-married women with at least one birth, including any current pregnancy

Table 7.3 Mean desired family size for currently married fecund women — by number of living children and additional number wanted

Additional no. wanted	Living Children 0	1	2	3	4
−1	*	*	2.9	3.3	3.9
0	(2.2)	2.0	2.6	3.5	4.4
1	1.6	2.2	3.2	4.2	5.2
2	2.2	3.1	4.1	5.2	6.0
3	3.2	4.0	5.0	(6.2)	*
4	4.0	4.9	(6.0)	*	*

(SOURCE: Table 4.3.4)
Note:
Indicated diagonals represent constant values of total number wanted (= addition wanted + number living) from 1 to 6. Number living includes any current pregnancy.

It was noted earlier that at least among the older women, there is a considerable variability in family size preferences and apparently no widely endorsed family size norm. On the other hand, the two measures mentioned above indicate a close agreement among women with zero, one, and two living children on a *mean* preferred family size of 3 or slightly more than 3 children. In fact, nearly three-fourths of the women with up to 2 living children state their preferred family size to be between 2 to 4 children (see Tables 4.2.1 and 4.3.1, Vol. II).

Another measure of the total number wanted can be constructed by using life-table techniques on the basis of data on the proportions wanting no more children (and the proportions who did not want their last child), classified by current family size. This measure is the mean number of children wanted by a synthetic cohort according to the intentions expressed at the time of the survey. It makes no reference to the stated number of additional children wanted (Q.2), but merely to the proportions who want to stop child-bearing (Q.1) or did not want the last child (Q.3) at each achieved family size. This synthetic mean, which is one measure of ideal

*We also note that Table 7.2 excludes 4.5% of the respondents who gave non-numeric answers to Q.4 and 0.8% for whom the answer was not stated. The percentages in Table 7.1 include in the denominator approximately 10% who were "undecided" in response to Q.1.

family size and is strongly affected by the expressed preferences of women with small families, is 3.3 children.*

Finally, turning to the question of unwanted fertility (Q.3), as many as one in seven (17%) state that they did not want their last child,** notwithstanding the possibility of a downward bias in the figure due to psychological rationalization of children already born. One in five of the women currently with a family of 4, two in five of those with 6, one-half of those with 8 and nearly two-thirds of those with a family of 9 or more did not want their last child (see Table 7.2, last line). These figures are substantially higher than the proportions stated as having surpassed their desired family size (see Table 7.2, first row). It would appear that though many women are willing to state that a particular pregnancy was unwanted, they are less ready to state a desired family size smaller than their actual family size. Note, however, that Q.3 is intended to include also those pregnancies which are unwanted only in relation to the desire for spacing of children rather than for family limitation; in this sense the observed difference between the two measures being compared is in the expected direction.

7.2.2 Differentials

Table 7.4 shows the percentage of women (of any parity or age) who want to stop child-bearing, classified by background variable. The figures for various categories of the sample lie in the range 33 per cent to 47 per cent (the overall figure is 39 per cent). This is a relatively small range, specially in view of the fact that standard error for differences between pairs of categories is generally of the order of 3 per cent. In addition, observed differentials to a certain extent reflect differences in distribution by family size among categories of the sample. As noted earlier, family size is the major demographic variable determining attitudes towards future child-bearing.

After controlling for family size, differentials by background variable tend to be further reduced. As a means of summarizing these differentials after differences in family size are removed, Table 7.4 also shows percentages standardized on family size.*** There is no urban-rural difference in the standardized mean; minor differences by Husband's Occupation and Pattern of Work are statistically not significant. The only noteworthy differentials are (a) a higher proportion of women with no schooling wanting to stop child-bearing,**** and (b) provincial differences with higher proportions in Bali and Jawa Timur and lower proportions in Jawa Barat, Jawa Tengah and Jakarta wanting to stop. These differentials correspond to differentials in fertility, but in any case are rather minor. The overall impression is that of considerable uniformity among various socio-economic categories of the sample, particularly when differences (also generally not pronounced) in distribution by current family size have been taken into account).

Socio-economic differentials in the desired family size (Q.4) are also generally minor (see Table 4.3.3, Vol. II).

7.3 Sex preferences

Preference for the sex of children will be indicated by the following two measures: the percentage who want to stop child-bearing, according to the numbers of sons and daughters they have; and the preferred sex of the next child, given the sex of those currently alive.

The relevant data are summarized in Table 7.5 for women with 2 to 4 living children with all possible combinations of boys and girls. Unlike previous tables, this table excludes pregnant women because the sex of the unborn child is not known.

*In outline, the procedure is as follows: At any family size, i, let P_i be the proportion who do not want any more children, and *out of these* proportion u_i did not want their last child. It is assumed that $(P_i - u_i) / (1 - u_i) = P_i^1$ (say) is the proportion who wish to stop child-bearing, after having reached family size i in conformity with their expressed fertility preference. (Note that the "undecided" are assumed as wanting to have another child). If Q_i is the proportion with implied completed size i then, for family size O,

$Q_0 = P_0^1$ and, in general, $Q_i = (1 - \sum_{j=1}^{i-1} Q_{j-1})P_i^1$. The "synthetic" mean number wanted is $\sum_1 i.Q_i$.

**Another 6 per cent were undecided on the status of their last pregnancy.

***Within any background variable category, the standardized mean consists of a weighted sum of percentages wanting no more children classified by family size. The weights are the relative distribution according to family size among all currently married fecund women.

****This difference is caused mainly by a higher proportion wanting no more children among uneducated younger women with up to two living children.

Table 7.4 Percentage of currently married fecund women who want no more children — by background variable

	All Jawa-Bali	Type of Place		Province					
		Urban	Rural	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali
Observed	39	43	38	40	37	38	41	40	47
(SE)[1]	(1.0)	(1.5)	(1.3)	(2.1)	(1.9)	(2.0)	(2.4)	(1.9)	(2.4)
Standardized[2]	39	40	39	36	38	36	40	43	44

	Level of Education					Husband's Occupation				Pattern of Work			
	No Sch.	Primary Incomp.	Primary Complete	Junior High	Senior High +	Prof., Clerical	Sales, Services	Manual	Farming	Before & After	Only After	Only Before	Never Worked
Observed	47	33	33	39	36	45	37	38	39	40	42	33	36
(SE)	(1.5)	(1.5)	(2.1)	(3.5)	(3.5)	(2.2)	(2.0)	(2.0)	(1.4)	(1.5)	(1.8)	(2.6)	(1.5)
Standardized	43	36	37	40	40	40	36	37	40	41	40	35	36

(SOURCE: Table 4.1.2)

Notes:

[1]Standard error of the observed mean. SE for urban-rural difference is 1.8; for difference between J. Tengah and Bali 3.0; between first two educational categories 2.0.

[2]Standardized on number of living children.

Table 7.5 Fertility preferences — by sex composition of living children

	2 Living Children				3 Living Children					4 Living Children					
Boys	0	1	2	Total	0	1	2	3	Total	0	1	2	3	4	Total
Girls	2	1	0		3	2	1	0		4	3	2	1	0	
% wanting[1] no more	32	35	18	30	35	52	50	32	47	45	64	64	54	39	58
(SE)	(3.5)	(2.5)	(3.5)		(5.5)	(3.5)	(3.5)	(5.0)		(6.5)	(4.5)	(3.5)	(4.5)	(7.0)	
% preferring[2]															
—Boy	79	30	2	35	79	59	10	3	36	84	47	12	0	0	25
—Girl	0	19	84	31	0	7	57	83	36	3	12	27	49	92	34
—Indifferent	21	51	14	34	21	34	33	14	28	13	41	61	51	8	41
Desired Family[3] Size	3.4	3.3	3.6	3.4	4.4	3.8	4.1	4.2	4.0	4.8	5.0	4.6	4.7	5.0	4.8

(SOURCE: Tables 4.4.1-4.4.3)
Notes:
[1]Of currently married fecund non-pregnant ("exposed") women. SE is standard error of the percentage.
[2]Of exposed women wanting another child and expressing sex preference.
[3]For currently married non-pregnant women.

For a given family size, women who have children of both sexes are more willing to stop child-bearing than those who have only boys or only girls. This indicates a preference for families which includes children of both sexes. For example, of exposed women with three living children, one-half want no more children if they already have at least one child of each sex; only a third want to stop child-bearing if all their children are of the same sex. A similar pattern prevails for women with four living children.

Women with only boys or only girls also have a slightly higher mean desired family size, though the pattern in relation to this variable is not so marked (see Table 7.5, last row).

Among women who have at least one child of either sex, the exact sex composition of the family makes little difference to family size preferences.

The difference in the percentage wanting no more children for all boy and all girl families is generally statistically *not* significant (see standard errors shown in Table 7.5). The data for two-children families is an exception and appears to indicate a preference for girls.

We consider next the expressed sex preference for the next child by exposed women wanting another child. Thirty-four per cent prefer to have a boy, 30 per cent prefer to have a girl, and the remaining 36 per cent are indifferent to the sex of the child. These figures are remarkable not only in that there is no clear boy preference, unlike several other countries in Asia in particular; it is also remarkable in that over a third are indifferent to the sex of their next child. A majority of the women with four children who already have at least one child of either sex are not concerned about the sex of the next child.

On the other hand, a vast majority of those with only boys want a girl next time, and those with only girls want a boy next time. This again points to a preference for families which include children of both sexes, though 10-20 per cent of the women with all children of the same sex are still indifferent regarding sex of the next child.

A closer examination of the data indicates that the preference for a family balanced in terms of the sex of children is stronger than merely wanting at least one child of each sex. The preference appears to be for a more perfect sex balance. For example, 59 per cent of those with two boys and one girl (and wanting more children) prefer their next child to be a girl, only 7 per cent prefer a boy. The situation is exactly the reverse for women with one boy and two girls. It should be noted, however, that a third of the women in either of these categories are indifferent to the sex of their next child. A similar picture emerges for women with four children. Perhaps a more definite indication of this phenomenon would have been given if sex breakdown of the desired family size (Q.4) had been obtained during the IFS.

7.4 Fertility preferences and use of contraception

7.4.1 Knowledge of a Modern Method

Table 7.6 shows the percentage of currently married fecund women who have heard of at least one modern method of contraception, classified by (a) whether she wants to stop child-bearing, and (b) whether she has surpassed her desired family size. Overall 81 per cent of the currently married fecund women have heard of at least one modern method.

Women who want to stop child-bearing or those who have surpassed or achieved their desired family size are significantly more knowledgeable of modern contraceptive methods. Within each category shown in Table 7.6 there is surprisingly little variation by demographic characteristics such as current age. The association between fertility preferences and contraceptive knowledge is in the expected direction and may reflect socio-economic background as well as personal initiative of those wanting to stop child-bearing. Note that the "undecided" and "other answers" categories in Table 7.6 show lower levels of knowledge even than those who want more children or have not yet achieved their desired family size.

7.4.2 Current Use

Table 7.7 shows that 53 per cent of exposed women who want to stop child-bearing are currently contracepting, as opposed to 26 per cent of those wanting another child (or are undecided) and 37 per cent of all exposed women. This major difference, present at all ages, is indicative of the seriousness with which women take their expressed desire to stop child-bearing. On the other hand, among those who do not want to stop child-bearing, one in four are contracepting; this is indicative

Table 7.6 Percentage of currently married fecund women who have heard of a modern method of contraception — by current age and fertility preferences

	Future Birth			Desired Family Size*				All
	Not Wanted	Wanted	Undecided	Surpassed	Exactly Achieved	Not Yet Achieved	Other Answers	
Current Age								
<25	82	78	70	*	85	79	49	78
25-34	89	78	72	91	89	80	47	82
35-44	87	77	65	94	86	78	52	82
45-49	83	(71)	*	(88)	84	79	*	81
All	87	78	69	92	87	79	50	81
No. of Women	2543	3330	684	413	1829	3972	289	6556

(SOURCE: Table 4.5.1)
*Excludes 52 cases with desired family size not stated.

of a fairly high concern with spacing of children. Note that this concern for spacing declines among women aged 35 and over. Women who still want more children after that age obviously have less reason to be concerned with spacing.

Table 7.7 Percentage of exposed women currently using contraception (any method) — by desire for more children and current age

	Current Age				
	<25	25-34	35-44	45-49	All
Want no more children	48	57	54	42	53
Want more children (or undecided)	24	31	19	5	26
All exposed women	27	42	42	36	37

(SOURCE: Tables 2.4.1 and 4.5.5)

Looking at the data in another way, nearly one-half of the exposed women wanting to stop child-bearing are *not* using contraception. To the extent that a major goal of the Family Planning Programme is to enable women to achieve their desired fertility, it is particularly important to identify these women who wish to stop child-bearing but remain exposed to the risk of conception by not using contraception. Those women comprise a target group of highest priority for programme services, and the very substantial size of this category in Jawa and Bali indicates that much remains to be done in spite of the outstanding success of the Family Planning Programme over the past few years.

A similar pattern emerges when desired family size (Q.4) is examined in relation to the current number of living children. Of currently married fecund women, 44 per cent have ever used contraception and 32 per cent are current users. The respective figures in relation to desired family size are: 72 per cent and 51 per cent for those who have exceeded their stated desired family size; 59 per cent and 46 per cent for those who have exactly achieved their desired family size; and only 36 per cent ever users and 25 per cent current users for those who have not yet achieved their desired family size. This relationship holds among all age groups (see Table 4.5.3, Vol. II).

7.4.3 Use in the Last Closed Interval

Nearly twice as many women not wanting their last child used contraception during their last closed interval compared to those who did want their last child (22% versus 13%; see Table 7.8). A fairly high proportion (around two-fifths) used only a traditional method.

Relatively low level of use in the closed interval compared to prevailing levels of current use, of course, reflect the recency of the Family Planning Programme, though under-reporting of past use cannot be ruled out. Note also that proportionately, a much higher number used a traditional method as opposed to a modern method: the last closed intervals for many women lie in a period before modern means became widely available.

Table 7.8 Percentage of women who used contraception during the last closed interval — by whether the last pregnancy was wanted

	Last Pregnancy			
	Not Wanted	Wanted	Undecided	All
% used modern method	13.3	8.6	4.0	9.0
% used only traditional method	8.4	4.0	2.1	4.6
% used any method	21.7	12.6	6.1	13.6

(SOURCE: Table 4.5.8)

7.4.4 Differentials

Table 7.9 shows levels of current use by background variable for three populations: (a) all exposed women (b) exposed women who want to stop child-bearing, and (c) exposed women who want more children, including those undecided. Differences between these sub-populations noted earlier for all Jawa-Bali persist for almost all background variable categories. In most background categories, the proportion of current users among those wanting no more children is generally around 50 per cent higher than the proportion among all exposed women. Hence, the pattern of differentials by background variables is the same for women wanting to stop child-bearing as the pattern among all exposed women. This implies that there are generally no obvious *relative* differences by background variable in the extent to which women who want to stop child-bearing act on their stated intentions. Further, the proportion of current users among those wanting more children is generally around two-thirds of the proportion of users among all exposed women in the category. This implies that there are no obvious differences by background variable in the *relative* concern to space children. The only noteworthy differentials in Table 7.9 are a relatively lower level of concern for spacing among (a) women with no schooling, and (b) among women in Bali. The difference between Bali and other provinces, of course, reflects the fact that the IUD is by far the most dominant method in Bali, a method which is more commonly used for termination of child-bearing rather than for spacing of children.

Table 7.9 Percentage currently using contraception (any method) — by background variable, (A) For all exposed women, (B) Confined to exposed women wanting no more children, (C) For exposed women wanting more children (or undecided)

	All	Type of Place		Province					
	Jawa-Bali	Urban	Rural	Jakarta	J. Barat	J. Tengah	Yogyakarta	J. Timur	Bali
(A)	37	40	36	39	22	41	51	44	51
(B)	53	60	52	56	35	56	62	63	80
(C)	26	24	26	26	15	31	42	31	25

	Level of Education					Husband's Occupation				Pattern of Work			
	No Sch.	Primary Incomp.	Primary Completed	Junior High	Senior High +	Prof., Clerical	Sales, Services	Manual	Farming	Before & After	Only After	Only Before	Never Worked
(A)	31	39	40	52	62	57	31	32	37	41	36	32	33
(B)	46	56	66	79	88	75	44	52	53	57	51	61	49
(C)	18	30	27	35	48	42	23	20	26	29	26	17	24

(SOURCE: Table 2.3.5 and 4.5.6)

Concluding Remarks

In the following paragraphs, we summarize the main themes discussed in the preceding commentary.

Women in Jawa-Bali have traditionally married at very young ages, a substantial minority marrying before age 15 and all but a small minority marrying by age 25. There are marked regional as well as urban-rural differentials in age at marriage, but not the propensity to remain permanently single. Marriage is virtually universal. Relatively, very high rates of marriage dissolution, as well as of remarriage—probably without long delay—prevail.

Three-quarters of the women have heard of contraception and nearly two-fifths of the women exposed to the risk of conception are currently contracepting. The data illustrate an impressive and rapid spread of knowledge and use of contraception, demonstrating success of the Family Planning Programme. Provincial as well as urban-rural differentials in the level of use and specific methods being used reflect emphases of the programme. The level is particularly high in Bali, where the IUD is the most commonly used method. Jawa Barat is somewhat lagging behind at present. Rural women are using modern methods of contraception at least as often as urban women.

In spite of the fact that older women married at very young ages and apparently did not use any modern method of contraception throughout most of their child-bearing life, the level of completed fertility is relatively very low (on the average less than five and a half children are born). At a given marriage duration, urban and better educated women have had more children than their rural, less educated counterparts. Differences in the incidence of marriage breakdown is perhaps one of the important factors and needs further investigation.

Apart from the rapid expansion in contraceptive use, the other most outstanding conclusion to emerge from the present study is the major decline in fertility over the past 4-5 years. Pending a more thorough evaluation of quality of the data, a decline of the order of 20-25 per cent is indicated. This decline is present in urban as well as rural areas (urban-rural differentials in current fertility remain minor), and in all the six provinces in Jawa-Bali. The Total Fertility Rate for Jawa-Bali is probably approaching 4.0. Levels of infant and child mortality still remain high (over 100 per 1000 births). A majority of the women with 4 or more children ever born have experienced one or more child deaths.

At least among the older women, there is considerable variability in family size preferences and apparently no widely endorsed family size norm. Younger women state preferences for families of between two and four children. There is apparently no boy-preference, and large proportions are indifferent to the sex of their next child.

Women wanting to stop child-bearing are using contraception twice as frequently as those who want more children. However, nearly one in two of the former are still *not* contracepting, illustrating that much more needs to be done by the Family Planning Programme in spite of the initial impact achieved. One in four of the latter are contracepting, suggesting that the practice of spacing of children is spreading.

On the basis of the speed of change in levels of contraceptive use and current fertility rates indicated by the present study, we may expect substantial further progress even by the time of publication of this report. It was fortunate that the Indonesia Fertility Survey was conducted at a time when important demographic transformations of probably great and long term historical significance were beginning to take shape.

Further evaluation and analysis of the data should contribute towards documenting these changes and also towards providing a useful benchmark against which future progress can be gauged.

1 1 | | | | | | | 0
2 7 8

CONFIDENTIAL

WORLD FERTILITY SURVEY
INDONESIA FERTILITY SURVEY, 1976

HOUSEHOLD SCHEDULE

URBAN - U
RURAL - R

9

I. IDENTIFICATION

1.	Province		
2.	Kabupaten/Kotamadya		Domain 12
3.	Kecamatan		13
4.	Village		14
5.	Cluster No.		
6.	Census Block No.		
7.	Building No.		
8.	Household No.		17
9.	Address		

II. ENUMERATION INFORMATION

1.	Interviewer's Name				
2.	Interviewer identity No.				20
3.	Interviewer's Calls	1	2	3	4 21
4.	Date				23 25
5.	Language used				26
6.	Result Codes				27

Result Codes :

1. Completed, in the same household as phase II
2. Completed, but in a different household
3. No adult member at home
4. Deferred (for the final out - come, this case is the same as refusal)
5. Refused
6. Dwelling vacant, or address not a dwelling
7. Address not found or inaccessible
9. Other

7.	Number of household members	_____ (NUMBER) 29
8.	Number of eligible respondent	_____ (NUMBER) 30
9.	Supervisor's Name	
10.	Date	0 0 32

LINE NUMBER	NAMES OF USUAL RESIDENTS	RELATIONSHIP	S E X
	Please give me the names of the person who usually live in your household. Let us start with the head of the house - hold	What is the relationship of this person to the other persons in the house hold already recor ded ?	Is this person male or female ? *AFTER LISTING ALL PERSONS MENTIONED USE PROBES GIVEN BELOW ** *TICK APPROPRIATE BOX*
	(1)	(2)	(3)
01		**Head** ☐☐	M ☐ F ☐
02		☐☐	M ☐ F ☐
03		☐☐	M ☐ F ☐
04		☐☐	M ☐ F ☐
05		☐☐	M ☐ F ☐
06		☐☐	M ☐ F ☐
07		☐☐	M ☐ F ☐
08		☐☐	M ☐ F ☐
09		☐☐	M ☐ F ☐
10		☐☐	M ☐ F ☐
11		☐☐	M ☐ F ☐
12		☐☐	M ☐ F ☐
13		☐☐	M ☐ F ☐
14		☐☐	M ☐ F ☐
15		☐☐	M ☐ F ☐

IF CONTINUATION SHEET USED, TICK HERE ☐

* **AFTER COMPLETING COL. 1 - 3**

A. Are there any other persons, such as small children or infants we have not listed ?

YES ☐ → *(ENTER EACH IN TABLE)* NO ☐

B. In addition, are there any other people who may not be members of your family, such as servants, friends or lodgers but who usually live here ?

YES ☐ → *(ENTER EACH IN TABLE)* NO ☐

C. Are there any other guests or visitors who have been temporarily staying with you for the past six months or more ?

YES ☐ → *(ENTER EACH IN TABLE)* NO ☐

SCHEDULE

LINE NO OF MOTHER	AGE	MARITAL STATUS FOR AGED 10 OR OLDER	COUPLE NUMBER	ELIGIBILITY FOR INDIVIDUAL INTERVIEW	
		IF "**YES**" IN COL. 6			
Does the mother of (NAME OF PERSON IN COL. 1) live in this household ? IF "YES" : **Who is she ?** WRITE MOTHER'S LINE NUMBER	How old is (NAME OF PERSON) ? PROBE IF REQUIRED RECORD BEST ESTIMATE	Has he/she ever been married ? RECORD : **Y** IF "**YES**" **N** IF "NO"	Is he/she now MARRIED (M) WIDOWED (W) DIVORCED (D) SEPARATED (S) ?	*GIVE EACH CURRENTLY MARRIED WOMAN AND HER HUSBAND SAME NUMBER, STARTING WITH* ***1*** For **W**, **D** or **S** give couple No = 8	*TICK ALL EVER MARRIED WOMAN UNDER 50* (SEE COL. 3, 5 and 6)	LINE NUMBER
(4)	(5)	(6)	(7)	(8)	(9)	
				☐		01
				☐		02
				☐		03
				☐		04
				☐		05
				☐		06
				☐		07
				☐		08
				☐		09
				☐		10
				☐		11
				☐		12
				☐		13
				☐		14
				☐		15

FOR ALL PERSONS MENTIONED, PROBE :

D. Are there any other persons we have not included who have been temporarily away for less than 6 months, but who usually live in this household ?

YES ☐ → *(ENTER EACH IN TABLE)* NO ☐

E. Are there any persons we have included who have been living away for the past 6 months or more ?

YES ☐ → *(DELETE EACH FROM TABLE)* NO ☐

F. Now, I would like some information about each person we have listed.
(COMPLETE COLS. 4 - 9 FOR EACH PERSON IN TURN)

1 1 | | | | | | | 1 2 7 8

CONFIDENTIAL

WORLD FERTILITY SURVEY

INDONESIA FERTILITY SURVEY, 1976

INDIVIDUAL QUESTIONNAIRE

URBAN - U

RURAL - R

9

I. IDENTIFICATION

1.	Province		
2.	Kabupaten/Kotamadya		Domain 12
3.	Kecamatan		13
4.	Village		14
5.	Cluster No.		
6.	Census Block No.		
7.	Building No.		
8.	Household No.		17
9.	Address		

II. ENUMERATION INFORMATION

1.	Interviewer's Name				
2.	Interviewer identity No.				20
3.	Interviewer's calls	1	2	3	4 21
4.	Date				23 25
5.	Language used				26
6.	Result Codes				27

Result Codes :

1. Completed
3. Respondent not at home
4. Deferred
5. Refused
8. Partly completed
9. Other

7.	Duration	29
8.	Supervisor's Name	
9.	Date	

SECTION 1 : RESPONDENT'S BACKGROUND

101. ***INTERVIEWER*** : *COMPLETE THE FOLLOWING FROM PAGE ONE OR FOUR.*

LOCATION OF INTERVIEW : _____ (VILLAGE/TOWN/CITY)

102. Have you always lived in _____ ? (PLACE NAME FROM 101)

YES [1] NO [2] → 30

103. What kind of area would you say this was when you were growing up, say to the age of 12 ? Was it a village, a town or a city ?

VILLAGE [1] TOWN [2]
CITY [3]

104. Where did you mostly live when you were growing up, say to the age of 12 ?

VILLAGE : _____
KECAMATAN : _____
KAB/KODYA : _____ → 33

105. What kind of area would you say that was then ? Was it a village, a town or a city ?

VILLAGE [1] TOWN [2]
CITY [3] → 34

106. In what year were you born ?

19____ (YEAR) D.K. [99] →

107. How old are you now ?

_____ (AGE) → 36 38

(PROBE AND RECORD BEST ESTIMATE. NEVER WRITE D.K.)

108. In what month of the year were you born ? _____ (MONTH) → 40 41

INTERVIEWER : *SPECIFY CALENDAR IF MONTH KNOWN*

MUSLIM [1] WESTERN [2] OTHER _____ (SPECIFY)

109. COMMENTS ON AGE REPORTING

INTERVIEWER : *TICK APPROPRIATE BOX.*

NO COMMENT ON AGE REPORTING	[1]
YEAR OBTAINED FROM DOCUMENT	[2]
AGE OBTAINED AFTER PROBING, BUT BELIEVED TO BE ACCURATE	[3]
AGE ONLY ESTIMATED AFTER DETAILED PROBING	[4]
EVENTS CHART USED	[5]

→ 42

OTHER _____ (SPECIFY)

110. Have you ever attended school ?

YES [1] NO [2] (SKIP TO 116) — 43

111. What was the highest level of school you attended primary, junior high, senior high, academy or university ?

PRIMARY [1]
JUNIOR HIGH [2]
SENIOR HIGH [3]
ACADEMY [4]
UNIVERSITY [5]
OTHER _____ (SPECIFY)

112. Was that a vocational or a general high school ?
VOCATIONAL [1]
GENERAL [2]
— 44, 45

113. Did you graduate from (HIGHEST LEVEL ATTENDED) ?

YES [1] (SKIP TO 118) NO [2] — 46

114. Which class did you complete in (HIGHEST LEVEL ATTENDED) ?

_____ CLASS — 47

115. ***INTERVIEWER :*** *TICK APPROPRIATE BOX.*

DID NOT GRADUATE PRIMARY SCHOOL [1]
GRADUATED PRIMARY SCHOOL OR HIGHER [2] (SKIP TO 118) — 48

116. Can you read in any language - say, a simple letter ?

YES [1] NO [2] (SKIP TO 118) — 49

117. Can you write in any language - say, a simple letter ?

YES [1] NO [2] — 50

118. What language or languages do you normally speak at home ?
(TICK ALL THAT APPLY)

BAHASA INDONESIA [1] — 51
JAVANESE [2] — 52
SUNDANESE [3] — 53
MADURANESE [4]
BALINESE [5]
OTHER _____ (SPECIFY)

SECTION 2 : MARRIAGE HISTORY

201. Now I have some questions about your married life. Are you now married, widowed, divorced or separated ?

MARRIED [1] WIDOWED [2] DIVORCED [3] SEPARATED [4] — 54

202. Were you married only once, or more than once ? — 55

ONLY ONCE [1] MORE THAN ONCE [2]

(SKIP TO TABLE. IN 217 AND 220 TICK APPRO - PRIATE BOXES, THEN ASK 213, ETC.) (SKIP TO 212)

203. In what year were you and your husband married ?

19 _____ (YEAR) D.K. [99] → 204. How old were you then ? — 57, 59

_____ (AGE)

(PROBE AND RECORD BEST ESTIMATE)

205. What month of the year was it when you and your husband got married ? — 62

INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN

_____ (MONTH)

MUSLIM [1] WESTERN [2] OTHER _____ (SPECIFY)

206. Does your husband live in this household ? — 63

YES [1] (SKIP TO 211) NO [2]

207. Is he away for the time being, or have you stopped living together for good ? — 64

AWAY FOR TIME BEING [1] STOPPED FOR GOOD [2]

208. How many years and months did you and your husband live together ? — 68

_____ YEARS (PLUS) _____ MONTHS

209. In what year did you stop living together ? — 69

19 _____ (YEAR) → 210. In what month was that ? _____ (MONTH) — 72

INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN.

D.K. [99]

MUSLIM [1] WESTERN [2]

OTHER _____ (SPECIFY)

211. Have you been married more than once ? — 73

YES [1] NO [2] (SKIP TO SECTION 3)

212. How many times have you been married altogether ? — 74

_____ (NUMBER OF TIMES)

*INTERVIEWER : FOR EACH MARRIAGE ASK **213-220**, THEN SKIP TO 300 (IF CURRENTLY MARRIED IN **201**, THE NUMBER OF ENTRIES WILL BE ONE LESS THAN NUMBER IN **212**)*

FORMER MARRIAGES TABLE [2][1] [ ][ ][ ][ ][ ] [ ]
2 7 8

MARRIAGE	213	IF YEAR D.K. IN 213 214	215	216	217	218	219	220
	In what year did your (first, second ......) marriage begin ?	How old were you at the time when your (first, second...) marriage began?	What month of the year was it when this marriage began ? ***INTERVIEWER***: *SPECIFY CALENDAR IF MONTH KNOWN (TICK MUSLIM OR WESTERN, SPECIFY IF OTHER)*	How many years and months did the marriage last ?	How did the marriage end?	In what year did (this marriage end, your husband die)?	In what month was that ? ***INTERVIEWER*** *: SPECIFY CALENDAR IF MONTH KNOWN (TICK MUSLIM OR WESTERN, SPECIFY IF OTHER)*	How many years and months did you remain without a husband after this marriage ended ?
1	19___ (YEAR) D.K [99] →	→ ___ (AGE)	___ (MONTH) MUSLIM [1] WESTERN [2] OTHER → ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS)	DEATH [1] DIVORCE [2] SEPARATION [3]	19___ (YEAR) D.K [99] →	___ (MONTH) MUSLIM 1 WESTERN 2 OTHER ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS) UNTIL NOW [1]
	[ ][ ] 10	[ ][ ] 12	[ ][ ] 14	[ ][ ] [ ][ ]	[ ] 19	[ ][ ] 21	[ ][ ] 23	[ ][ ][ ][ ]
2	19___ (YEAR) D.K [99] →	→ ___ (AGE)	___ (MONTH) MUSLIM [1] WESTERN [2] OTHER → ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS)	DEATH [1] DIVORCE [2] SEPARATION [3]	19___ (YEAR) D.K [99] →	___ (MONTH) MUSLIM 1 WESTERN 2 OTHER ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS) UNTIL NOW [1]
	[ ][ ] 30	[ ][ ] 32	[ ][ ] 34	[ ][ ] [ ][ ]	[ ] 39	[ ][ ] 41	[ ][ ] 43	[ ][ ][ ][ ]
3	19___ (YEAR) D.K [99] →	→ ___ (AGE)	___ (MONTH) MUSLIM [1] WESTERN [2] OTHER → ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS)	DEATH [1] DIVORCE [2] SEPARATION [3]	19___ (YEAR) D.K [99] →	___ (MONTH) MUSLIM 1 WESTERN 2 OTHER ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS) UNTIL NOW [1]
	[ ][ ] 50	[ ][ ] 52	[ ][ ] 54	[ ][ ] [ ][ ]	[ ] 59	[ ][ ] 61	[ ][ ] 63	[ ][ ][ ][ ]
4	19___ (YEAR) D.K [99] →	→ ___ (AGE)	___ (MONTH) MUSLIM [1] WESTERN [2] OTHER → ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS)	DEATH [1] DIVORCE [2] SEPARATION [3]	19___ (YEAR) D.K [99] →	___ (MONTH) MUSLIM 1 WESTERN 2 OTHER ___ (SPECIFY)	___ (YEARS) PLUS ___ (MONTHS) UNTIL NOW [1]
[2][2]	[ ][ ] 10	[ ][ ] 12	[ ][ ] 14	[ ][ ] [ ][ ]	[ ] 19	[ ][ ] 21	[ ][ ] 23	[ ][ ][ ][ ]

3 1 | | | | | | | 2 7 8

SECTION 3 : MATERNITY HISTORY

300. ***INTERVIEWER :*** *TICK APPROPRIATE BOX.*
PRESENCE OF OTHERS AT THIS POINT (TICK ALL APPLY).

NO OTHERS	0
CHILDREN UNDER 10	1
HUSBAND	2
OTHER MALES	4
OTHER FEMALES	8

10

301. We would like to get a complete record of all the babies each woman has actually given birth to in all of her life. Do you have any sons you have given birth to now living with you ?

YES 1 NO 2 (SKIP TO 303) — 11

302. How many live with you ?

_____ — 13

303. Do you have any sons you have given birth to who do not live with you ?

YES 1 NO 2 (SKIP TO 305) — 14

304. How many do not live with you ?

_____ — 16

305. Do you have any daughters you have given birth to now living with you ?

YES 1 NO 2 (SKIP TO 307) — 17

306. How many live with you ?

_____ — 19

307. Do you have any daughters you have given birth to who do not live with you ?

YES 1 NO 2 (SKIP TO 309) — 20

308. How many do not live with you ?

_____ — 22

309. ***INTERVIEWER :*** *ENTER HERE NUMBER OF LIVING CHILDREN (SUM OF 302, 304, 306 AND 308)*

_____ (LIVING CHILDREN) — 24

310. Have you ever given birth to any boy or girl who later died, even if the child lived for only a short time, may be a few hours, a few days or a few month ?

YES [1] NO [2] (SKIP TO 312) — 25

311. How many of your children have died in all ? _____ — 27

312. ***INTERVIEWER :*** *SUM ANSWERS TO 302, 304, 306, 308 AND 311.*

_____ (LIVE BIRTHS) — 29

NOW ASK :

313. Just to make sure I have this right, you had _____ (SUM IN 312) births altogether and _____ (NUMBER IN 309) are still living. Is that correct ?

YES [1] NO [2] *(PROBE AND CORRECT RESPONSES AS NEEDED)* — 30

314. Are you pregnant now ?

YES [1] NO [2] (SKIP TO 317) D.K. [3] (SKIP TO 317) — 31

315. In what month of pregnancy are you now ?

_____ (MONTH) — 32

316. Would you prefer to have a boy or a girl ?

BOY [1] GIRL [2] EITHER [3] — 33

OTHER ANSWER : _____ (SPECIFY)

317. *INTERVIEWER : TICK APPROPRIATE BOX (**SEE 312**).*

NO LIVE BIRTH [1] (SKIP TO 321) ONE LIVE BIRTH [2] (SKIP TO 326) TWO OR MORE LIVE BIRTHS [3] — 34

318. Have you ever had twins or triplets ?

YES [1] NO [2] (SKIP TO 320) — 35

319. ***INTERVIEWER :*** *RECORD NUMBER OF FERTILE PREGNANCIES. (COUNT MULTIPLE BIRTHS AS ONE LIVE BIRTH).*

_____ (NUMBER) — 37

IN SUBSEQUENT QUESTIONS USE THIS NUMBER AS NUMBER OF LIVE BIRTHS.

320. Now I want to ask you some questions about each of your children, starting with the first one you had.

INTERVIEWER : *IN TABLE, CIRCLE NUMBER IN COLUMN 326 THE NUMBER OF LIVE BIRTHS MENTIONED IN 312, AND CROSS THE NEXT NUMBER. FIRST, COMPLETE 327-334 FOR ALL LIVE BIRTHS (UP TO CIRCLED NUMBER IN 326). THEN FOR EACH INTERVAL (UP TO CROSSED IN 326). COMPLETE 335- 339 FOR EACH*

321. ***INTERVIEWER :*** *TICK APPROPRIATE BOX (**SEE 314**).*

CURRENTLY PREGNANT [1] ↓

322. A side from your current pregnancy, have there been any other times, you were pregnant ? (IF NO, PROBE : I mean have you ever had a pregnancy that lasted for just a few weeks or a few months) ?

YES [1] NO [2]

(SKIP TO 325)

NOT CURRENTLY PREGNANT OR D.K. [2] ↓

323. Have you ever been pregnant (IF NO PROBE : I mean have you ever had a pregnancy even one that lasted just for a few weeks or a few months) ?

YES [1] NO [2]

(SKIP TO 325)

38 ☐

39 ☐

324. Did you ever do something or have something done by a midwife or a doctor or someone else to end any pregnancy that you did not want ?

YES [1] ↓

NO [2]

(SKIP TO 345)

40 ☐

325. How many such pregnancy ?

_____

(NUMBER)

42 ☐☐

FOR EACH PREGNANCY COMPLETE 336-339, RECORD THE ANSWERS IN TWO LINES PROVIDED FOR FIRST LIVE BIRTH.

FOR ALL LIVE BIRTHS (UP TO CIRCLED NUMBER IN 326)

326	327	328	329	IF D.K. IN 329 / 330	331	332	333	IF DEAD IN 333 / 334
Live birth number (CIRCLE LAST LIVE BIRTH AND CROSS NEXT NUMBER)	What was **his/her** name ?	Was that a **boy** or a **girl** ?	In what year was (NAME OF CHILD) born ?	How many years and months ago was (NAME OF CHILD) born ? *(RECORD BEST ESTIMATE)*	In what month was that child born ? *INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN. (TICK MUSLIM OR WESTERN, SPECIFY IF OTHER).*	How many years and months after your (first marriage, previous birth) did you have this child ?	Is **he/she** still living ?	How many years and months old was the child when he/she died ?
1	_____ (NAME)	B [1] G [2] 9	19__ (YEAR) DK [99] 11	→ ____YRS PLUS ____MOS 15	M [1] W [2] (MONTH) OTHER ____ 17	→ ____YRS PLUS ____MOS 20	YES [1] NO [2] → 21	____YRS PLUS ____MOS 23
2	_____ (NAME)	B [1] G [2] 33	19__ (YEAR) DK [99] 35	→ ____YRS PLUS ____MOS 39	M [1] W [2] (MONTH) OTHER ____ 41	→ ____YRS PLUS ____MOS 44	YES [1] NO [2] → 45	____YRS PLUS ____MOS 47
3	_____ (NAME)	B [1] G [2] 57	19__ (YEAR) DK [99] 59	→ ____YRS PLUS ____MOS 63	M [1] W [2] (MONTH) OTHER ____ 65	→ ____YRS PLUS ____MOS 68	YES [1] NO [2] → 69	____YRS PLUS ____MOS 71
4	_____ (NAME)	B [1] G [2] 9	19__ (YEAR) [99] 11	→ ____YRS PLUS ____MOS 15	M [1] W [2] (MONTH) OTHER ____ 17	→ ____YRS PLUS ____MOS 20	YES [1] NO [2] → 21	____YRS PLUS ____MOS 23
5	_____ (NAME)	B [1] G [2] 33	19__ (YEAR) [99] 35	→ ____YRS PLUS ____MOS 39	M [1] W [2] (MONTH) OTHER ____ 41	→ ____YRS PLUS ____MOS 44	YES [1] NO [2] → 45	____YRS PLUS ____MOS 47

FOR ALL INTERVALS (UP TO X IN 326)

INTERVAL	335	For all pregnancy in intervals: 336	IF 7 MONTHS OR MORE: 337	IF 7 MONTHS OR MORE: 338	IF LESS THAN 7 MONTHS: 339	
FOR THE LAST INTERVAL (IN ROW WITH X IN 326) USE "AFTER YOUR LAST BIRTH (OTHER THAN YOUR CURRENT PREGNANCY)"	Were there any time (STATE INTERVAL) that you were pregnant even if only for a few weeks or months ? IF "YES": How many such pregnancies were there in that interval ?	How many months did the (first, second ....) such pregnancy last ?	Did that baby show any sign of life after it was born ?	IF "YES" : was it a boy or a girl ?	Did you or a Doctor or someone else do anything to end that pregnancy early ?	
BEFORE FIRST BIRTH (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	[4][1] / 3 7 8 / 25 28
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 24	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	29 32
BETWEEN FIRST AND SECOND BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	49 52
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 48	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	53 56
BETWEEN SECOND AND THIRD BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	73 76
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 72	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	77 80
BETWEEN THIRD AND FOURTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	[4][2] / 3 7 8
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 24	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	25 28 / 29 32
BETWEEN FOURTH AND FIFTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	49 52
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 48	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → B [1] / NO [2] → G [2]		YES [1] / NO [2]	53 56

FOR ALL LIVE BIRTHS (UP TO CIRCLED NUMBER IN 326)

326	327	328	329	IF D.K. IN 329 → 330	331	332	333	IF DEAD IN 333 → 334
Live birth number (CIRCLE LAST LIVE BIRTH AND CROSS NEXT NUMBER)	What was his/her name ?	Was that a **boy** or a **girl** ?	In what year was (**NAME OF CHILD**) born ?	How many years and months ago was (NAME OF CHILD) born ? *(RECORD BEST ESTIMATE)*	In what month was that child born ? *INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN. (TICK MUSLIM OR WESTERN, SPECIFY IF OTHER).*	How many years and months after your (first marriage, previous birth) did you have this child ?	Is he/she still living ?	How many years and months old was the child when he/she died ?
6	_____ (NAME)	B 1 G 2 → 9	19 _____ (YEAR) DK 99 → 11	_____ YRS PLUS _____ MOS → 15	M 1 W 2 _____ (MONTH) OTHER _____ → 17	_____ YRS PLUS _____ MOS → 20	YES 1 NO 2 → 21	_____ YRS PLUS _____ MOS → 23
7	_____ (NAME)	B 1 G 2 → 33	19 _____ (YEAR) DK 99 → 35	_____ YRS PLUS _____ MOS → 39	M 1 W 2 _____ (MONTH) OTHER _____ → 41	_____ YRS PLUS _____ MOS → 44	YES 1 NO 2 → 45	_____ YRS PLUS _____ MOS → 47
8	_____ (NAME)	B 1 G 2 → 57	19 _____ (YEAR) DK 99 → 59	_____ YRS PLUS _____ MOS → 63	M 1 W 2 _____ (MONTH) OTHER _____ → 65	_____ YRS PLUS _____ MOS → 68	YES 1 NO 2 → 69	_____ YRS PLUS _____ MOS → 71
9	_____ (NAME)	B 1 G 2 → 9	19 _____ (YEAR) 99 → 11	_____ YRS PLUS _____ MOS → 15	M 1 W 2 _____ (MONTH) OTHER _____ → 17	_____ YRS PLUS _____ MOS → 20	YES 1 NO 2 → 21	_____ YRS PLUS _____ MOS → 23
10	_____ (NAME)	B 1 G 2 → 33	19 _____ (YEAR) 99 → 35	_____ YRS PLUS _____ MOS → 39	M 1 W 2 _____ (MONTH) OTHER _____ → 41	_____ YRS PLUS _____ MOS → 44	YES 1 NO 2 → 45	_____ YRS PLUS _____ MOS → 47

FOR ALL INTERVALS (UP TO X IN 326)

INTERVAL

FOR THE LAST INTERVAL (IN ROW WITH X IN 326) USE "AFTER YOUR LAST BIRTH (OTHER THAN YOUR CURRENT PREGNANCY)"	335 Were there any time (STATE INTERVAL) that you were pregnant even if only for a few weeks or months ? IF "YES": How many such pregnancies were there in that interval ?	For all pregnancy in intervals: 336 How many months did the (first, second ....) such pregnancy last ?	IF 7 MONTHS OR MORE: 337 Did that baby show any sign of life after it was born ?	338 IF "YES" : was it a boy or a girl ?	IF LESS THAN 7 MONTHS: 339 Did you or a Doctor or someone else do anything to end that pregnancy early ?	
BETWEEN FIFTH AND SIXTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] →	B [1]	YES [1]	25 28
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 24		NO [2]	G [2]	NO [2]	29 32
BETWEEN SIXTH AND SEVENTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] →	B [1]	YES [1]	49 52
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 48		NO [2]	G [2]	NO [2]	53 56
BETWEEN SEVENTH AND EIGHTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] →	B [1]	YES [1]	73 76
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 72		NO [2]	G [2]	NO [2]	77 80
BETWEEN EIGHTH AND NINTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] →	B [1]	YES [1]	25 28
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 24		NO [2]	G [2]	NO [2]	29 32
BETWEEN NINTH AND TENTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] →	B [1]	YES [1]	49 52
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 48		NO [2]	G [2]	NO [2]	53 56

[4 1] 3 7 8

[4 2] 3 7 8

FOR ALL LIVE BIRTHS (UP TO CIRCLED NUMBER IN 326)

326	327	328	329	IF D.K. IN 329 / 330	331	332	333	IF DEAD IN 333 / 334
Live birth number (CIRCLE LAST LIVE BIRTH AND CROSS NEXT NUMBER)	What was his/her name ?	Was that a boy or a girl ?	In what year was (NAME OF CHILD) born ?	How many years and months ago was (NAME OF CHILD) born ? (*RECORD BEST ESTIMATE*)	In what month was that child born ? *INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN. (TICK MUSLIM OR WESTERN, SPECIFY IF OTHER).*	How many years and months after your (first marriage, previous birth) did you have this child ?	Is he/she still living ?	How many years and months old was the child when he/she died ?
11	_____ (NAME)	B 1 G 2 → 9	19 _____ (YEAR) DK 99 → 11	→ _____ YRS PLUS _____ MOS 15	M 1 W 2 _____ (MONTH) OTHER _____ 17	→ _____ YRS PLUS _____ MOS 20	YES 1 ← NO 2 → 21	_____ YRS PLUS _____ MOS 23
12	_____ (NAME)	B 1 G 2 → 33	19 _____ (YEAR) DK 99 → 35	→ _____ YRS PLUS _____ MOS 39	M 1 W 2 _____ (MONTH) OTHER _____ 41	→ _____ YRS PLUS _____ MOS 44	YES 1 ← NO 2 → 45	_____ YRS PLUS _____ MOS 47
13	_____ (NAME)	B 1 G 2 → 57	19 _____ (YEAR) DK 99 → 59	→ _____ YRS PLUS _____ MOS 63	M 1 W 2 _____ (MONTH) OTHER _____ 65	→ _____ YRS PLUS _____ MOS 68	YES 1 ← NO 2 → 69	_____ YRS PLUS _____ MOS 71
14	_____ (NAME)	B 1 G 2 → 9	19 _____ (YEAR) 99 → 11	→ _____ YRS PLUS _____ MOS 15	M 1 W 2 _____ (MONTH) OTHER _____ 17	→ _____ YRS PLUS _____ MOS 20	YES 1 ← NO 2 → 21	_____ YRS PLUS _____ MOS 23
15	_____ (NAME)	B 1 G 2 → 33	19 _____ (YEAR) 99 → 35	→ _____ YRS PLUS _____ MOS 39	M 1 W 2 _____ (MONTH) OTHER _____ 41	→ _____ YRS PLUS _____ MOS 44	YES 1 ← NO 2 → 45	_____ YRS PLUS _____ MOS 47

FOR ALL INTERVALS (UP TO X IN 326)

INTERVAL	335	For all pregnancy in intervals: 336	IF 7 MONTHS OR MORE: 337	IF 7 MONTHS OR MORE: 338	IF LESS THAN 7 MONTHS: 339	
FOR THE LAST INTERVAL (IN ROW WITH X IN 326) USE "AFTER YOUR LAST BIRTH (OTHER THAN YOUR CURRENT PREGNANCY)"	Were there any time (STATE INTERVAL) that you were pregnant even if only for a few weeks or months ? IF "YES": How many such pregnancies were there in that interval ?	How many months did the (first, second ....) such pregnancy last ?	Did that baby show any sign of life after it was born ?	IF "YES" : was it a boy or a girl ?	Did you or a Doctor or someone else do anything to end that pregnancy early ?	4 1 / 3 7 8
BETWEEN TENTH AND ELEVENTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	25 28
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 24	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	29 32
BETWEEN ELEVENTH AND TWELFTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YFS [1] / NO [2] ←	49 52
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 48	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	53 56
BETWEEN TWELFTH AND THIRTEENTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	73 76
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 72	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	77 80
BETWEEN THIRTEENTH AND FOURTEENTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	4 2 / 3 7 8
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 24	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	25 28 / 29 32
BETWEEN FOURTEENTH AND FIFTEENTH BIRTHS (USE NAME IN 327)	YES [1] ——→	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	49 52
	NO [2] GO TO NEXT INTERVAL, IF ANY [ ] 48	____ MONTHS IF 7 MONTHS OR MORE IF LESS THAN 7 MONTHS	YES [1] → / NO [2] ←	B [1] ← / G [2]	YES [1] / NO [2] ←	53 56

5 1 | | | | | | | 3 7 8

340. Did you feed _____ (NAME OF "MOST RECENT CHILD") at the breast ?

YES [1] NO [2] (SKIP TO 342) — 9

341. For how many months did you feed (him/her) at the breast ?

_____ (MONTHS) STILL BREAST FEEDING [88] — 11

342. ***INTERVIEWER :*** *TICK APPROPRIATE BOX* ***(SEE 326)***.

ONE LIVE BIRTH [1] (SKIP TO 345) TWO OR MORE LIVE BIRTHS [2] — 12

343. And did you feed _____ (NAME OF SECOND TO LAST CHILD) at the breast ?

YES [1] NO [2] (SKIP TO 345) — 13

344. For how many months did you feed (him/her) at the breast ?

_____ (MONTHS) — 15

INTERVIEWER : *TICK APPROPRIATE BOXES IN* ***345*** *AND* ***346*** *BEFORE STARTING* ***SECTION 4***.

345. RESPONDENT'S ABILITY TO GIVE DATES OF EVENTS.

GOOD [1] FAIR [2] POOR [3] — 16

346. PRESENCE OF OTHERS AT THIS POINT (TICK ALL THAT APPLY)

NO OTHERS	0
CHILDREN UNDER 10	1
HUSBAND	2
OTHER MALES	4
OTHER FEMALES	8

— 18

SECTION 4 : CONTRACEPTIVE KNOWLEDGE AND USE

401. There are methods that people can use to avoid pregnancy and to space their children. This is called Family Planning. Have you ever heard about Family Planning, that is that people can do - something to have children only when they want them ?

YES [1] NO [2] → 19

402. Do you know of or heard of any ways or methods to delay a pregnancy or avoid pregnancy ?

YES [1] NO [2] → 20

(SKIP TO INSTRUCTION ABOVE 405)

403. Which methods to delay a pregnancy or avoid a pregnancy do you know of ?

_____

PROBE : Do you know of any others ? → 22

_____

INTERVIEWER : *RECORD ANSWERS, AND THEN PROCEED TO TICK BOX (ES) IN COL. 1 CORRESPONDING TO THE METHOD **(S)** MENTIONED, FOR EACH METHOD SO TICKED, EXCEPT STERILIZATION, **ASK** :*

404. Have you ever used (METHOD) ?

(REFER TO METHOD IN SAME WORDS USED BY R IN 403. TICK RESPONSE IN COL. 3 CORRESPONDING TO THE PARTICULAR METHOD). NOW ASK 405 - 418, IN TURN, SKIPPING THOSE METHODS TICKED IN COL. 1. PREFACE THE QUESTIONING WITH :

"There are some other methods which you have not mentioned, and I would like to find out if you might have heard of them"

COL. 1	*FOR THOSE WHO SAID "**NO**" TO 402, PREFACE Q 405 WITH :*	COL. 2	COL. 3	
FROM 404	" Just to make sure, let me describe some methods to see if you have heard of them "	EVER HEARD OF	EVER USED	
[3] PILL	405. One way a woman can delay the next pregnancy, or avoid getting preg - nant, is to take a pill every day. Have you ever heard of this method? (TICK RESPONSE IN COL. 2). IF "NO", SKIP TO NEXT UNTICKED METHOD. IF "YES": Have you ever used this me - thod ? (TICK RESPONSE IN COL. 3)	YES [1] NO [2]	YES [1] NO [2]	→ 24
[3] IUD	406. A woman may have a loop or coil of plastic or metal, the intrauterine device (IUD), inserted in her womb by a doctor or midwife and left - there. Have you ever heard of this method ? (AS ABOVE). IF "YES": Have you ever used this method ? (AS ABOVE)	YES [1] NO [2]	YES [1] NO [2]	→ 26

COL. 1 FROM 404		COL. 2 EVER HEARD OF	COL. 3 EVER USED	
[3] OTHER FEMALE SCIEN TIFIC	407. Women may also use other methods to avoid getting pregnant, such- as placing a diaphragm or tampon or sponge in themselves before - sex, or using foam tablets, or jelly or cream. Have you ever heard of any of these methods ? IF "YES": Have you ever used any of these methods ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 28
[3] DOUCHE	408. Some women wash themselves immediately after sex, with water or perhaps some other liquid. Have you ever heard of this method to avoid getting pregnant ? IF "YES" : Have you ever used this method?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 30
[3] CONDOM	409. There are also some methods **men** use so that their wives will not get pregnant. Some men wear a condom during sex. Have you ever heard of this method ? IF "YES": Did you and your husband ever use this method ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 32
[3] RHYTHM	410. Some couples avoid having sex on particular days of the month when the woman is most able to become pregnant. This is called the safe period or rhythm method. Have you ever heard of this method ? IF "YES": Did you and your husband ever do this ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 34
[3] WITH- DRAWAL	411. Some men practise withdrawal, that is, they are careful and pull out before climax. Have you ever heard of this method ? IF "YES": Did you and your husband ever use this method ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 36
[3] AB- STAIN	412. Another way is to go without sex for several months or longer, to avoid getting pregnant. Have you ever heard of this method ? IF "YES": Have you ever done this to avoid getting pregnant ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 38
[3] INJECTI BLES	413. Some women get shots every three months or so to avoid getting pregnant. Have you ever heard of this method ? IF "YES": Have you ever done this ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 40
[3] HERBS	414. Some women take medicine made of herbs to avoid pregnancy. Have you ever heard of such medicines? IF "YES": Did you ever take such medicines ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 42
[3] MASSAGE	415. Some women have their abdomen massaged in order not to have any more children. Have you ever heard of this method ? IF "YES": Did you ever have this done in order not to have any more children ?	YES [1] NO [2]	YES [1] NO [2]	[ ][ ] 44

COL. 1		COL. 2	COL. 3	
FROM 404		EVER HEARD OF	EVER USED	
3 INVERSION OF UTERUS	416. Some women have the midwife or some one like that turn the uterus around so that pregnancy would not take place. Have you ever heard of this method ? IF "YES" : Did you ever have this done in order not to have anymore children ?	YES 1 NO 2	YES 1 NO 2	46
3 FEMALE STERILIZATION	417. Some women have an operation, called sterilization, such as having their tubes tied, in order not to have anymore children. Have you ever heard of this method ? (TICK RESPONSE IN COL. 2)	YES 1 NO 2		47
3 MALE STERILIZATION	418. Some men have a sterilization operation, called **vasectomy**, so that their wife will not have more children. Have you ever heard of this method ? (TICK RESPONSE IN COL. 2)	YES 1 NO 2		48
3 OTHER	419. Have you ever heard of any other methods which women or men use to avoid pregnancy ? YES 1 NO 2 (SKIP TO 421)			49
LIST BELOW	420. What methods have you heard of ? LIST BELOW AND FOR EACH METHOD ASK : Did you or your husband ever use (**METHOD**) so that you would not get pregnant ? (TICK RESPONSE IN COL. 3).			
1.	_____		YES 1 NO 2	1 52
2.	_____		YES 1 NO 2	1 55
3.	_____		YES 1 NO 2	1 58

421. ***INTERVIEWER*** : *TICK APPROPRIATE BOX.*

AT LEAST ONE "YES" IN COL. 3 [1] (SKIP TO 424)

NOT A SINGLE "YES" IN COL. 3 [2]

59

422. I want to make sure I have the correct information. Have you ever done anything or tried in any way to delay or avoid getting pregnant ?

YES [1]

NO [2] (SKIP TO SECTION 5)

60

423. What method was that ?

_____

_____

(SKIP TO 425)

62

424. Which was the first method you used to delay or avoid pregnancy ?

_____

(METHOD)

64

425. How many living children did you have when you first used that method ?

NONE [00]

_____

(NUMBER)

66

SECTION 5 : FERTILITY REGULATION

501. INTERVIEWER : TICK APPROPRIATE BOX (SEE 314)

CURRENTLY PREGNANT [1] → 502

NOT CURRENTLY PREGNANT, OR D.K. [2] → 503

67

502. INTERVIEWER : TICK APPROPRIATE BOX (SEE 421, 422)

HAS USED A CONTRACEPTIVE METHOD [1] (SKIP TO 553 YELLOW PAGES)

HAS NEVER USED A CONTRACEPTIVE METHOD [2] (SKIP TO 547 GREEN PAGES)

503. INTERVIEWER : TICK APPROPRIATE BOX (SEE 201, 207)

MARRIED AND LIVING WITH HUSBAND [1]

SEPARATED, WIDOWED OR DIVORCED [2] (SKIP TO 570 BLUE PAGES)

68

69

504. INTERVIEWER : TICK APPROPRIATE BOX (SEE 421, 422)

HAS USED A CONTRACEPTIVE METHOD [1] (SKIP TO 506)

HAS NEVER USED A CONTRACEPTIVE METHOD [2]

70

505. As far as you know, is it physically possible for you and your husband to have a child supposing you wanted one ?

YES [1] (SKIP TO 509 GREY PAGE)

NO [2] (SKIP TO 570 BLUE PAGES)

D.K. [3] (SKIP TO 509 GREY PAGE)

71

506. Are you or your husband currently using a method to keep you from getting pregnant ?

YES [1]

NO [2] (SKIP TO 508)

72

507. What method are you using ?

PILL [01] → Do you take the pill regularly every day ?

YES [1] NO [2]

74

OTHER _____ (SPECIFY)

75

FEMALE STERILIZATION [11] (SKIP TO 571 BLUE PAGES)

MALE STERILIZATION [12] (SKIP TO 575 BLUE PAGES)

OTHER METHODS _____ (SPECIFY) → (SKIP TO 518 PINK PAGES)

76

508. As far as you know, is it physically possible for you and your husband to have a child supposing you wanted one ?

YES [1] (SKIP TO 518 PINK PAGES)

NO [2] (SKIP TO 570 BLUE PAGES)

D.K. [3] (SKIP TO 518 PINK PAGES)

77

NOTE : 509 - 517 ARE ONLY FOR THOSE NOT CURRENTLY PREGNANT, LIVING WITH HUSBAND, FECUND, WHO HAVE NEVER USED A CONTRACEPTIVE METHOD.

509. INTERVIEWER : TICK APPROPRIATE BOX (SEE 312)

NO LIVE BIRTH [1] (SKIP TO 514)

ONE OR MORE LIVE BIRTH [2] [ ] 9

510. Do you want to have another child sometime ?

YES [1] NO [2] (SKIP TO 513) UNDECIDED [3] (SKIP TO 513) [ ] 10

511. Would you prefer your next child to be a boy or a girl ?

BOY [1] GIRL [2] EITHER [3] [ ] 11

OTHER ANSWER _____ (SPECIFY)

512. How many more children do you want to have ?

_____ (NUMBER) (SKIP TO 517) [ ][ ] 13 [ ][ ] 15

513. IF ONE LIVE BIRTH, ASK :

Thinking back to the time before you became pregnant with your child, had you wanted to have any children ?

IF TWO OR MORE LIVE BIRTHS, ASK :

Thinking back to the time before you became pregnant with your last child, had you wanted to have any more children ?

YES [1] (SKIP TO 517) NO [2] (SKIP TO 517) UNDECIDED [3] (SKIP TO 517) [ ] 16

514. Do you want to have any children ?

YES [1] NO [2] (SKIP TO 517) D.K. [3] (SKIP TO 517) [ ] 17

515. Would you prefer your first child to be a boy or a girl ?

BOY [1] GIRL [2] EITHER [3] [ ] 18

OTHER ANSWER _____ (SPECIFY)

516. How many children in all do you want to have ?

_____ (NUMBER) [ ][ ] 20 [ ][ ] 22

517. Do you think you and your husband may use any method at any time in the future so that you will not become pregnant ?

YES [1] NO [2] UNDECIDED [3] [ ] 23

599. If you could choose exactly the number of children to have in your whole life, how many children would that be ?

_____ (NUMBER) (SKIP TO **SECTION 6**) [ ][ ] 25 [ ][ ] 27

6 2 | | | | | | | 1 7 8

P I N K

NOTE : 518 - 546 ARE ONLY FOR THOSE NOT CURRENTLY PREGNANT, LIVING WITH HUSBAND, FECUND, WHO HAVE USED A CONTRACEPTIVE METHOD.

518. INTERVIEWER : TICK APPROPRIATE BOX (SEE 312)

NO LIVE BIRTH [1] (SKIP TO 539)

ONE OR MORE LIVE BIRTHS [2] 9

519. Do you want to have another child sometime ?

YES [1] NO [2] (SKIP TO 530) UNDECIDED [3] (SKIP TO 530) 10

520. Would you prefer your next child to be a boy or a girl ?

BOY [1] GIRL [2] EITHER [3] 11

OTHER ANSWER _____ (SPECIFY)

521. How many more children do you want to have ?

_____ (NUMBER) 13 15

522. INTERVIEWER : TICK APPROPRIATE BOX (SEE 506)

CURRENTLY CONTRACEPTING [1] (SKIP TO 526) 16

NOT CURRENTLY CONTRACEPTING [2]

523. Have you or your husband used a method to keep you from getting pregnant since the time of your last child's birth ?

YES [1] NO [2] (SKIP TO 526) 17

524. What was the last method you used ?

_____ ABSTINENCE [88] → (SKIP TO 599) 19

525. Did you stop because you wanted to become pregnant ?

YES [1] NO [2] 20

525 A. Why did you stop ?

_____

_____ 22

526. IF ONE LIVE BIRTH, ASK :

Thinking back to the time before you became pregnant with your child. Was there any time before the birth of your child when you or your husband were using a method to keep you from getting pregnant ?

YES [1] (TO 527) NO [2] (SKIP TO 599)

IF TWO OR MORE LIVE BIRTHS, ASK :

Thinking back to the interval between your last two births (USE NAMES). Was there any time in the interval between your (last) two births (USE NAMES) when you or your husband were using a method to keep you from getting pregnant ?

YES [1] (TO 527) NO [2] (SKIP TO 599) 23

PINK

527. What method were you using ?

ABSTINENCE [88] → (SKIP TO 599) — 25

528. Did you become pregnant while using that method, or had you stopped using before becoming pregnant ?

WHILE USING [1] (SKIP TO 599) — HAD STOPPED [2] — D.K. [3] (SKIP TO 599) — 26

529. Did you stop because you wanted to become pregnant ?

YES [1] (SKIP TO 599) — NO [2] — 27

529 A. Why did you stop ? — 29

(SKIP TO 599)

530. *INTERVIEWER : TICK APPROPRIATE BOX (SEE 506)*

CURRENTLY CONTRACEPTING [1] (SKIP TO 533) — NOT CURRENTLY CONTRACEPTING [2] — 30

531. Have you or your husband used a method to keep you from getting pregnant since the time of your last child's birth ?

YES [1] — NO [2] (SKIP TO 533) — 31

532. What was the last method you used ? — 33

532 A. Why did you stop using that method ? — 35

533. *IF ONE LIVE BIRTH, ASK :*

Thinking back to the time before you became pregnant with your child, had you wanted to have any children ?

YES [1] NO [2] UNDECIDED [3]

IF TWO OR MORE LIVE BIRTHS, ASK :

Thinking back to the time before you became pregnant with your last child, had you wanted to have any more children ?

YES [1] NO [2] UNDECIDED [3] — 36

534. Was there any time before the birth of your child when you or your husband were using method to keep you from getting pregnant ?

YES [1] NO [2] (SKIP TO 599)

Was there any time in the interval between your last two births (USE NAMES OF CHILDREN). When you or your husband were using a method to keep you from getting pregnant ?

YES [1] NO [2] (SKIP TO 599) — 37

535. What method were you using ?

ABSTINENCE [88] → (SKIP TO 599) — 39

(TO 536)

P I N K

536. Did you become pregnant while using that method, or had you stopped using before becoming pregnant ?

WHILE USING [1] (SKIP TO 599)

HAD STOPPED [2]

D.K. [3] (SKIP TO 599)

40

537. INTERVIEWER : TICK APPROPRIATE BOX (SEE 533)

"YES" [1] TO 533

"NO" OR "UNDECIDED" [2] TO 533

41

538. Did you stop because you wanted to become pregnant ?

YES [1] (SKIP TO 599)

NO [2]

42

538 A. Why did you stop using the method ?

_____

(SKIP TO 599)

44

---

539. Do you want to have any children ?

YES [1]

NO [2] (SKIP TO 545)

UNDECIDED [3] (SKIP TO 545)

45

540. Would you prefer your first child to be a boy or a girl ?

BOY [1] GIRL [2] EITHER [3]

OTHER ANSWER _____ (SPECIFY)

46

541. How many children in all do you want to have ?

_____ (NUMBER)

48 50

542. INTERVIEWER : TICK APPROPRIATE BOX (SEE 506)

CURRENTLY CONTRACEPTING [1] (SKIP TO 599)

NOT CURRENTLY CONTRACEPTING [2]

51

543. What was the last method you or your husband used to keep you from getting pregnant ?

_____ ABSTINENCE [88] → (SKIP TO 599)

53

544. Did you stop because you wanted to become pregnant ?

YES [1] (SKIP TO 599)

NO [2]

54

544 A. Why did you stop ?

_____

(SKIP TO 599)

56

P I N K

545. *INTERVIEWER : TICK APPROPRIATE BOX (SEE 506)*

CURRENTLY CONTRACEPTING [1] (SKIP TO 599)

NOT CURRENTLY CONTRACEPTING [2]

57

546. What was the last method you or your husband used to keep you from getting pregnant ?

59

546 A. Why did you stop ?

61

599. If you could choose exactly the number of children to have in your whole life, how many children would that be ?

63 65

_____ (NUMBER)

(SKIP TO **SECTION 6**)

NOTE : 547 - 552 ARE ONLY FOR THOSE CURRENTLY PREGNANT WHO HAVE NEVER USED A CONTRACEPTIVE METHOD

547. INTERVIEWER : TICK APPROPRIATE BOX (SEE 201, 207)

MARRIED AND LIVING WITH HUSBAND [1] → 548.

SEPARATED, WIDOWER OR DIVORCED [2] (SKIP TO 552)

548. Do you want to have another child sometime, in addition to the one you are expecting ?

YES [1] → 549. NO [2] → 550. UNDECIDED [3] → 550.

549. How many more children do you want to have, after the one you are expecting ?

_____ (NUMBER)

→ 551.

550. Before you became pregnant this time, had you wanted to have any (more) children ?

YES [1] → 551. NO [2] → 551. UNDECIDED [3] → 551.

551. Do you think you or your husband may use any method at any time in the future so that you will not become pregnant ?

YES [1] (SKIP TO 599) NO [2] (SKIP TO 599) UNDECIDED [3] (SKIP TO 599)

552. Before you became pregnant this time, had you wanted to have any (more) children ?

YES [1] → 599. NO [2] → 599. UNDECIDED [3] → 599.

599. If you could choose exactly the number of children to have in your whole life, how many children would that be ?

_____ (NUMBER)

(SKIP TO **SECTION 6**)

9 10 12 14 15 16 17 19 21

6 4 1 3 7 8 YELLOW

NOTE : 553 - 569 ARE ONLY FOR THOSE CURRENTLY PREGNANT WHO HAVE USED A CONTRACEPTIVE METHOD

553. INTERVIEWER : TICK APPROPRIATE BOX (SEE 201, 207)

MARRIED AND LIVING WITH HUSBAND [1]   SEPARATED, WIDOWED OR DIVORCED [2] (SKIP TO 562)   9

554. Do you want to have another child sometime, in addition to the one you are expecting ?

YES [1]   NO [2] (SKIP TO 562)   UNDECIDED [3] (SKIP TO 562)   10

555. How many more children do you want to have, after the one you are expecting ?

______________________ (NUMBER)   12 14

556. INTERVIEWER : TICK APPROPRIATE BOX (SEE 312)

NO LIVE BIRTH [1]   ONE OR MORE LIVE BIRTHS [2]   15

557. What was the last method you or your husband used to keep you from getting pregnant ?

____

____

ABSTINENCE [88] → (SKIP TO 599)

558. Think back to the interval between your (last) birth and your current pregnancy. Was there any time during that interval when you or your husband were using a method to keep you from getting pregnant ?   17

YES [1]   NO [2] (SKIP TO 599)   18

559. What was the last method you used ?   20

____

____

ABSTINENCE [88] → (SKIP TO 599)

560. Did you become pregnant while using that method, or had you stopped using before becoming pregnant ?

WHILE USING [1] (SKIP TO 599)   HAD STOPPED [2]   D.K. [3] (SKIP TO 599)   21

561. Did you stop because you wanted to become pregnant ?

YES [1] (SKIP TO 599)   NO [2]   22

561 A. Why did you stop using the method ?

______________________ (SKIP TO 599)   24

YELLOW

562. Before you became pregnant this time, had you wanted to have any (more) children ?

YES [1] NO [2] UNDECIDED [3] — 25

563. INTERVIEWER : TICK APPROPRIATE BOX (SEE 312) — 26

NO LIVE BIRTH [1] → 564. What was the last method you or your husband used to keep you from getting pregnant ?

_____

_____

ABSTINENCE [88] → (SKIP TO 599)

ONE OR MORE LIVE BIRTHS [2] → 565. Think back to the interval between your last birth and your current pregnancy. Was there any time during that interval when you or your husband were using a method to keep you from getting pregnant ? — 28 — 29

YES [1] NO [2] (SKIP TO 599)

566. What was the last method you used ? — 31

_____

_____

ABSTINENCE [88] → (SKIP TO 599)

567. Did you become pregnant while using the method, or had you stopped using before becoming pregnant ?

WHILE USING [1] (SKIP TO 599) HAD STOPPED [2] D.K. [3] (SKIP TO 599) — 32

568. INTERVIEWER : TICK APPROPRIATE BOX (SEE 562) — 33

"YES" TO 562 [1] "NO" OR "UNDECIDED" [2] TO 562

569. Did you stop because you wanted to become pregnant ? — 34

YES [1] NO [2]

569 A. Why did you stop ? — 36

_____

_____

599. If you could exactly choose the number of children to have in your whole life, how many children would that be ? — 38 — 40

_____ (NUMBER)

(SKIP TO **SECTION 6**)

6 5 (1) (3–7) (8)

BLUE

NOTE : 570 - 595 ARE FOR THOSE WHO CANNOT HAVE (MORE) CHILDREN AS WELL AS FOR THOSE WHO ARE SEPARATED, WIDOWED OR DIVORCED

570. Have you had an operation that makes it impossible for you to have any (more) children ? (9)

YES [1] NO [2] (SKIP TO 573)

571. In what year did that operation take place ? (11)

19_____ (YEAR) D.K. [99] → 571 A. How many years ago was that ? ________ (YEARS) (13)

571 B. What month of the year was it ? ________ (MONTH) (15)

INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN

MUSLIM [1] WESTERN [2] OTHER ________ (SPECIFY)

572. Was one purpose of that operation to prevent you having any (more) children ? (16)

YES [1] (SKIP TO 576) NO [2] (SKIP TO 576)

573. INTERVIEWER : TICK APPROPRIATE BOX (SEE 201, 207) (17)

MARRIED AND LIVING WITH HUSBAND [1] SEPARATED, WIDOWED OR DIVORCED [2] (SKIP TO 576)

574. Has your husband had an operation that makes it impossible to have children ? (18)

YES [1] NO [2] (SKIP TO 576)

575. In what year did that operation take place ? (20)

19_____ (YEAR) D.K. [99] → 575 A. How many years ago was that ? ________ (YEARS) (22)

575 B What month of the year was it ? ________ (MONTH) (24)

INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN

MUSLIM [1] WESTERN [2] OTHER ________ (SPECIFY)

B L U E

576. INTERVIEWER : TICK APPROPRIATE BOX (SEE 421, 422)

HAS USED A CONTRACEPTIVE METHOD [1] → *577. TICK APPROPRIATE BOX (SEE 312)*

NO LIVE BIRTH [1] → 579.

ONE OR MORE LIVE BIRTHS [2] (SKIP TO 581)

HAS NEVER USED A CONTRACEPTIVE METHOD [2] → *578. TICK APPROPRIATE BOX (SEE 312)*

NO LIVE BIRTH [1] (SKIP TO 580)

ONE OR MORE LIVE BIRTHS [2] (SKIP TO 594)

25 26 27

579. What was the last method you or your husband used to keep you from becoming pregnant ?

_____ 29

580. Since you were first married, have you ever wanted to have any children ?

YES [1] (SKIP TO 599) NO [2] (SKIP TO 599) UNDECIDED [3] (SKIP TO 599) 30

581. Did you or your husband use any method at any time after the birth of your last child, to keep you from becoming pregnant ?

YES [1] → NO [2] (SKIP TO 583) 31

582. What was the last method you used ?

_____ 33

583. At any time after the birth of your last child, did you want to have any more children ?

YES [1] NO [2] (SKIP TO 588) UNDECIDED [3] (SKIP TO 588) 34

584. IF ONE LIVE BIRTH, ASK :

Think back to the time before you became pregnant with your child. Was there any time when you or your husband were using a method to keep you from getting pregnant ?

YES [1] → (TO 585) NO [2] (SKIP TO 599)

IF TWO OR MORE LIVE BIRTHS, ASK :

Think back to the interval between your last two births (USE NAME OF CHILDREN). Was there any time during that interval when you or your husband were using a method to keep you from getting pregnant ?

YES [1] → (TO 585) NO [2] (SKIP TO 599) 35

B L U E

585. What method were you using ?

_____ ABSTINENCE [88] → (SKIP TO 599) — 37

586. Did you become pregnant while using that method, or had you stopped using before becoming pregnant ?

WHILE USING [1] (SKIP TO 599)

HAD STOPPED [2]

D.K. [3] (SKIP TO 599) — 38

587. Did you stop because you wanted to become pregnant ?

YES [1] (SKIP TO 599)

NO [2] — 39

587 A. Why did you stop ?

_____ — 41

(SKIP TO 599)

588. *IF ONE LIVE BIRTH, ASK :*

Thinking back to the time before you became pregnant with your child, had you wanted to have any children ?

YES [1] NO [2] UNDECIDED [3]

IF TWO OR MORE LIVE BIRTHS, ASK :

Thinking back to the time before you became pregnant with your last child, had you wanted to have any more children ?

YES [1] NO [2] UNDECIDED [3] — 42

589. Was there any time before the birth of your child when you or your husband were using a method to keep you from getting pregnant ?

YES [1] NO [2] (SKIP TO 599)

Was there any time in the interval between your last two births (USE NAMES OF CHILDREN). When you or your husband were using a method to keep you from getting pregnant ?

YES [1] NO [2] (SKIP TO 599) — 43

590. What method were you using ?

_____ ABSTINENCE [88] → (SKIP TO 599) — 45

591. Did you become pregnant while using the method, or had you stopped using before becoming pregnant ?

WHILE USING [1] (SKIP TO 599)

HAD STOPPED [2] (SKIP TO 592)

D.K. [3] (SKIP TO 599) — 46

B L U E

592. *INTERVIEWER : TICK APPROPRIATE BOX (SEE 588)*

"YES" TO 588 [1] **"NO"** OR **"UNDECIDED"** TO 588 [2] (SKIP TO 594) — 47

593. Did you stop because you wanted to become pregnant ?

YES [1] (SKIP TO 599) NO [2] — 48

593 A. Why did you stop ?

_____ — 50

_____

_____

(SKIP TO 599)

594. At any time after the birth of your (last) child, did you want to have any more children ?

YES [1] (SKIP TO 599) NO [2] UNDECIDED [3] — 51

595. IF ONE LIVE BIRTH, ASK :	IF TWO OR MORE LIVE BIRTHS, ASK :
Thinking back to the time before you became pregnant with your child, had you wanted to have any children ?	Thinking back to the time before you became pregnant with your last child, had you wanted to have any more children ?
YES [1] NO [2] UNDECIDED [3]	— 52

599. If you could choose exactly the number of children to have in your whole life, how many children would that be ?

_____ (NUMBER) — 54 56

(GO ON TO **SECTION 6**)

7 1 | 1 3 7 8

SECTION 6 : FAMILY PLANNING

601. ***INTERVIEWER*** : *TICK APPROPRIATE BOX (SEE 201, 207)*

CURRENTLY MARRIED AND LIVING WITH HUSBAND ☐

WIDOWED, DIVORCED, SEPARATED ☐ (SKIP TO **SECTION 7**)

602. ***INTERVIEWER*** : *COMPLETE THE FOLLOWING FROM* ***SECTION 4****, AND QUESTION IN* ***COLUMN*** *(3).*

(1) METHOD	(2) EVER USE	(3) IF "YES": Do you have any (METHOD) in your home now ?
CONTRACEPTIVE PILLS (SEE 405)	YES 1 → NO 2 ↓	YES 1 NO 2
DIAPHRAGM, TAMPON, SPONGE, JELLY OR CREAM FOR CONTRACEPTION (SEE 407)	YES 1 → NO 2 ↓	YES 1 NO 2
CONDOMS (SEE 409)	YES 1 → NO 2 ↓	YES 1 NO 2

10 12 14

603. Do you know where you can get Family Planning advice or supplies ? 15

YES 1 NO 2 (SKIP TO 620)

604. Where can you go ? (*PROBE*): What kind of place or person is that ?

(TICK ALL THAT MENTIONED)

FAMILY PLANNING CLINIC	1	16
HOSPITAL	2	17
FAMILY PLANNING FIELD WORKER	3	18
PHARMACY	4	19
FAMILY DOCTOR	5	20
P.P.K.B.	6	
VILLAGE HEADMAN	7	

OTHER ________________________________
(SPECIFY)

PROBE : Do you know anywhere else you can go for this purpose ______________________ ?

605. Have you yourself gone to a ______________________
(ALL PLACES AND/OR PERSONS MENTIONED) to get Family Planning advice or supplies ? 21

YES 1 (GO TO 606) NO 2 (SKIP TO 618)

606. Have you yourself gone there in the last twelve months ?

YES [1] ↓ NO [2] (SKIP TO 618) [22]

607. Where have you gone in the last twelve months for Family Planning advice or supplies ?
(TICK ALL THAT MENTIONED)

FAMILY PLANNING CLINIC	1	[23]
HOSPITAL	2	[24]
FAMILY PLANNING FIELD WORKER	3	[25]
PHARMACY	4	[26]
FAMILY DOCTOR	5	
P.P.K.B.	6	
VILLAGE HEADMAN	7	

OTHER _____ (SPECIFY)

PROBE : Anywhere else you have gone in the last twelve months ?

608. Where did you go the last time ?

FAMILY PLANNING CLINIC	1	
HOSPITAL	2	
FAMILY PLANNING FIELD WORKER	3	[27]
PHARMACY	4	
FAMILY DOCTOR	5	
P.P.K.B.	6	
VILLAGE HEADMAN	7	

OTHER _____ (SPECIFY)

609. What is the distance from your house to the last place where you could go to get Family Planning advice or supplies ?

_____ D.K. [9] [28]

*(**INTERVIEWER** : RECORD DISTANCE AS SPECIFIED BY RESPONDENT)*

610. How do you usually go there ?

ON FOOT OR BICYCLE [1] (SKIP TO 612)

PERSONAL VEHICLE [2] (SKIP TO 612)

PUBLIC TRANSPORT [3] ↓ (GO TO 611) [29]

611. How much did you have to pay ?

Rp. _____ FOR ONE WAY NOT PAY [88] D.K. [99] 31

612. How much time does the two ways travel take ?

_____ (HOUR/S) AND _____ (MINUTES) ***INTERVIEWER :*** *RECORD BEST ESTIMATE.* 33

613. How long did you have to wait there ?

_____ (HOUR/S) AND _____ (MINUTES) ***INTERVIEWER :*** *RECORD BEST ESTIMATE.* 35

614. Did you have to pay for the services and contraceptive supplies besides the first registration ?

YES [1] ↓ NO [2] (SKIP TO 616) D.K. [3] (SKIP TO 616) 36

615. How much did you have to pay ?

Rp. _____ D.K. [99] 38

616. Will you be going to _____ (LAST PLACE OR PERSON VISITED) in the future when you need Family Planning advice or supplies ?

YES [1] (SKIP TO 620) NO [2] ↓ WILL NOT NEED AGAIN [3] (SKIP TO 620) 39

617. Why is it that you will not go back there in the future ?

_____ (SKIP TO 620) 41

618. In the last twelve months did you yourself ever seriously think about going to get Family Planning advice or supplies ?

YES [1] ↓ NO [2] ↓ 42

619. Why is it that you decided not to go ?

_____

(*PROBE :* Any other reasons ?)

_____ 44

620. ***INTERVIEWER :*** *COMPLETE THE FOLLOWING FOR EACH "**MEDIA**" MENTIONED.*

MEDIA	A. Have you ever read or heard about Family Planning (in any, on)? *(STATE MEDIA)*	B. IF "YES": Did you find the information that you read or heard from (MEDIA) useful or not ?	
NEWSPAPER OR MAGAZINES	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 46
LEAFLETS OR BOOKLETS	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 48
BILLBOARDS, POSTERS	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 50
R A D I O	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 52
T . V .	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 54
M O V I E	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 56
ANY OTHER SOURCE	⟹ (SPECIFY)	YES 1 NO 2	☐ 57 ☐ 58

621. ***INTERVIEWER :*** *COMPLETE THE FOLLOWING FOR EACH TYPE OF OCCUPATION OF "PERSON" MENTIONED.*

TYPE OF OCCUPATION	A. Have you ever talked about Family Planning with any *(STATE TYPE OF OCCUPATION)*?	B. IF "YES": Did you find the talk you had with *(STATE TYPE OF OCCUPATION)* useful or not ?	
FAMILY PLANNING FIELD WORKER	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 60
MIDWIFE	YES 1 → NO 2 ↓	YES 1 NO 2	☐☐ 62

D O C T O R	YES [1] →	YES [1]	[ ][ ] 64
	NO [2] ↓	NO [2]	
MALE, NURSE	YES [1] →	YES [1]	[ ][ ] 66
	NO [2] ↓	NO [2]	
OTHER PERSON	_____ → (SPECIFY)	YES [1]	[ ] 67
		NO [2]	[ ] 68
	_____ → (SPECIFY)	YES [1]	[ ]
		NO [2]	[ ] 70
	_____ → (SPECIFY)	YES [1]	[ ]
		NO [2]	[ ] 72

622. Have you ever attended any meetings where Family Planning was discussed ?

YES [1] NO [2] [ ] 73

623. What kind of meeting did you find most useful ?
(TICK APPROPRIATE BOX. READ OUT LIST BELOW IF REQUIRED).

1. GENERAL MEETING [1]
2. KORAN READING [2]
3. RELIGIOUS SERMON [3]
4. LOTTERY MEETING [4]

OTHER _____ (SPECIFY)

NONE [9]

[ ] 74

624. What kind of topic in Family Planning interest you most to learn more ?

(TICK APPROPRIATE BOX. READ OUT LIST BELOW IF REQUIRED).

1. WHAT FAMILY PLANNING IS ALL ABOUT AND WHY PEOPLE SHOULD TAKE UP FAMILY PLANNING [1]
2. HOW TO USE SPECIFIC METHODS OF FAMILY PLANNING [2]
3. WHERE PEOPLE CAN GO TO GET FAMILY PLANNING ADVICE OR SUPPLIES [3]

OTHER _____ (SPECIFY)

NONE [8]

D.K. [9]

[ ] 75

SECTION 7 : WORK HISTORY

701. As you know, many women work - I mean aside from doing their own homework. Some take up jobs for which they are paid in cash or kind. Others sell things, or have a small business, or work on the family farm. Are you doing any such work at the present time ?

YES [1] NO [2] 9

702. Have you ever worked since the day when you were first married ?

YES [1] NO [2] 10

(SKIP TO 713)

703. In what year did you last work ?

19____ (YEAR) 12

704. I would like to ask some questions about (your present work, the last work you did). What (is, was) your occupation - that is, what kind of work (do, did) you do ? (RECORD AS COMPLETE AS POSSIBLE)

_____ 15

_____

_____

705. ***INTERVIEWER*** : *TICK APPROPRIATE BOX.*

WORK (IS, WAS) FARMING [1] WORK (IS, WAS) NOT FARMING [2] 16

(SKIP TO 707)

706. (Is, Was) that your family farm ?

YES [1] NO [2] 17

(SKIP TO 710) (SKIP TO 709)

707. (Do, did) you work mostly at home or (do, did) you work mostly away from home in that job ?

HOME [1] AWAY [2] 18

708. (Are, were) you employed by some member of your family, on by someone else, or (are, were) you self-employed ?

SELF-EMPLOYED [1] FAMILY MEMBER [2] SOMEONE ELSE [3] 19

(SKIP TO 710)

709. (Do, did) you get paid mostly in cash or mostly in kind ?

CASH [1] KIND [2] UNPAID [3] 20

SECTION 8 : CURRENT (LAST) HUSBAND'S BACKGROUND

801. INTERVIEWER : IF RESPONDENT HAS BEEN MARRIED ONLY ONCE (SEE 202, 212), ASK ABOUT THE RESPONDEN'S HUSBAND. FOR THOSE WHO HAVE BEEN MARRIED MORE THAN ONCE, ASK ABOUT :

- CURRENT HUSBAND, IF SHE IS CURRENTLY MARRIED

- LAST HUSBAND, IF SHE IS WIDOWED, DIVORCED OR SEPARATED

802. Now I want to ask some questions about your current (last) husband. In what year was your (present, last) husband born ?

19____ (YEAR) D.K. [99] → [35]

803. INTERVIEWER : TICK APPROPRIATE BOX (SEE 201, 207)

MARRIED AND LIVES WITH HUSBAND [1] → [36]

804. What is your husband's age ?

_____(YEARS)

(RECORD BEST ESTIMATE)

WIDOWED, DIVORCED, SEPARATED [2] → [36]

805. Was your (last) husband younger or older than you ? [38]

YOUNGER [1] OLDER [2] SAME AGE [3] [39]

806. What is the difference ?

_____(YEARS) [41]

807. Can you say, in what month of the year he was born ?

_____ (MONTH) → *INTERVIEWER : SPECIFY CALENDAR IF MONTH KNOWN.* [43]

MUSLIM [1] WESTERN [2] OTHER _____ (SPECIFY)

808. Did your (present, last) husband ever attend school ? [44]

YES [1] NO [2] (SKIP TO 814) D.K. [3] (SKIP TO 814)

809. What was the highest level of school he attended - Primary, Junior High, Senior High, Academy or University ?

PRIMARY [1]
JUNIOR HIGH [2]
SENIOR HIGH [3]
ACADEMY [4]

→ 810. Was it a vocational or general school ? [45]

VOCATIONAL [1] GENERAL [2] [46]

710. About how many years in all have you worked since you were married?

_____ (YEARS) 22

711. ***INTERVIEWER :*** *TICK APPROPRIATE BOX (**SEE 312**).*

NO LIVE BIRTH [1] 23

ONE OR MORE LIVE BIRTHS [2]

712. Did you work between the time you were first married and the birth of your first child ?

YES [1] NO [2] 24

713. Now let us go back to the time before you were first married. Did you do any work at any time before you were first married ?

YES [1] NO [2] 25

(SKIP TO SECTION 8)

714. For how many years altogether did you work before you were first married ?

_____ (YEARS) 27

714A. Did you work at any time during the one year period just before you were first married ?

YES [1] NO [2] 28

715. What kind of work did you do mainly, before you were first married ?

_____ 31

_____

716. Were you employed by some member of your family, or by some one else, or were you self employed ?

SELF-EMPLOYED [1] FAMILY MEMBER [2] SOMEONE ELSE [3] 32

(SKIP TO SECTION 8)

717. Did you get paid mostly in cash or mostly in kind ?

CASH [1] KIND [2] UNPAID [3] 33

UNIVERSITY [5]

OTHER _____
(SPECIFY)

811. Did he graduate from (HIGHEST LEVEL ATTENDED) ?

YES [1] (SKIP TO 816) NO [2] ↓ 47

812. Which class did he complete in (HIGHEST LEVEL ATTENDED) ?

_____ 48
(CLASS)

813. INTERVIEWER : TICK APPROPRIATE BOX

DID NOT GRADUATE PRIMARY SCHOOL [1] ↓ GRADUATED PRIMARY SCHOOL OR HIGHER [2] (SKIP TO 816) 49

814. (Can, could) he read in any language - say, a simple letter ?

YES [1] ↓ NO [2] (SKIP TO 816) 50

815. (Can, could) he write in any language - say, a simple letter ?

YES [1] NO [2] 51

816. INTERVIEWER : TICK APPROPRIATE BOX (SEE 201, 207)

CURRENTLY MARRIED [1] ↓ WIDOWED, DIVORCED, SEPARATED [2] (SKIP TO 820) 52

817. Does your husband work (have a job) at present ?

YES [1] (SKIP TO 820) NO [2] ↓ 53

818. Has he worked in the past 12 months ?

YES [1] ↓ NO [2] ↓ 54

819. In what year did he last work ?

19____ (YEAR) ↓ NEVER WORKED [88] (END INTERVIEW) 56

(GO TO 820) (GO TO 820)

820. Let me ask some questions about the nature of your (present, last) husband's work. What (is, was) his occupation - that is, what kind of work (does, did) he do ? (IF UNEMPLOYED OR RETIRED, ASK ABOUT LATEST OCCUPATION).

INTERVIEWER : PROBE FOR SPECIFIC TITLES AND DESCRIPTIONS.

_____

_____

_____ 59

821. (Is, was) he employed by some member of his family, or by someone else, or (is, was) he self - employed ? 60

SELF EMPLOYED [1] FAMILY MEMBER [2] SOME ONE ELSE [3]

822. (Does, did) he get paid mostly in cash or mostly in kind ? 61

CASH [1] KIND [2] UNPAID [3]

(END INTERVIEW)

823. (Does, did) he have any regular paid employees (in his business, on his farm) ? 62

YES [1] NO [2] (END INTERVIEW)

824. How many regular paid employees (does, did) he have ? 64

_____ (NUMBER)

(END INTERVIEW)

INTERVIEWER'S OBSERVATIONS
(TO BE FILLED IN AFTER COMPLETING INTERVIEW)

DEGREE OF COOPERATION :

VERY GOOD [1]

AVERAGE [2]

BAD [3]

[ ] 65

INTERVIEWER'S COMMENTS :

ABOUT :

1. Person interviewed : _____

_____

2. Specific Questions : _____

_____

3. Other aspects : _____

_____

Name of Interviewer : _____ Date : _____

EDITOR'S OBSERVATION

203/213	The year of (first) married can be obtained ?	YES	[ ]	NO	[ ]
329	The year or age of (first) child can be obtained ?	YES	[ ]	NO	[ ]
332	The year of first interval can be obtained ?	YES	[ ]	NO	[ ]
329	The year or age in 330 or year can be obtained for all live births ?	YES	[ ]	NO	[ ]

Other Comments : _____

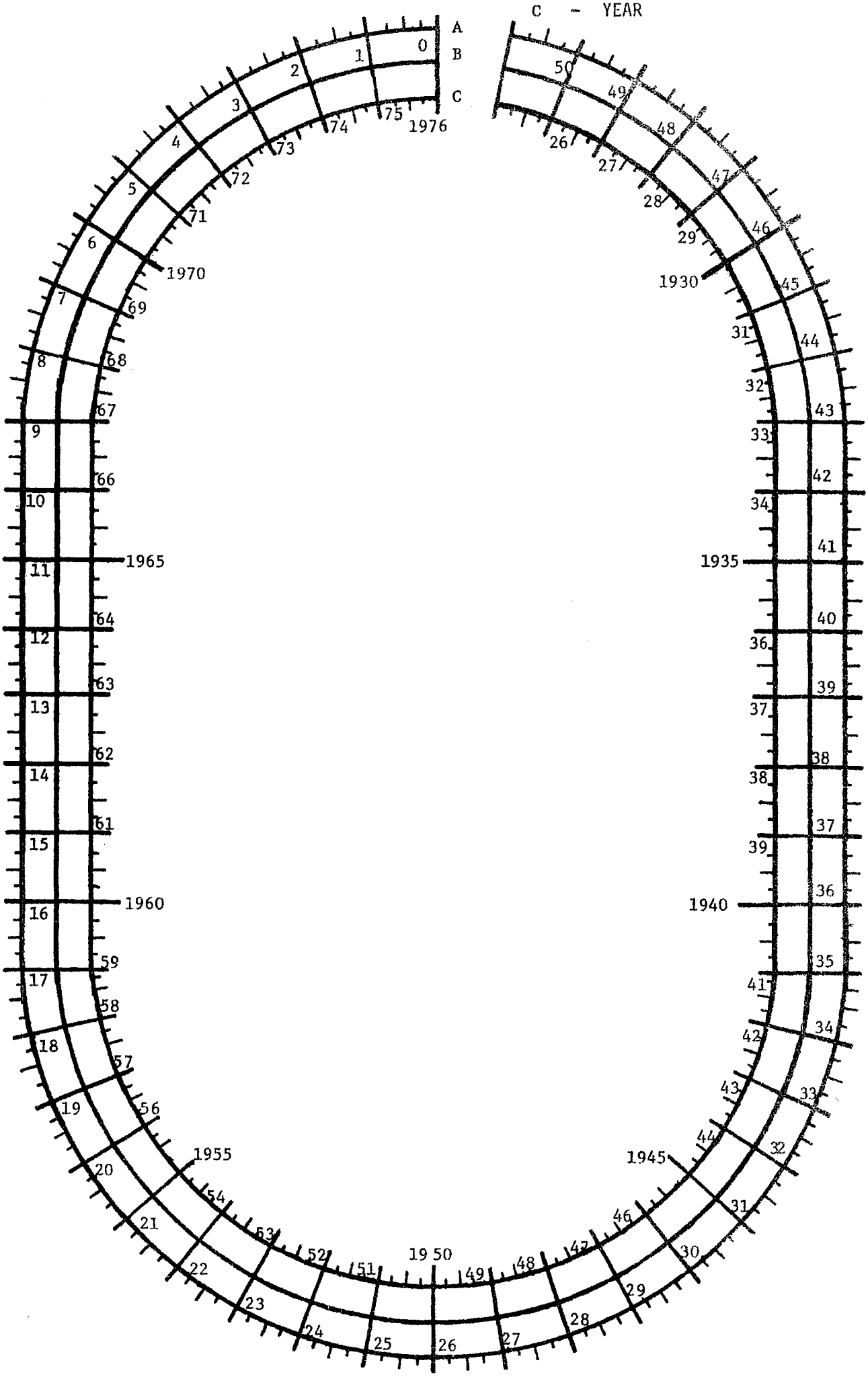
_____

_____

_____

APPENDIX I THE EVENTS CHART

A – AGE
B – YEARS AGO
C – YEAR



Appendix II Sample for the Indonesia fertility survey

II.1 Introduction

The IFS is a part of a larger study called the *Intercensal Population Survey* ("SUPAS") consisting of three phases, SUPAS I, II, and III. SUPAS I aims at producing summary population statistics at the level of the "Domain" (defined below). SUPAS II forms a subsample of SUPAS I and aims at providing more detailed information on fertility, mortality, migration, and certain socio-economic indicators at the level of the Province, separately for urban and rural areas. SUPAS III is the IFS. Unlike the previous two phases the IFS is confined to the islands of Jawa and Bali, covering approximately 67 per cent of the national population. The IFS aims at providing more detailed information on fertility and factors associated with it at the level of the Province for rural areas, and at the national (i.e., Jawa-Bali) level for urban areas.

Administratively Indonesia is divided into 26 provinces, six of which are in Jawa-Bali (Jakarta, Jawa Barat, Jawa Tengah, Yogyakarta, Jawa Timur, and Bali). Generally, a Province is divided into a number of Kabupaten (regencies) and Kotamadya (municipalities). The latter are metropolitan areas and are by definition urban. Within Kabupaten, the 1971 Census defined as urban those localities in which (i) a majority of the work-force was engaged in the non-agricultural sector, and which (ii) also had a hospital or clinic, at least a junior high school and electricity supply.

For sample selection, 2 to 7 Kabupaten/Kotamadya were grouped together to form *Domains,* there being 1 to 7 Domains per Province. With the exception of Jakarta each Domain was subdivided into a rural and an urban part. These Domains by type of place formed the explicit strata within which sample areas were selected systematically.

In the interest of economy as well as of matching data from the various phases, it was decided to make the IFS a subsample of SUPAS II, which in turn was a subsample of SUPAS I. Hence, to describe the sample for the IFS it is necessary to consider briefly the design for the previous two phases for Jawa and Bali.

In the following description certain minor variations have been ignored for simplicity. More important exceptions to the general features of the design are mentioned as footnotes.

II.2 Rural sample for SUPAS I and II

SUPAS I

The objective of this phase was to obtain certain estimates at the level of the Domain as defined above. This required, in principle, *equal samples in each Domain* irrespective of the size of the Domain involved.

Since over 80 per cent of the country is rural, equal allocation was in fact applied to the rural sectors, rather than to the whole Domains[1].

Kecamatan (sub-districts) formed the primary sampling units (PSUs), and 10 Kecamatan per Domain[2] were selected with probability proportional to the number of households. The second stage units were Desa (villages), 3 being selected from each sample Kecamatan with probability proportional to the number of households in the village. Each sample village was divided into *clusters* of fairly uniform size of around 200 households each[3], and *one* cluster per village was selected with equal probability. Within a sample cluster all households were enumerated.

The above procedure gave an approximately self-weighting sample within each Domain. The total sample for rural Jawa-Bali consisted of around 117,000 households in 630 clusters selected from 210 Kecamatan.

SUPAS II

For the next phase SUPAS I was subsampled at two stages: (a) from the 3 sample clusters in each Kecamatan, one was selected at random, and (b) within selected clusters households were subsampled systematically with interval of 2 or 3[4].

The objective of subsampling from SUPAS I to SUPAS II was to reduce variability in sampling rate within each Province, and to obtain certain pre-determined sample sizes for each Province[5]. The SUPAS II rural sample consisted of around 22,000 households in 230 clusters selected from 210 Kecamatan (PSUs).

II.3 Urban sample for SUPAS I and II

SUPAS I

The urban sample for each of the four Provinces—Jakarta, Jawa Barat, Jawa Tengah and Jawa Timur—was fixed at around 9,000 households, while Yogyakarta and Bali, with considerably smaller urban sectors, each received around 2,000 households. Within each Province the sample was very approximately self-weighting.

The urban sector consisted of 25 Domains. Twenty of these corresponded to the 20 rural Domains (i.e., involved the same groupings of Kabupaten and the remaining 5[6] were purely urban Domains.

For the purely urban Domains (except Jakarta), Kecamatan were selected with PPS, i.e., with probability proportional to the number of households; then 3 "urban villages" from each Kecamatan were selected with PPS. In the remaining 21 Domains, urban villages were selected directly with PPS. Each sample village was then divided into clusters of fairly uniform size (around 100 households each; range of variation in relative size was generally well within 1 to 2), and one cluster per sample village was selected with equal probability. All households in a sample cluster were enumerated. The total urban sample for SUPAS I consisted of around 43,000 households in 412 clusters from 278 Kecamatan (PSUs). The urban sector was over sampled on the whole by a factor of around two compared to the rural sector[7].

---

[1] Sample sizes in SUPAS I were: 6,000 households for each of the 18 rural Domains in Jawa, and 4,000 households for each of the 2 Domains in Bali.

[2] 15 Kecamatan per Domain in Bali.

[3] Around 100 households each in Bali.

[4] Subsampling (a) was not done for Yogyakarta, and subsampling (b) was not done for Bali.

[5] Around 5,000 households for each of the three larger provinces (Jawa Barat, Jawa Tengah and Jawa Timur) and around 3,000 households each for Yogyakarta and Bali.

[6] One in each Province except Bali.

[7] Except Jakarta, which was undersampled relative to other urban areas.

SUPAS II

In the purely urban Domains, one of the three previously selected villages from each sample Kecamatan was selected at random; in other Domains one in three of the sample villages was selected systematically. As before, each selected village contributed one compact cluster to the sample. Hence in a sense the urban sample for SUPAS II may be regarded as a single stage sample of compact clusters of fairly uniform size. This is because from each Kecamatan only *one* village was selected, and from each sample village only *one* cluster was selected[1].

The total urban sample consisted of 13,600 households from 166 clusters. The urban sector in SUPAS II was oversampled on the whole by a factor of around four compared to the rural sector[2].

II.4 Sample allocation for SUPAS III (IFS)

As mentioned earlier, SUPAS II aimed at producing survey estimates at the level of the Province, and hence required similar sample sizes for the various Provinces.

The situation was more complex for SUPAS III. In addition to survey estimates by Provinces, and also by type of place (rural/urban), estimations at the *national* (i.e., Jawa-Bali) level were also equally important. The type of analysis envisaged for SUPAS III (IFS) data requires detailed breakdown of the sample into smaller demographic categories (e.g., age or marriage duration cohorts), so that, given the relatively small total sample size, much analysis could only be carried out at the national level. Secondly, the IFS is part of a larger international study for which intercountry comparative analysis is an important objective. Hence for SUPAS III a compromise was required between the two objectives of sub-national estimations (requiring equal allocations to the domains of study) and of national estimations (requiring proportionate allocation). One solution was to allocate sample sizes proportional to the square-root of the domain population[3]. This allocation implies departures of similar magnitude from the optimals for the two survey objectives (i.e., national vs. provincial estimates); also in comparison with the large variation in domain size this departure is relatively moderate. The square-root allocation was used since, generally, moderate departures from the optimal allocation tend to increase sampling error only marginally, while large departures would result in large increases in that error.

Based on a multitude of factors like cost, feasibility, and sampling precision required, the total sample size was fixed at 10,500 households from which over 9,000 completed individual interviews could be expected. The minimum sample size for any domain was fixed at 1,000 households; while for Jakarta, because of its special importance and probably greater heterogeneity, a larger sample of 1,500 households was required.

The rural/urban population ratio (1971 Census) in Jawa-Bali is of around 5:1, giving the square-root allocation to be in the ratio 2.25:1, i.e., around 7,250 households for the rural sector and 3,250 for the urban sector. Within the rural sector provinces were allocated sample size proportional to the square-root of the number of 1971 Census households, adjusted for the minimum size required for any domain. Table II.1 provides necessary details of the procedure.

Actually, the sampling fractions to be applied to the SUPAS II sample to achieve fairly closely the IFS allocations as determined above turned out to be very straightforward: 1/3 in rural areas, 1/2 in Jakarta, and 1/6 in other urban areas. Applying these simple sampling fractions to the SUPAS II sample meant that within the urban sector, as well as within the rural sector of each Province, a certain degree of unnecessary variation in selection probabilities was carried over from SUPAS II to the IFS sample. However, on practical

[1] Jakarta was an exception to this scheme. 60 of the 90 SUPAS I clusters were selected, and within each selected cluster one in two households were enumerated. The overall sampling function for Jakarta from SUPAS I to SUPAS II is 1/3, as for other urban Domains.

[2] Again with the exception of Jakarta.

[3] By "domain" here is meant the sub-national level at which separate survey estimates were required from the IFS. This should be distinguished from "Domains" defined for SUPAS I as sub-provincial groupings of Kabupaten/Kotamadya.

Table II.1 Determination of sample allocation to various survey domains (see Section II.4)

	All Jawa Bali	All Urban	All Rural	Urban (Sample = 3,250)		Rural (Sample = 7,250)				
				Jakarta	Other	Jawa Barat	Jawa Tengah	Yogya-karta	Jawa Timur	Bali
1) Relative Domain size (Hhs, 1971)	1.000	0.161	.839	.050	.111	.254	.248	.027	.288	.022
2) Initial allocation	10,500	3,250	7,250	1,300	1,950	1970	1950	640	2100	590
3) Adjusted allocation for minimum required	10,500	3,250	7,250	1,500	1,750	1720	1700	1000	1830	1000
4) SUPAS II sample size	35,268	13,600	21,668	3,000	10,600	5334	5000	3000	5334	3000
5) Sampling fraction from SUPAS II to obtain (3)	—	—	—	1/2	1/6	1/3	1/3	1/3	1/3	1/3

Notes

Row (2) Initial allocation is proportional to square-root of the relative domain size shown in Row (1).

Row (3) Allocation for Jakarta and rural Yogyakarta and Bali were increased to the minimum required for these domains. The remaining sample was then distributed in the same proportion as (2).

Row (5) This sampling fraction was applied for systematic selection of households from SUPAS II lists; all clusters from SUPAS II were retained for the IFS sample.

grounds, it was decided to keep the subselection procedure as simple as possible by using the three subsampling intervals mentioned above.

II.5 Summary of main characteristics of the IFS sample

The main characteristics of the sample are shown in Tables II.2 to II.4. The first of these tables is followed by explanatory notes.

Since the sample was not an equal probability sample, all data presented in this Report have been weighted appropriately to compensate for these differences in selection probabilities. The sampling fraction within rural or urban sector of each Domain is constant, but it varies from one Domain to another. In fact, the sample weights shown below also take into account variation in response rates for the various Domains[1]. This latter source of variation is generally small as response rates are high, except perhaps for Jawa Barat (see Table II.3, which gives response rates at the level of the Province; more detailed figures are available with the CBS). For convenience, sample weights are "normalized", i.e., scaled such that the (unweighted) number of completed individual interviews equals the sum of weights for these interviews. Hence by definition the average weight for the whole "achieved" sample is 1.0. Table II.4 shows normalized sample weights by Domain and type of place (for reference, the number of completed individual interviews in each Domain is also shown).

In Table II.2, the overall average weight for the urban sector is 0.49 which means that the weighted frequencies shown in the tabulations for this sector are on the average only one-half of the actual sample sizes involved. The average weight for the rural sector is 1.24 (since the rural sector was relatively undersampled by a factor of around 2.5); this implies that, for this sector, weighted frequencies shown in the tabulations are 25 per cent larger than the actual sample sizes involved. For cells which are uniformly distributed over the two sectors, the weighted and unweighted frequencies will be more nearly equal.

Column (8) of Table II.2 shows that the distribution of the weighted sample size follows very closely the distribution according to the 1971 Census; this agreement can be regarded as a partial validation of the sampling procedure used. It may be noted, however, that the sample does not indicate any increase in the relative size of the urban population since the 1971 Census.

For a given total sample size, the proportionate increase, L, in sampling variance for a survey estimate for the whole population due to departures from self-weighting of the sample is approximately given by the following factor:

$$1 + L = \Sigma(n_h w_h^2) \cdot \frac{\Sigma n_h}{(\Sigma n_h w_h)^2}$$

where n_h is the sample size from stratum h and w_h is sample weight. For a self-weighting sample (w_h = constant, = 1 say), L equals zero by definition[2].

[1]The weights are inversely proportional to the product of selection probability and the response rate for a Domain (separately for rural and urban sectors).

[2]For the present sample Σn_h = total achieved sample = 9,136 individual interviews; and as noted earlier, the weights have been scaled so that $\Sigma n_h w_h$ also equals 9,136. Hence the above factor becomes

$1 + L = \Sigma(n_h w_h^2)/9136$

Table II.2 Main characteristics of the IFS sample

Sector	Province	No. of Sample Households	No. of Sample Clusters	Av. Hholds per Cluster	Household Sampling Fraction[3]	Average[5] Sample Weight	Households in Province as Percentage of Total Jawa-Bali	
							Weighted Sample[6]	1971 Census
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Urban	Jakarta	1500	60	25	1/4	0.362	5.3	5.1
	Jawa Barat	500	30	17	1/6	0.620	3.0	3.0
	Jawa Tengah	523	31	17	1/6	0.511	2.6	2.8
	Jogyakarta	100	6	17	1/6	0.476	0.5	0.5
	Jawa Timur	550	33	17	1/6	0.762	4.1	4.5
	Bali	100	6	17	1/6	0.214	0.2	0.2
	All Urban	3273	166	20	—	0.490	15.7	16.1
Rural	Jakarta	—	—	—	—	—	—	—
	Jawa Barat	1732	60	29	1/6	1.606	26.8	25.4
	Jawa Tengah	1669	50	33	1/6, 1/9[4]	1.563	25.1	24.8
	Yogyakarta	1000	30[1]	33	1/6	0.268	2.6	2.7
	Jawa Timur	1780	60	30	1/6, 1/9[4]	1.624	27.8	28.8
	Bali	1000	30	33	1/3	0.206	2.0	2.2
	All Rural	7231	230	31	—	1.240	84.3	83.9
All Jawa-Bali		10504	396	27[2]	—	1.000	100.0	100.0

Notes

[1]Rural Yogyakarta is the only sector with more than one cluster selected per sample Kecamatan. In a sense, the sample everywhere else is a single area stage sample of clusters. The total number of PSUs in 376 (the 30 clusters in rural Yogyakarta come from 10 Kecamatan or PSUs).

[2]The average number of completed individual interviews per cluster is 23.

[3]On the average, the ultimate area unit consists of 100 households in the urban sector (and also in rural Bali), and 200 households in other rural areas. This column gives the sampling fraction applied for systematic selection of households within clusters. Note that in the *rural* sector, the sampling fraction from SUPAS II was always 1/3, since SUPAS II itself represented a subsample of households in the cluster.

[4]The fraction was 1/9 in two of the six Domains in each of these strata.

[5]See notes on Table II.4. The figures given are averages: there is some variation in weights between Domains within a province, as shown in Table II.4.

[6]Col (8) = Col (3) x Col (7), expressed a percentage of total sample size (10,504 households).

Table II.3 Summary of outcome of the IFS sample

Province	Number of Households			Number of Eligible Respondents			
	(1) Selected	(2) Interviewed	(3) % Interviewed	(4) Total[1]	(5) Interviewed	(6) % Interviewed	(7) EW per HH[2]
Jakarta	1,500	1,455	97.0	1,437	1,431	99.6	0.995
Jawa Barat	2,282	1,981	86.8	2,063	1,989	96.4	1.041
Jawa Tengah	2,192	2,191	99.9	1,985	1,948	98.1	0.906
Yogyakarta	1,100	1,100	100.0	893	889	99.6	0.812
Jawa Timur	2,330	2,329	99.9	2,174	2,139	98.4	0.933
Bali	1,100	1,100	100.0	897	897	100.0	0.815
Total	10.504	10.156	96.7	9,449	9,293[3]	98.3	0.930

Notes
[1]In interviewed households
[2]Eligible women per household, ratio of col (4) and col (2).
[3]During office and computer editing of the data, 157 interviews were found to be incomplete or unable. Hence the number of finally analysed interviews is 9,136.

If there were no variations in the weights within the whole urban or the whole rural sector (i.e., if the overall average weights of 0.49 and 1.24 respectively applied to the whole of each sector) the increase in variance due to departure from self-weighting would have been:

$$1 + L_1 = \left[2992(0.49)^2 + 6214(1.24)^2\right]/9136 = 1.12$$

i.e., an increase of 12 per cent compared to a self-weighting sample.

Now, if the variation in weights between the Provinces was also taken into consideration, the loss factor works out to be[1]

$1 + L_2 = 1.38$, or 38% increase in variance.

In the actual sample there is a variability in weights within Provinces also, contributing a further (but comparatively small) increase in variance. An increase in variance of the order of 40 per cent due to departure from self-weighting means that "effective" sample size (i.e., sample size for a self-weighting design giving the same variance), in so far as *survey estimates for the whole population* are concerned, is of the order of (9200/1.4) = 6,500. For the IFS, of course, these estimates for all Jawa-Bali were not the only concern: separate Provincial estimations were required, and it is for that reason that a non-self-weighting design was used in the first place.

[1]The actual calculation is (see Table II.4)
$[1391(0.362)^2 + 442(0.620)^2 + 1452(1.606)^2 + 456(0.511)^2 + 1495(1.563)^2 + 66(0.476)^2 + 820(0.268)^2 + 491(0.762)^2 + 1630(1.624)^2 + 77(0.214)^2 + 816(0.206)^2]/9136 = (1 + L_2)$.

Table II.4 'Normalized' sample weights for the various domains (STRATA)

Province	Domain	Normalized Sample Weight		Completed Ind. Interviews	
		Urban	Rural	Urban	Rural
Jakarta	1	0.362	—	1,391	—
Jawa Barat	1	0.717	1.496	28	303
	2	0.546	2.018	23	213
	3	0.574	1.552	12	261
	4	0.462	1.678	24	154
	5	0.539	1.424	53	276
	6	0.695	1.600	48	245
	7	0.635	—	254	—
All Jawa Barat		0.620	1.606	442	1.452
Jawa Tengah	1	0.422	1.507	27	327
	2	0.536	1.516	27	304
	3	0.552	1.834	34	289
	4	0.608	1.629	41	270
	5	0.610	1.353	29	305
	6	0.489	—	298	—
All Jawa Tengah		0.511	1.563	456	1.495
Yogyakarta	1	0.476	0.268	40	820
	2	0.476	—	26	—
All Yogyakarta		0.476	0.268	66	820
Jawa Timur	1	1.233	1.334	16	306
	2	0.705	2.218	31	199
	3	0.950	1.928	12	214
	4	0.640	1.440	31	299
	5	0.979	1.675	10	278
	6	0.917	1.464	29	334
	7	0.732	—	362	—
All Jawa Timur		0.762	1.624	491	1.630
Bali	1	0.225	0.184	40	430
	2	0.202	0.231	37	386
All Bali		0.214	0.206	77	816
All Jawa Bali		0.490	1.240	2,922	6,214

Notes
Sample weights are inversely proportional to the product of selection probability and the response rate for a stratum. The weights are "normalized" or scaled so that the products of sample weight and the number of completed individual interviews summed over all strata equal 9,136, i.e., equals the actual number of completed interviews. Sample weights shown above for any Province are appropriately averaged over the strata in the Province.

Appendix III Sampling errors for selected estimates

Section III.1 introduces certain basic ideas about sampling errors; readers already familiar with them may skip to Section III.2. Section III.3, for more specialized readers, discusses some technical considerations on the basis of which the Users' Tables in III.2 were constructed.

III.1 Introduction

Interpretation of sampling errors

The particular sample obtained in the survey is one of a large number of all possible probability samples which could have been selected using the given sample design. The estimates derived from different samples would differ from each other. However, apart from non-sampling errors and bias, all estimates considered in this study are approximately unbiased, meaning that the true population value of interest is approximated by an average of the estimates from the various possible samples. This average from different samples is called the "expected value". The sampling error or *standard error* of an estimate is a measure of the difference between the observed sample estimate and the expected value of the estimate. Apart from non-sampling errors, the standard error in the present context *measures the size of the expected deviation of the sample estimate from the true population values* of interest.

A common and convenient criterion asserts that the true value lies within a range of twice the standard error on either side of the sample value. The range *(sample mean) ± 2 (standard error)* is called the "95 per cent Confidence Interval", and one can say that odds are only one in twenty that the true value lies outside this range. If, for example, the observed sample mean for a variable is 3.5 and if the standard error (to an appropriate sample base) has been estimated as 0.2, then the "95 per cent confidence interval" is 3.5 ± 2(0.2) i.e., 3.1 to 3.9, and for practical purposes, i.e., with 95 per cent confidence, one asserts that (apart from non-sampling errors) the true population value of interest lies in the range 3.1 to 3.9.

Computation of sampling errors

One of the advantages of a probability sample such as the present one is that the sampling errors can be estimated from the results of the one sample which is actually available.

The computation procedure must take into account the actual structure of the sample, and in particular the fact that the sample is a stratified, multi-stage, clustered sample. The results given in this appendix have been computed by using the WFS package program CLUSTERS. An outline of the procedure for estimating sampling errors is given in Section III.3 below.

Sampling errors for subclasses and subclass differences

To be useful in the interpretation of the substantive results presented in the form of detailed cross-tabulations, sampling errors for each of the important variables have to be computed over various *subclasses* of the sample. By subclass is meant a subset of the sample cases defined in terms of characteristics such as individual age or marriage duration groups, or groups by socio-economic background, etc. Due to the smaller sample bases involved, sampling errors for individual subclasses obviously tend to be larger than the error in an estimate based on the entire sample.

The computation formulae given in Section III.3 below apply also for estimates computed over a particular *subclass* of the sample. Individuals or PSUs not belonging to the subclass are simply ignored in the computation. Interpretation of the standard error in terms of the "95 per cent confidence interval" given above applies equally to the whole sample as well as to any particular sample subclass.

Sampling errors for *differences between subclass means* can be particularly relevant in the interpretation of fertility and other differentials observed from the survey results. These determine the likelihood that an observed difference is real and not caused merely by sampling variation. Even for a relatively "efficient" sample such as the present one, many observed differentials may not be statistically significant once the sample has been sub-divided by the introduction of necessary control variables.

For differences between subclass means, we may regard an observed difference to be *"statistically significant" if the magnitude of the difference is not smaller than twice its standard error.* "Statistically significant" of course does not necessarily mean *substantively* significant or meaningful; it implies rather that the observed difference is real in the sense that it is unlikely to be caused merely by sampling variation. If the magnitude of the observed difference is smaller than twice its standard error, we may take it to be statistically (and hence substantively) "not significant", implying that it cannot be asserted that the observed difference is not caused merely by sampling variation.

If, for example, for two sample subclasses being compared, the observed subclass means for a variable are 3.0 and 3.5 respectively, and if for the difference of the two means (3.5 - 3.0 = 0.5), the standard error has been computed to be 0.1, then the "95 per cent confidence interval" for the difference is 0.5 ± 2(0.1), that is 0.3 to 0.7. In this example, one may assert that the true difference lies in the range 0.3 to 0.7. The observed difference is "statistically significant" (the observed magnitude of the difference 0.5, is greater than twice the standard error).* Now, if in the above example the standard error for the difference was 0.4, the "95 per cent confidence interval" for the difference would be 0.5 ± 2(0.4), that is −0.3 to 1.3. In this second case,it *cannot* be asserted that the observed difference is real, and not caused merely by sampling variation. Note that in the second example, the observed difference (0.5) is smaller than twice its standard error (0.8), which is the same as the observation that the "95 per cent confidence interval" includes the value zero.

Effect of clustering of the sample

In the present sample, the individuals interviewed are clustered into a number of sample areas. Compared to a sample of individuals selected entirely at random, clustering tends to reduce efficiency of the sample (i.e.,

*The above assertion can be made with 95 per cent confidence. Incidently, it follows, with even greater confidence, that in the above example the difference is *not* zero—in other words that the two subclasses *differ* for the variable concerned; sampling errors for differences are often used in this way to test whether two subclasses differ.

increase associated sampling errors, for a given sample size). This is because individuals from within a cluster tend to be more uniform compared to individuals in the sample (or the population) as a whole. In a sense, less new information is obtained by interviewing a number of individuals from the same sample area as compared to that obtained from an entirely random sample of the same size.

A measure comparing the standard error of an estimate from the actual clustered sample with what the error would have been had the sample been selected entirely at random is called the "Design Effect" or DEFT.

$$DEFT = SE/SR \quad (1)$$

where SE is the standard error for the clustered sample (computed from equation (2) given in Section III.3), and SR is the standard error computed as if the sample had been selected entirely at random (equation (3) in Section III.3).

For a particular sample design, cluster size, and variable, DEFT is a measure of the loss of sampling precision due to clustering of the sample. The two main factors on which its magnitude depends are the average cluster size and the relative homogeneity (corresponding to a particular variable) within these clusters. For samples (or subclasses thereof) with very small clusters, or for variables with little within-cluster homogeneity, DEFT can be expected to approach unity, which implies that no sampling precision has been lost through clustering.

The last point mentioned above is of particular relevance in the present context where sampling errors for sample subclasses or subclass differences, rather than for the sample as a whole, are the main concern. The effective cluster sizes for sample subclasses, and specially for their differences, can be much smaller than the cluster sizes for the total sample, making DEFT smaller (nearer unity), that is, making the loss in sampling efficiency due to clustering generally less significant than would be the case if estimates based on the total sample were the main objective of the survey.

III.2 Discussion of the main results

The WFS package program CLUSTERS has been used to compute sampling errors for 25 variables of substantive interest. For each variable, sampling errors were computed over the whole sample from Jawa-Bali, as well as for 22 subclasses and 11 differences for pairs of subclasses. Then this entire set was repeated for each of the 6 provinces in Jawa-Bali.

A selection of the detailed results is given as an appendix to Volume II of this Report (Tables SE.1 -SE.4). Here the main features of the results will be described, and *presented in a way convenient for the user who may be interested in obtaining an approximate value of the standard error* for the estimate in any "cell" of the detailed tabulations presented in the Report.

Note that the "base frequencies" shown in the main tabulations are generally the *weighted* frequencies, while the sample sizes relevant for sampling errors are the actual *unweighted* numbers involved. Where the latter are not directly available from the tabulations themselves, an approximate relation between weighted and unweighted sample sizes for the main categories of the sample is given in Table III.3 below. For more detailed and accurate correspondence between weighted and unweighted frequencies, see Vol. II, Tables 0.2.1.—0.2.3.

Definition of the variables

Sampling errors have been computed for the following 25 variables. Variable numbers 1 to 4 relate to Nuptiality and Exposure to Child-Bearing, variables 5 to 12 to Fertility Behaviour, variables 13 to 17 to Fertility Preferences and variables 18 to 25 to Knowledge and Use of Contraception.

1. **Age at marriage**—Mean age at first marriage for women aged 25 or over who married before age 25.*

2. **First marriage dissolved**—Proportion of ever-married women whose first marriage was dissolved.

3. **Remarried**—Proportion of women with first marriage dissolved who remarried.

4. **Exposed**—Proportion of ever-married women who are "exposed", i.e., are currently married, non-pregnant, and fecund, including contraceptively sterilized.

5. **Children ever born**—Mean number of children born to ever-married women.

6. **Births in first 5 years**—Mean number of births before or during first five years of first marriage, for women married at least five years ago.

7. **First birth interval**—Mean length in months of the first birth interval, for women first married at least 5 years ago, who had a birth (including current pregnancy) within 5 years of first marriage.

8. **Births in past 5 years**—Mean number of births during the past five years, for women who have been continuously in the married state for the past five years.

9. **Closed birth interval**—Mean length in months of the last closed interval, for women who have had at least two live births (including any current pregnancy).

10. **Open birth interval**—Mean length in months of the open birth interval, for exposed, non-sterilized women with at least one live birth.

11. **Months breast-fed**—Mean number of months breast-fed in the last closed interval. Confined to women whose closed interval exceeded 32 months and whose child survived for at least 24 months.

12. **Pregnant**—Proportion of ever-married women who are currently pregnant.

13. **Wants no more children**—Proportion of currently married fecund women who want no more children.

14. **Prefers boy**—Of currently married fecund women wanting another child, and expressing sex preference, the proportion who prefer a boy.

15. **Last child unwanted**—Of ever-married women with at least one birth (including any current pregnancy), the proportion who did not want the last child.

16. **Additional number wanted**—Mean additional number of children wanted by currently married fecund women.

*This mean has been computed from individual ages at first marriage in *completed* years. For mean in "exact" years, add 0.5 to all values shown.

17. Desired family size—Mean total of children desired by ever-married women.

18. Knows modern method—Proportion of ever-married women who have heard of at least one modern method of contraception.

19. Ever used pill—Proportion of ever-married women who have ever used the Pill.

20. Ever used IUD—Proportion of ever-married women who have ever used IUD.

21. Used any method—Proportion of ever-married women who have ever used any method of contraception.

22. Used modern method*—Proportion of ever-married women who have ever used any modern method of contraception.

23. Using a folk method—Proportion of exposed women who are currently using a folk method of contraception.

24. Using any method—Proportion of exposed women who are currently using any method of contraception.

25. Contracepting, and wanting no more children—Of exposed women wanting no more children, the proportion who are currently using a contraceptive method.

Estimates over total sample (all Jawa-Bali)

Table III.1 shows sampling errors computed over the total sample. For each variable the following quantities are shown.

r = The ratio, mean, or proportion estimated for the whole sample. Note that estimates given here as proportions are often shown as *percentages* in the main tabulations. In such cases, all standard errors given below for proportions must be multiplied by 100 to correspond to percentages.

SE = Standard error for the actual clustered sample (defined by equation (2) given below).

95% CON. INT. = The "95 per cent confidence interval" defined earlier is r ± 2SE.

n = The appropriate *unweighted* sample base. The sample for Jawa-Bali consists of 9,136 completed individual interviews. However, only a minority of the variables are defined for the entire sample of 9,136 women. Many of the variables are relevant only for subpopulations satisfying certain criteria; for example, the variable "Births in past 5 years" has been defined only for the 6,075 women who have been continuously in the married state for the past five years.

s = *Standard deviation,* defined as $s = SR\sqrt{n}$, where SR is the standard error computed on the assumption that the sample of individuals was selected entirely at random. Though s is estimated from the sample results, it is a characteristic of the study *population,* not of a particular sample design or sample size.

DEFT = The Design Effect, DEFT = SE/SR, (see equation (1) above). It measures the sampling efficiency lost due to clustering of the sample. DEFT values near unity imply that little has been lost by clustering of respondents into sample areas.

b = The average "cluster size", i.e., the average number of interviews per PSU. For the sample as a whole b = 9136/376 = 24.3. The value is smaller if a variable is not applicable to all individuals in the sample.

For the total sample, sampling errors are small, mostly between 1 to 3 per cent of the mean.** However, the DEFT values encountered are relatively large. The overall average DEFT is around 1.5, implying that the variance (the square of the standard error) is more than twice as large as it would have been for a sample of the same size selected entirely at random. DEFT for the variables concerning contraception tend to be somewhat larger than the average for other groups of variables; DEFT is particularly large for variable "18" concerning knowledge of contraceptive methods.

Standard error for a subclass of any size

Table III.2 gives approximate values of the standard error for each of the 25 variables for any subclass size. This table has been constructed semi-empirically, on the basis of detailed computations performed for 22 different subclasses, for all Jawa-Bali and for each of the six Provinces separately.***

For example for the subclass "women first married 10-19 years ago", the unweighted subclass size (i.e., the number of respondents in this category) is 2,755, and of these women the proportion who have heard of at least one modern method of contraception is 0.79. From Table III.2, the standard error is estimated to be 0.014 (corresponding to variable "18", and n_s = 3,000). One can assert with 95 per cent confidence that (apart from possible non-sampling errors and biases), the true population value of the proportion lies in the range 0.79 ± 2(0.014) = 0.76 to 0.82.

For five variables in the table, (variable numbers 5, 9, 10, 15, and 16), the values of the standard error should be modified as explained in the footnote if the subclass mean or proportion falls in the range specified there. For example for the subclass "women currently aged under 25", for which the unweighted subclass size = 2,504, and the sample mean for the variable "number of children ever born" (variable "5") is 1.26, the standard error should be taken as the value corresponding to that variable and subclass size shown multiplied by 0.5, that is 0.5(0.07) = 0.035. The 95 per cent confidence interval is 1.26 ± 2(0.035), i.e., 1.19 to 1.33.

Obtaining unweighted subclass size from weighted frequencies

Table III.2 refers to *unweighted* subclass sizes. However, the tabulations of substantive results generally show only *weighted* frequencies. Table III.3 provides the factors by which weighted frequencies for any subclass should be multiplied to obtain the corresponding unweighted subclass size to be used in Table III.2. Table III.3 covers the most important subclasses

*'Modern' methods include the PILL, IUD, Condom, Injection, Sterilization and other female methods such as jelly and cream.

**Of the 25 variables considered, the standard error over the total sample is under 1 per cent of the mean for two, between 1-3 per cent for sixteen, between 3-4 per cent for five, and above 4 per cent of the mean for only two variables.

***The method used for constructing Table III.2 is detailed in the following section. Briefly, it is based on the assumption (empirically valid in an approximate sense) that only the *size* of a subclass, not its *nature* affects the sampling error.

for all Jawa-Bali, as well as for each of the six Provinces separately. For further subdivisions of any of the subclasses shown in the table, one may use, as an approximation, the same factor as shown for the subclass itself. For example, for the subdivision "women aged 25-29", use factor shown for the subclass "women aged 25-34", namely 1.03.

Generally, the difference between weighted and unweighted frequencies becomes large only when separate results by Province or Type of Place are considered. Within these domains there is little variation from one subclass to another, particularly for demographic subclasses such as age or marriage duration groups.

Standard error for the difference of two subclass means or proportions

Table III.2 also provides approximate values of the standard error of the difference in subclass means for a given variable. The appropriate sample base to be used in the table is determined as follows:

1) If only the weighted (but not the unweighted) subclass sizes are available, determine the corresponding unweighted sample sizes say n_1 and n_2 for the subclasses from Table III.3.
2) Then, determine with the corresponding n_1 and n_2 the appropriate sample base (say n_d) for the difference from Table III.4.
3) Finally, use this n_d in Table III.2, which in this case provides the standard error of the difference of subclass means for a given variable.*

*For very small values of n_d, say under 300, a more accurate estimation of standard error of the difference may be obtained by dividing "s" in Table III.2 by the square-root of n_d, i.e., as $s/\sqrt{n_d}$.

Table III.1 Standard errors and DEFTs for 25 variables, computed over the total sample

Variable	r	SE	95% CON. INT.		n	s	DEFT	b
			r-2SE	r+2SE				
1. Age at Marriage	15.3	0.060	15.2	15.5	6341	3.26	1.54	16.9
2. First Marriage Dissolved	0.40	0.007	0.39	0.42	9136	0.47	1.44	24.3
3. Remarried	0.78	0.011	0.76	0.80	3253	0.42	1.50	8.7
4. Exposed	0.62	0.007	0.60	0.63	9136	.049	1.36	24.3
5. Children Ever Born	3.46	0.039	3.39	3.54	9136	2.78	1.34	24.3
6. Births in First 5 Years	1.24	0.016	1.21	1.27	7428	0.95	1.38	19.8
7. First Birth Interval	24.1	0.250	23.6	24.6	6869	14.2	1.45	18.4
8. Births in Past 5 Years	0.98	0.019	0.94	1.01	6975	0.94	1.54	16.2
9. Closed Birth Interval	40.3	0.480	39.3	41.2	6660	25.6	1.54	17.7
10. Open Birth Interval	43.7	1.100	41.5	45.9	5193	50.7	1.56	13.8
11. Months Breast-fed	16.8	0.150	16.4	17.1	1933	6.20	1.09	5.1
12. Pregnant	0.10	0.004	0.09	0.11	9136	0.29	1.31	24.3
13. Wants No More Children	0.39	0.010	0.37	0.41	6744	0.48	1.71	17.9
14. Prefers Boy	0.35	0.011	0.33	0.37	3339	0.48	1.34	8.9
15. Last Child Unwanted	0.17	0.006	0.16	0.18	8218	0.38	1.44	21.9
16. Additional Number Wanted	1.05	0.035	0.98	1.13	6002	1.67	1.62	16.0
17. Desired Family Size	4.12	0.041	4.04	4.21	8681	2.03	1.88	23.1
18. Knows Modern Method	0.75	0.010	0.73	0.77	9136	0.43	2.24	24.3
19. Ever Used Pill	0.23	0.009	0.21	0.25	9136	0.44	1.95	24.3
20. Ever Used IUD	0.07	0.005	0.06	0.08	9136	0.25	1.90	24.3
21. Used Any Method	0.34	0.009	0.33	0.36	9136	0.48	1.79	24.3
22. Used Modern Method	0.30	0.009	0.28	0.32	9136	0.47	1.82	24.3
23. Using a Folk Method	0.02	0.002	0.01	0.02	5778	0.11	1.32	15.4
24. Using Any Method	0.37	0.011	0.35	0.39	5778	0.46	1.67	15.4
25. Contracepting and Wanting No More Children	0.53	0.015	0.50	0.56	2393	0.49	1.48	6.4

Notes

r = Sample estimate of ratio, mean, or proportion.
SE = Standard error of r, for the clustered sample.
95% CON. INT. = The 95 confidence interval, r ± 2SE.
n = Unweighted sample size.
s = Standard deviation.
DEFT = Design effect = $SE/\frac{s}{\sqrt{n}}$
b = Average unweighted number of individuals per sample PSU.

Table III.2 Approximate value of standard error—by variable and subclass size (n_s)

Variable	Unweighted subclass size (n_s)											
	30-50	51-100	101-200	201-400	401-700	701-1000	1001-1500	1501-2000	2001-3000	3001-5000	5001 7000	>7000
1. Age at Marriage	0.53	0.40	0.30	0.22	0.17	0.14	0.12	0.11	0.09	0.08	0.07	0.06
2. First Marriage Dissolved	.080	.060	.045	.030	.025	.020	.017	.014	.013	.011	.008	.007
3. Remarried	.065	.050	.035	.025	.020	.017	.015	.013	.012	.009	.008	.007
4. Exposed	.080	.060	.040	.030	.022	.018	.016	.013	.012	.010	.008	.007
5. Children Ever Born[1]	.450	.340	.240	.180	.130	.110	.090	.080	.070	.060	.050	.040
6. Births in First 5 years	.160	.120	.090	.060	.050	.040	.035	.030	.025	.020	.017	.015
7. First Birth Interval	2.35	1.80	1.30	0.95	0.72	0.60	0.50	0.44	0.38	0.31	0.26	0.23
8. Births in Past 5 years	.165	.125	.090	.065	.050	.042	.035	.031	.027	.022	.018	.017
9. Closed Birth Interval[2]	4.35	3.25	2.35	1.75	1.35	1.10	0.95	0.80	0.65	0.60	0.50	0.45
10. Open Birth Interval[2]	8.35	5.90	4.70	3.50	2.70	2.25	1.90	1.65	1.45	1.20	1.05	0.92
11. Months Breast-fed	0.98	0.78	0.52	0.37	0.28	0.23	0.20	0.17	0.14	0.12	0.10	0.09
12. Pregnant	.045	.032	.024	.018	.013	.011	.009	.008	.007	.006	.005	.004
13. Wants No More Children	.080	.060	.045	.035	.026	.022	.020	.016	.015	.013	.010	.009
14. Prefers Boy	.080	.060	.045	.032	.024	.020	.018	.014	.013	.011	.009	.007
15. Last Child Unwanted[3]	.060	.045	.035	.025	.019	.016	.013	.011	.010	.008	.007	.006
16. Additional Number Wanted[4]	.265	.190	.140	.105	.080	.070	.060	.050	.045	.037	.032	.028
17. Desired Family Size	.335	.260	.195	.145	.115	.100	.085	.075	.065	.055	.045	.040
18. Knows Modern Method	.075	.060	.045	.030	.025	.020	.018	.015	.014	.012	.010	.009
19. Ever Used Pill	.065	.050	.040	.030	.022	.019	.017	.014	.013	.011	.009	.008
20. Ever Used IUD	.040	.030	.025	.018	.014	.012	.009	.008	.007	.007	.006	.005
21. Used Any Method	.080	.060	.045	.035	.025	.022	.020	.016	.015	.013	.010	.009
22. Used Modern Method	.080	.060	.045	.035	.025	.022	.020	.016	.015	.013	.010	.009
23. Using Folk Method	.025	.020	.014	.010	.008	.006	.005	.004	.003	.003	.002	.002
24. Using Any Method	.080	.060	.045	.035	.025	.022	.020	.016	.015	.013	.010	.009
25. Contracepting and Wanting No More Children	.080	.060	.045	.035	.025	.022	.020	.016	.015	.013	.010	.009

Notes
[1]For subclasses with mean <2.5, multiply shown value of SE by *0.5*.
[2]For variables '9' and '10', multiply shown value by *0.7* for subclasses with mean <40.0, and multiply shown values by *1.3* for subclasses with mean >45.0.
[3]For subclasses with proportion <0.1, multiply shown values of SE by *0.5*.
[4]For subclasses with mean <0.5, multiply shown values of SE by *0.5*.

Table III.3 Factor by which weighted frequencies should be multiplied to obtain the corresponding unweighted sample size for various subclasses of the sample—by province and type of place

SUBCLASS	All Jawa-Bali	Type of Place		Province*				
		Urban	Rural	Jawa Barat	Jawa Tengah	Yogykarta	Jawa Timur	Bali
ALL	1.00	2.04	0.81	0.73	0.76	3.53	0.70	4.83
AGE								
Under 25	0.95	2.06	0.77	0.70	0.74	3.56	0.70	4.77
25-34	1.03	2.07	0.83	0.74	0.75	3.53	0.70	4.86
35-44	1.02	2.00	0.82	0.74	0.76	3.54	0.71	4.79
45-49	0.98	2.00	0.79	0.76	0.80	3.46	0.69	5.00
YEARS SINCE MARRIAGE								
Under 10	1.04	2.09	0.83	0.72	0.76	3.50	0.71	4.78
10-19	1.03	2.05	0.83	0.74	0.75	3.57	0.70	4.82
20-24	1.00	2.04	0.82	0.71	0.76	3.46	0.71	4.95
25+	0.89	1.92	0.73	0.74	0.76	3.52	0.68	4.92
AGE AT MARRIAGE								
Under 15	0.78	1.99	0.70	0.69	0.71	3.64	0.65	5.17
15-19	0.90	2.02	0.82	0.71	0.73	3.66	0.69	4.82
20+	1.43	2.12	1.14	0.87	0.89	3.46	0.77	4.85
LEVEL OF EDUCATION								
No schooling	0.93	—	—	0.65	0.71	3.63	0.65	4.81
Primary Incomplete	0.95	—	—	0.73	0.75	3.49	0.71	4.88
Primary Completed	1.14	—	—	0.79	0.92	3.37	0.81	5.00
Junior High +	1.73	—	—	1.16	1.27	3.20	1.08	4.90
HUSBAND'S OCCUPATION								
Prof., Admin, Clerical	1.45	—	—	0.94	1.06	3.46	0.87	4.93
Sales, Services	1.11	—	—	0.79	0.92	3.22	0.85	4.59
Manual	1.24	—	—	0.80	0.97	3.26	0.84	4.77
Farming	0.83	—	—	0.63	0.65	3.68	0.62	4.89

'—' Means not tabulated.
*Factor for Jakarta = 2.76 for all subclasses.

Table III.4 For standard error (SE_d) of the difference between two subclasses of size n_1 and n_2, the appropriate sample base (n_d) to be used in Table III.2

n_2	n_1 (<n_2) 100	200	400	600	1000	1500	2000	2500	3000	4000	5000
100	50	—	—	—	—	—	—	—	—	—	
200	70	100	—	—	—	—	—	—	—	—	—
400	80	130	200	—	—	—	—	—	—	—	—
600	90	150	240	300	—	—	—	—	—	—	—
1000	90	170	290	380	500	—	—	—	—	—	—
1500	90	180	320	430	600	750	—	—	—	—	—
2000	100	180	330	460	670	860	1000	—	—	—	—
2500	100	190	340	480	710	940	1110	1250	—	—	—
3000	100	190	350	500	750	1000	1200	1350	1500	—	—
4000	100	190	360	520	800	1090	1330	1540	1710	2000	
5000	100	190	370	540	830	1150	1430	1670	1880	2220	2500

Procedure

To estimate standard error for the difference in mean/proportion between two subclasses of unweighted sample size n_1 and n_2 ($n_1 \leqslant n_2$, say) proceed as follows:

Read column in III.4 nearest to n_1 and row nearest to n_2. The cell at the intersection of these gives the appropriate size n_d to be used, for the given variable, in Table III.2.

If only the weighted subclass sizes are given, first use Table III.3 to obtain the unweighted sizes n_1 and n_2.

III.3 Some technical considerations

Computational formulae

In outline, the procedure for estimating sampling errors for a stratified clustered sample is as follows.

Consider a *ratio statistic* r = y/x, where y and x are two variables the ratio of which is being estimated. (The procedure also applies to estimates like means, proportions or percentages which can be regarded as special cases of ratios). Let suffix "j" represent an individual, suffix "i" the PSU to which the individual belongs, and suffix "h" the stratum in which the PSU lies. Hence,

y_{hij} = value of variable y for the individual j, in PSU i and stratum h,

w_{hij} = sample weight for the individual,

$y_{hi} = \sum_j w_{hij} \cdot y_{hij}$, the weighted sum of y's for all individuals in PSU,

$y_h = \sum_i y_{hi}$, the sum of y_{hi} for all PSUs in the stratum, and

$y = \sum_h y_h$, the sum of y_h for all strata in the sample.

Similar expressions can be defined for variable x.

The variance (= SE^2, square of the standard error) of the ratio estimate r = y/x is estimated as

$$SE^2 = \text{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z^2_{hi} - \frac{z^2_h}{m_h} \right) \quad (2)$$

where

f = overall sampling fraction, here negligible,

m_h = the number of PSUs in stratum h,

H = the number of strata in the sample,

r = ratio of the two sample aggregates y and x.

$z_{hi} = y_{hi} - r.x_{hi}$, and

$z_h = \sum z_{hi} = y_h - r.x_h$

In the present sample, the PSUs were sampled systematically, i.e., by applying a predetermined sampling interval with a random start to an ordered list of PSUs. This procedure of selection is equivalent to implicit stratification. For sampling error computations, adjacent sample PSUs can generally be paired to form strata. (The computation formula requires at least two PSUs for stratum, i.e., $m_h \geqslant 2$.)*

Equation (2) applies also for estimates computed over a particular subclass of the sample. Individuals or PSUs or strata not belonging to the subclass are simply ignored in the computation. The summations ("Σ") are taken over only the units belonging to the subclass being considered.

SR, the standard error of a ratio estimate r corresponding to an equivalent sample selected entirely at random, is required to estimate DEFT = SE/SR, and is given by

$$SR^2 = \frac{1-f}{n-1} \left(\Sigma w_{hij} z^2_{hij} / \Sigma w_{hij} \right) \quad (3)$$

where $z_{hij} = (y_{hij} - r.x_{hij})$,

and r is the ratio estimate, $r = y/x = \Sigma w_{hij} y_{hij} / \Sigma w_{hij} x_{hij}$.

n is the total sample size, and "Σ" is the sum for all individuals over the sample. As before, means, proportions, or percentages are merely special cases of ratios.

Variance of the *difference* of two subclass means for a stratified clustered sample is given by the following formulae. Denoting the second subclass in the pair by prime',

$$SE^2_{r-r'} = \text{var}(r-r') = \text{var}(r) + \text{var}(r') - 2\,\text{cov}(r,r') \quad (4)$$

where var (r) and var (r') are given by equation (2) and the covariance is given by

$$\text{cov}(r,r') = \frac{1-f}{x.x'} \sum_{h=1} \left(\frac{m_h}{m_h-1} \sum_{i-1}^{m_h} z_{hi} z'_{hi} - \frac{z_h z'_h}{m_h} \right) \quad (5)$$

Usually cov (r,r') is positive due to positive correlation between individuals in the two subclasses who belong to the same clusters in the sample.

*Further, though Kecamatan are the PSUs, except for the 30 clusters in rural Yogyakarta the sample is, effectively, a single area stage sample since only *one* cluster per sample Kecamatan was selected. In rural Yogyakarta, for each Kecamatan the three selected clusters are put together to form one PSU. Hence the total number of PSUs is 376, while the number of sample clusters is 396.

Pattern of results for sample subclasses

As mentioned earlier, Table III.3 has been constructed to provide a reasonable approximation to the detailed results actually computed for a large number of subclasses.* In spite of some irregularities in the computed results for individual subclasses, the *pattern* of results for sample subclasses is well approximated from the results computed over the total sample as follows. We use the suffix "t" to refer to the total sample (of size n_t) and the suffix "s" to refer to any subclass of size n_s.

$$SE_s = f_s \cdot SE_t \qquad (6)$$

where f_s is a factor determined semi-empirically as

$$f_s = \frac{1}{DEFT_t} \cdot \left[\frac{n_t}{n_s} + \left(\frac{n_t}{n_s} \right)^{0.6} \cdot \left(DEFT_t^2 - 1 \right) \right]^{1/2} \qquad (7)$$

which depends only on the results for the total sample, and the proportion of the sample belonging to the subclass. Equations (6) and (7), on the basis of which Table III.3 was constructed, were found to give on the whole an excellent approximation to the detailed results actually computed for the various subclasses—not only for the subclasses like age or marriage duration groups which are well distributed over most sample clusters, but also for subclasses like urban or rural areas which are confined to certain segments of the sample. The fit is less satisfactory—though still reasonable—when results for individual Provinces are considered.

Note that the above equations are applied separately to each of the 25 substantive variables considered.

For a couple of variables, equations (6) and (7) overestimated the actually computed errors for most subclasses. The figures in Table III.3 for these were appropriately adjusted to minimise the discrepancy.

For certain other variables (e.g., the "mean number of children ever born") these equations were found inadequate for predicted SE_s for certain subclasses. These variables—listed as footnotes to Table III.3— are in fact strongly related to life-cycle (i.e., to age or marriage duration) of the respondent. The standard error here is obviously related to the mean or proportion being estimated, which in turn varies considerably from one subclass to another. Nevertheless we find that in these particular cases, the exceptional subclasses (with, say, an exceptionally low value of the mean for the variable) can be dealt with by modifying SE_s by a simple factor such as 0.5, as mentioned in Table III.3.

Variation of DEFT with subclass size

Under the assumption that standard deviation (denoted by "s" in Table III.1) for a given variable does not vary with subclass, equations (6) and (7) are equivalent to

$$\frac{DEFT_s^2 - 1}{DEFT_t^2 - 1} = \left(\frac{n_s}{n_t} \right)^{0.4} \qquad (8)$$

Equation (8) implies that for very small subclasses (subclasses with size n_s much smaller than n_t), DEFT for the subclass tends to unity. In other words, loss in sampling precision due to clustering of the sample tends to become smaller for smaller subclasses. This means that in the present context, where survey estimates for relatively small subclasses such as 5-year age or marriage cohorts are of major interest, the effect of clustering of the sample tends to be relatively less important. For example for a subclass with $n_s/n_t = 0.1$ (i.e., $n_s \sim 1000$) and $DEFT_t = 2.0$, the corresponding $DEFT_s$ is around 1.5.

Pattern of results for subclass differences

Table III.4 is based on the assumption that equations (6) and (7) are valid also for the standard error of the difference of two subclass means if n_s in (7) is replaced by n_d, *half the harmonic mean* of the two subclass sizes, i.e.,

$$n_d = \frac{n_1 \cdot n_2}{n_1 + n_2} \qquad (9)$$

This procedure assumes that the standard error for the difference is "mid-way" between two limits: the higher limit assuming that there is no covariance term in equation (4) (actually, the covariance is generally positive), and the lower limit assuming that there is no effect at all of clustering of the sample. In any case, the two limits are usually not widely apart in practice, since n_d tends to be much smaller than n_s.

As can be seen from the detailed figures given in Volume II (Table SE.4), this procedure predicts the actually computed results quite well.

*Detailed results for subclasses are given in Tables SE.1—SE.4 in Volume II.

Appendix IV. The Indonesia reliability study: a summary*

IV.1 Introduction

Little information is available on the reliability of data obtained through surveys, and in Indonesia such information is lacking altogether. A special study was therefore conducted as a follow-up of the Indonesia Fertility Survey (IFS) to obtain an indication of the reliability of the data generated by that survey.

The primary objective of the Reliability Study was to measure the reliability of data on fertility, dates, and ages. Another objective was to measure the reliability of some additional selected variables. These were factual data—background variables and data on marital status and situation—and opinion and attitudinal data. Finally, it was intended that the study should obtain indications of the possible sources of response discrepancies.

The Reliability Study was carried out in all six provinces covered by the IFS, using a sub-sample of the succesfully interviewed respondents.

To measure the reliability of data through response variability one needs to obtain an independent replication of the field procedures. Secondly, to obtain an indication of the source of the discrepancies reconciliation of discrepant results is needed. The design chosen for the Reliability Study was therefore a re-interview of a sub-sample of the IFS, followed where necessary by a third reconciliation interview to investigate reasons for discrepant results.

To reduce the probability that interviewers might remember the answers the respondent had given in the IFS, it was decided that interviewers should not interview the same respondents that they interviewed in the original study and, in addition, they should not have previous knowledge of the results of the original interview. To enhance the validity of the reconciliation interview, it was often carried out by field supervisors, who were considered to be more suited to this difficult task.

IV.2 Methodology

Questionnaire

The questionnaire used for the Reliability Study was a shortened version of the questionnaire used during the main survey, and consisted of the following sections from the IFS questionnaire:

Section 1: Respondent's Background
Section 2: Marriage History
Section 3: Maternity History
Section 5: Fertility Regulation, seven questions only.
Section 8: Current (Last) Husband's Background, one question only.

Special coding sheets were designed for the reliability study and the original interviews were coded in Jakarta before the field work started. Since the data was to be used in its "crude" form, any office-editing done was disregarded. The coding was checked by supervisors.

Criteria for the reconciliation interview

The reconciliation interview involved only selected questions. In line with the objectives of the study, most important were the group of questions on fertility, age, and dates. For the fertility questions, whenever a discrepancy was found reconciliation was attempted. For the age and date questions reconciliation was attempted only if the difference between the results of the two interviews was more than two years. As regards the background variables, these are generally considered to be simple data, not subject to change, and it was therefore thought that they might serve as a standard of comparison for the reliability of the variables of the primary group. To keep the number of reconciliation interviews required within limit, it was decided that if the only inconsistency found was of a background variable no reconciliation interview would be held. If other inconsistencies were found which required reconciliation, then inconsistencies in the background variables, if any, would also be reconciled. This restriction had to be introduced in view of the shortage of time available for the field work.

The sample

The sample for the study was a sub-sample of the main survey. The number of interviews was evenly spread over the six Provinces covered in the IFS. The total sample size was determined to be approximately 500 respondents, on the basis of the available time and manpower. Except for Jakarta, which was wholly urban, the sample was evenly distributed over urban and rural areas in each Province. Because the size of the urban and rural clusters differed, different numbers of clusters were selected for rural and urban areas.

IV.3 Field Work

Organization

The field work organization of the Reliability Study was the same as for the IFS. A number of senior staff from the Statistical Office who had already participated in the IFS were involved full time in the Reliability Study. Supervisors, interviewers, and coders were selected by the Provincial Statistical Officers; all of those chosen had participated in the main survey. There was no selection criteria laid down as it was not thought to be in the interest of the study to select those interviewers who had been best at their work. The selection depended on who was available for work during the period required. The six provincial teams consisted of a minimum of one supervisor each, one coder-editor, and four interviewers, though depending on the available personnel the numbers in the different teams varied considerably. Since all participants in the study were familiar with the questionnaire, it was felt that a one-day re-training session would be sufficient for both supervisors and interviewers. The coders used in the field were given extra training during the first day of field work.

Field procedures

The study was carried out in August and September 1976. The field procedures resembled those for the IFS as closely as possible. After the re-interview, the data collected were transcribed on to coding sheets and the discrepancies which required reconciliation were entered in the Reconciliation Interview Sheet by the HQ staff or the supervisor. Where a whole section required reconciliation, a blank copy of the relevant section of the questionnaire was issued to the reconciliation interviewer.

*A separate report has been published by the International Statistical Institute/World Fertility Survey in their Scientific Reports series.

Sample outcome

Of the 532 respondents selected for re-interview, 497 gave a complete re-interview. The response rate of 94 per cent is very high for this kind of study. In addition to the IFS, the respondents had been already interviewed during another survey within the preceding six months. The non-response was caused mainly by temporary migration (23 respondents had moved away looking for employment elsewhere) and absence due to visits to relatives (7 cases). Two respondents refused to be interviewed, and one could not be located by the re-interview team.

IV.4 Main results

The following items were included in the re-interview questionnaire.

Background data

1) Questions 102, 104, 110, 111, 113, 116 and 117 or the IFS questionnaire (see Appendix I), concerning the respondent's residence, level of education, and literacy status. It is unlikely these details will change in the future.
2) Questions 201, 206 and 211, concerning marital status, whether living with husband, and whether married more than once. These details are subject to change.

Fertility and related questions

1) Questions 301, 303, 305, 307 and 310 were used only to introduce the questions in sub-group (2) below about the number of live-born children.
2) Questions 302, 304, 306, 308, 309, 311 and 312, concerning the number of live-born children, classified by survivorship and residence.

Ages and dates

1) Questions 106, 107 and 108, concerning the age and date of birth of the respondent.
2) Questions 203, 204 and 205, on the date of current marriage and Questions 213, 214 and 215 on first marriage.
3) Questions 329, 330 and 331, on the date of the first birth.

In addition, three attitudinal questions (Questions 103, 503, and 599) were also included in the re-interview.

The data obtained in the original interview and the re-interview are compared below. Data subject to legitimate change, that is, the fertility data, have all been corrected as far as possible to represent the situation at the first interview, i.e., that of the IFS.

For each question the number and percentage of discrepancies (based on the relevant sample size) will be presented. This first crude measure of reliability gives an idea of the overall reliability of the data. The discrepancies are by no means all errors: some will represent a change in opinion or attitude—but some will indeed be caused by errors committed by either the repondent or the interviewer.

Some questions are inter-related and a discrepancy in a particular question resulting in a different skip pattern being followed will influence the number of discrepancies in subsequent questions. For these types of questions it is not possible to determine exactly the sub-sample of respondents who have given substantive answers in both interviews.

Background data

Factual data, and especially the background data, may be considered stable. However, it becomes clear from Table IV.1 that for these supposedly stable questions a fairly wide range of discrepancies were found. The percentage of inconsistent answers ranges from 1.6 per cent (Q. 206) to 12.9 per cent (Q.113).

Table IV.I Discrepancies between the original interview and the re-interview for background variables

Question Number	Question	Percentage of Discrepancies	Number of Cases
102	Whether always lived in (location of interview)	9.5	495
110	Whether attended school	3.2	495
111	The highest level of school attended	10.1	318
113	Whether graduated from (highest level attended)	12.9	317
116	Ability to read	9.2	314
117	Ability to write	9.4	128
201	Current marital status	2.4	495
206	Whether husband living with wife	1.6	436
211	Whether married more than once	5.0	442

Fertility data

The questions in this sub-group can be classified into two groups: the introductory questions which only detect whether or not the respondent has (or had) children of a particular category, and the questions which give the number of children in each category. A reconciliation interview was always held for any discrepancies of these questions. A number of discrepancies could be explained by legitimate changes; for example, a child could have been away at the original interview but returned at the re-interview; or a child was born in the interval between the two interviews. These cases were not counted as discrepancies and the data have been adjusted to reflect the situation at the time of the original interview. The remaining discrepancies are thus a result of differently reported numbers, possibly due to errors commited either by the respondent or the interviewers.

As can be seen from Table IV.2 the percentages of the discrepancies vary from 1.2 per cent (Q. 305) to 5.2 per cent (Q. 310) for the introductory questions, whereas for the questions giving numbers the range of percentage is from 3.2 per cent (Q. 309) to 9.6 per cent (Q. 312). Ninety-one per cent of the respondents reported identical numbers of children ever born in the interview; 7 per cent differed by one child, 1 per cent by two children and 1 per cent by three and four children. *These results indicate that the fertility data are relatively reliable.* This conclusion is also supported by the fact that the total number of children reported by all respondents in the original interview, the re-interview and the reconciliation are practically the same, 1919, 1918, and 1935 respectively. Discrepant results were mainly caused by misreporting by the respondents, omission of dead children, and reporting of step-children and adopted children as "own" children.

Table IV.2 Percentage of discrepancies between the original interview and the reliability study for fertility data*

Question Number	Question	Percentage of Discrepancies
301	Whether has any sons living with her	2.2
303	Whether has any sons living away	3.4
305	Whether has any daughter living with her	1.2
307	Whether has any daughters living away	2.6
310	Whether any child died	5.2
302	Number of sons living with her	5.8
304	Number of sons living away	4.2
306	Number of daughters living with her	6.0
308	Number of daughters living away	4.4
309	Total number of living children	3.2
311	Number of children who have died	7.9
312	Total number of live-births	9.6

*Number of respondents = 495

Dates and ages

Age and date reporting in Indonesia is generally acknowledged to be incomplete and unreliable*. Thus, special attention was paid to the ways in which age and dates were obtained. For all vital events an attempt was made to obtain the date in the form of the calendar year, and failing that the interviewer was instructed to obtain the date in the form of person's age. (In addition, an attempt was made to obtain the calendar month in all cases.) Table IV.3 shows the form in which dates for the three most important events were obtained.

For each of the three events, just under 80 per cent of the respondents who gave the *calendar year* in both interviews gave the same answer. On the other hand, for each of the three events only around 20 per cent of the respondents gave identical answers in cases where the calendar year had been obtained in neither of the two interviews (i.e., when only *age* was reported in both). To compare the data more completely, all dates were converted to ages and the level of agreement as shown in Table IV.4.

The overall results for these events are remarkably similar. For nearly two-thirds of the cases, the discrepancy is within ± 1 year. Agreement is within ± 2 years for over four-fifths of the cases.

A more detailed analysis of these results, as well as that of the reconciliation interviews, is being published as a separate report.

*United Nations Manual IV, *Methods of Estimating Basic Demographic Measures for Incomplete Data,* (ST/ASO/Series A/42) New York, 1967.
McNicoll, G. and Mamas, Si Gde M., *The Demographic Situation in Indonesia* (East-West Population Institute), Paper 28, Honolulu, Hawaii 1973, pp. 8-9.

Table IV.3 Form in which respondent's current age, age at first marriage and age at first birth were obtained in the original interview and the re-interview (frequencies)

Event	Calendar Year Obtained				Number of Cases
	In Both Interviews	In Original Interview Only	In Re-interview Only	In Neither	
R's Birth	211	75	24	185	495
First Marriage	291	82	25	96	494
First Birth	283	60	24	81	448

*Person's age was obtained in all cases where calendar year could not be obtained.

Table IV.4 Percent distribution according to difference between original interview and re-interview in reported age

Difference (in years) : (original interview—Re-interview)

	-3 or less	-2	-1	0	1	2	3+	All	% within ± 1 year	% within ± 2 years
Current Age	11.0	7.5	11.3	43.3	10.3	5.1	11.5	100.	64.9	77.5
Age at Marriage	9.5	8.1	15.2	37.5	12.1	5.3	12.3	100.	64.8	78.2
Age at First Birth	10.4	7.1	13.1	36.7	14.3	6.0	12.4	100.	64.1	77.2

Appendix V. Note on construction of variables

Most of the variables used in the tabulations were derived directly from the questionnaire, either from a single question, or from straightforward combinations of the answers. A number of more complex variables, however, require some amplification concerning their construction from the raw data.

V.1 Nuptiality and exposure to child-bearing

Date of first marriage

To construct variables such as "years since first marriage" and "age at first marriage", both the calendar year and the month of the first marriage are required. Except for a handful of cases, the year was available in some form—either as a calendar date or as a duration up to, say, the date of interview, or as respondent's age at marriage. The month, however, had to be imputed in a large proportion of the cases. This imputation was done at random.

Mean age at first marriage

To eliminate the effect of censoring of the data due to the sample being confined to ever-married women, the mean age at first marriage is computed only for women aged 25 and over, who married before age 25. In Volume II tables, the mean has been computed from individual ages at marriage in *completed* years. To obtain the mean age in "exact" years, 0.5 years should be added to all means shown there.

Exposure status

Of the total number of respondents in the individual questionnaire, all those who reported a current pregnancy are classified as belonging to *Category 1* of this variable. Among the women remaining those currently widowed, divorced, or separated form *Category 2* of Exposure Status. Currently-married non-pregnant women who (or whose husbands) are contraceptively sterilized constitute *Category 3*. Those currently married non-pregnant women who are sterilized for non-contraceptive reasons or state that they are infecund are grouped together as *Category 4*. The remaining body of respondents—currently-married, non-pregnant, and able to bear children—form *Category 5*.

Currently married fecund

This subgroup is defined as those women who are currently-married, and are either pregnant, or contraceptively sterilized, or reported fecund. Since all but a very small number (around 10) of pregnant respondents are currently married, for practical purposes the group "currently married fecund" consists of respondents in Categories 1, 3, and 5 of Exposure Status.

Exposed

This consists of currently married fecund non-pregnant women, that is, of categories 3 and 5 of Exposure Status.

V.2 Knowledge and use of contraception

Classification of contraceptive methods

The various methods of contraception have been classified into two groups, each of which is further subdivided as follows:

1) "Efficient" or Modern Methods: These methods are characterized by historical recency of their discovery or widespread application, and are subdivided into two groups:
   - — Programme Methods, namely the Pill, IUD, and Condom. These are the most commonly used methods, being almost the only modern methods which the Family Planning Programme in Indonesia has hitherto endeavoured to spread.
   - — Other modern methods, namely the Injection, Male and Female Sterilization, and other female methods (e.g., diaphragm and jellies).
2) "Inefficient" or Traditional Methods. These consist of two subgroups:
   - — "International" traditional methods, such as Rythm, Withdrawal, Abstinence, and Douche, which have been customarily practiced internationally in many cultures.
   - — Folk methods, which are more specific to Indonesia. Among others, these include herbs of various kinds, massage, and some sort of physical manipulation believed to be "inversion of the uterus".

Pattern of contraceptive use

This variable was derived from a number of questions concerning family planning attitude and practice, and consists of ten categories. Categories 1 through 7 are for currently married fecund women (defined above), and Categories 8 to 10 are for women currently not married or not fecund. The various categories are defined as follows:

Currently married fecund women (Categories 1 to 7)

Those currently using a contraceptive method:

1. Husband or wife contraceptively sterilized.
2. Couple currently using a method other than sterilization.

Past but not current users, classified by the most recent reported use:

3. Most recent use in the open birth interval.*
4. Most recent use in the last closed birth interval.
5. Most recent use only in an earlier birth interval; that is, past user but did not use contraception in the last closed or the open birth interval.

Those who have never used a method of contraception, classified by intentions regarding future use:

6. Intend future use.
7. Do not intend to use contraception at any time in the future.

Currently not married, or not fecund (Categories 8 to 10)

Those who have ever used a contraceptive method, classified by the most recent reported use:

8. Most recent use in the open or the last closed birth interval
9. Most recent use in some earlier interval, that is, past user but did not use contraception in the open or the last closed interval.

*For the definition of birth intervals, see V.3 below.

Category 10 consists of currently not married or not fecund women who have never used any method of contraception.

V.3 Fertility and child mortality

Dates in the birth history

For various variables concerned with classification of births by period of occurrence or by birth intervals, both the calendar year and the month of each birth is required. Except for a handful of cases, the year of birth was available in some form—either as a calendar date, a child's age, or as the duration from the previous birth. The month, however, had to be imputed in a large proportion of the cases. The procedure used for month imputation (as well as for the editing of the birth history) was first to calculate the *range* (from the data on the year) within which each birth occurred, and then to adjust these ranges by considering the entire birth history of a respondent as a sequence of events such that the condition of a biological minimum duration between neighbouring births is satisfied simultaneously for the whole sequence. Within the adjusted ranges, months of births were imputed independently at random.*

Open birth interval

This interval is defined only for non-pregnant women, and is the interval in months between the interview date and birth of the last child. For non-pregnant women who have had no live children, this is defined as the interval between the interview date and the date of first marriage. (Intervals not starting with a birth are excluded from tables on mean length of the interval.)

Last closed birth interval

This is the interval in months between two events defined as follows for the various categories of respondents.

— Currently pregnant with at least one live-birth: Interval between the date of the last birth and the expected date of termination of current pregnancy.

— Currently pregnant, with no live-birth: Interval between the date of first marriage and the expected date of termination of current pregnancy.

— Non-pregnant with at least two live-births**: Interval between the dates of last two births.

— Non-pregnant with only one live-birth**: Interval between the date of first marriage and the date of the birth of the child.

— Non-pregnant with no live-births: Last closed interval not defined.

(Note: Intervals not starting with a birth are excluded from tables on mean length of the interval.)

Births in the first five years of marriage

This variable is defined only for women first married at least five years ago. It is calculated as the number of live births within the first 59 completed months following the first marriage, whether or not the marriage continued. Any premarital births are also included. By contrast, analysis of the births in the *past* five years is confined to women who have been continuously in the married state for the past five years.

Mean length of breast-feeding

In the tables involving the mean length of breast-feeding, the mean is usually computed for durations of under 2 years. However, in place of excluding all durations stated as 24 (in principle, *completed*) months, *half* of such cases have been included at random in the mean. This is because of significant heaping at this value in the reported data. Women who did not breast-feed the child are included in the mean with duration = zero months.

V.4 Preferences for the number and sex of children

Treatment of the current pregnancy

Both in the questionnaire itself as well as in the analysis of the data on fertility preferences, a current pregnancy is counted as a live-birth, actually as a living child. For example, the question as to whether a women wants another child refers, for currently pregnant women, to desire for more children *after* the child being carried. The number of additional children wanted refers to the number in addition to the current pregnancy. Whether the last child was wanted refers to whether the current pregnancy was wanted. In the classification by the number of living children, the actual number of living children has been augmented by one for currently pregnant women.

Mean additional number of children wanted

In computing the mean additional number of children wanted, the following scheme has been followed:

1) For women specifying the additional number as a range, the midpoint of the range is taken.

2) For women who did not want their last child, the additional number wanted is taken as "-1".

3) For women who want no more children or are *undecided* on this question, the additional number wanted is taken as zero.

4) Other (non-numeric) answers to the question on additional number of children wanted are excluded from the mean. Cases with the number not stated are of course also excluded. Frequencies of these responses are, on the other hand, included in the percent distribution of the variable "additional number of children wanted".

Total number of children desired ("Desired family size")

This variable relates to Question 599, namely "If you could choose exactly the number of children to have in your whole life, how many children would that be?"

Though this question was asked of all ever-married women, the tabulations presented in this report have been confined to currently married women. In calculation of the mean number desired, the average value has been taken where a range had been specified. Non-numeric answers (such as "Up to God") and the non-stated cases have been excluded from the mean.

*Details of the procedure are available in the WFS Guidelines for Data Processing.

**Counting a set of multiple births (such as twins) as a *single* event.

Appendix VI. Glossary in English, French, Spanish and Bahasa Indonesia

Background variables

Husband's occupation:
- Professional, technical, administrative, etc
- Sales and services
- Manual, skilled and unskilled
- Farming
- Other, Never Worked

Level of education:
- No Schooling
- Primary—incomplete
- Primary—completed
- Junior High
- Senior High +

Pattern of work:
- Worked before and after marriage
- Worked only after marriage
- Worked only before marriage
- Never worked

Province:
- Jakarta
- Jawa Barat (West Java)
- Jawa Tengah (Central Java)
- Yogyakarta
- Jawa Timur (East Java)
- Bali

Type of place of residence:
- Urban
- Rural

Age, nuptiality, and exposure to child-bearing

Age at first marriage

Age cohort

Calendar year of birth

Continuously in the married state for the past five years

Continuously in the married state since first marriage

Current age

Current marital status:
- Married
- Widowed
- Divorced
- Separated

Currently married
- — and "fecund"
- — fecund and wants no more children
- — and non-pregnant

Ever married
- — with at least two live-births (including current pregnancy)

Exposure status
"Exposed"
- — with at least one live-birth
- — and wants no more children
- — and wants another child and states sex preference.

First marriage dissolved
- — and remarried

First married at least five years ago

First married before age 25

Variables socio-economiques

Activitité professionnelle du mari:
- Professions libérales, techniciens, directeurs et cadres administ. supérieurs
- Commerce et services
- Ouvriers, qualifiés et non-qualifiés
- Agriculture
- Autre, et n'ayant jamais travaillé

Niveau d'instruction:
- Non scolarisé
- Primaire incomplet
- Primaire complet
- Secondaire
- Supérieur

Période de travail:
- A travaillé avant et après le mariage
- A travaillé seulement après le mariage
- A travaillé seulement avant le mariage
- N'a jamais travaillé

Province:
- Jakarta
- Jawa Barat (Java-Ouest)
- Jawa Tengah (Java-Centre)
- Yogyakarta
- Jawa Timur (Java-Est)
- Bali

Nature de lieu de résidence:
- Urbain
- Rural

Age, nuptialité et exposition au risque de grossesse

Age au premier mariage

Cohorte d'âge

Millésime de naissance

Toujours mariée durant les cinq dernières années

Toujours mariée depuis son premier mariage

Age actuel

Etat matrimonial actuel:
- Mariée
- Veuve
- Divorcée
- Séparée

Actuellement mariée
- — et "fertile"
- — fertile et ne veut plus d'autres enfants
- —et non-enceinte

Non-célibataire
- — avec au moins deux naissances vivantes (y compris grossesse actuelles

Statut d'exposition au risque de grossesse
"Exposée au risque de grossesse"
- — avec au moins une naissance vivante
- — et ne veut plus d'autres enfants
- — et désire avoir un autre enfant avec préférence pour le sexe

Premier mariage dissous
- — et remariée

Mariée pour la première fois il y a au moins 5 ans

Mariée pour la première fois avant d'atteindre 25 ans

Características socio-económicas

Ocupación del esposo:
Profesional, técnico, administración, etc.

Ventas y servicios
Obrero, especializado y no especializado
Granjero
Otra; nunca ha trabajado

Nivel de educación:
Sin escolaridad
Primaria—incompleta
Primaria—completada
Educación Media
Educación secundaria y superior

Patrón de trabajo:
Trabajó antes y después del matrimonio
Trabajó solamente después del matrimonio
Trabajó solamente antes del matrimonio
No ha trabajado nunca

Provincia:
Jakarta
Jawa Barat (Java Oriente)
Jawa Tengah (Java Central)
Yogyakarta
Jawa Timur (Java Poniente)
Bali

Tipo de lugar de residencia:
Urbano
Rural

Edad, nupcialidad y exposición al riesgo de embarazo

Edad al primer matrimonio
Cohorte de edad
Año calendario de nacimiento
Ha estado continuamente casada durante los último cinco años
Ha estado continuamente casada desde su primer matrimonio
Edad actual

Estado civil actual:
Casada
Viuda
Divorciada
Separada

Actualmente casada:
— y "fértil"
— fértil y no desea tener más hijos

— y no-embarazada

Alguna vez casada:
— tiene al menos dos nacidos vivos (incluyendo embarazo actual)

Exposición al riesgo de embarazo:
"Expuesta"
— tiene al menos un nacido vivo
— y no desea tener más hijos
— y desea tener otro hijo e indica preferencia por un sexo determinado

Primer matrimonio disuelto
— y se ha vuelto a casar

Casada por primera vez hace por lo menos cinco años
Casada por primera vez antes de los 25 años de edad

Variabel variabel pokok

Lapangan pekerjaan suami:
Profesionil, tehnis, administrasi dll

Perdagangan dan jasa jasa
Manual, tenaga terlatih dan tidak terlatih
Petani
Lainnya, Tidak pernah bekerja

Tingkat Pendidikan:
Tidak sekolah
Tidak tamat Sekolah Dasar
Tamat Sekolah Dasar
Sekolah Lanjutan Pertama
Sekolah Lanjutan Atas keatas

Pola Pekerjaan:
Bekerja sebelum dan sesudah kawin
Bekerja hanya setelah kawin
Bekerja hanya sebelum kawin
Tidak pernah bekerja

Propinsi:
DKI Jakarta
Jawa Barat
Jawa Tengah
Yogyakarta
Jawa Timur
Bali

Daerah Tempat Tinggal:
Perkotaan
Pedesaan

Umur, pola perkawinan dan kemungkinan kehamilan

Umur perkawinan pertama
Kohor umur
Tahun kelahiran
Selalu dalam keadaan kawin selama lima tahun yang lalu
Selalu dalam keadaan kawin sejak perkawinan pertama

Umur sekarang

Status perkawinan sekarang:
Kawin
Janda
Cerai
Pisah

Sekarang berstatus kawin:
— dan berkemampuan beranak
— berkemampuan beranak dan tidak menginginkan anak lagi
— dan tidak hamil

Pernah kawin:
— paling sedikit dengan dua kelahiran hidup termasuk yang sedah dikandung)

Status kemungkinan hamil
"Berkemungkinan hamil"
— paling sedikit dengan satu kelahiran hidup
— dan tidak menginginkan anak lagi
— dan menginginkan anak lagi dan pilihan jenis kelaminnya

Perkawinan pertama berahir
— dan kawin kembali

Kawin pertama paling tidak lima tahun yang lalu
Kawin pertama sebelum umur 25

Interval from first marriage to first birth

Marriage cohort
Marriage dissolution and remarriage

Number of times married
Status of first marriage
Times since first marriage spent in the married state

Years since first marriage

Knowledge and use of contraception

Contraceptive method being used
Contraceptive use (excluding sterilization) in the open interval
Contraceptive use in the last closed interval

Currently using contraception (any methods)

Currently using a modern method of contraception

Ever used contraception (any methods)

Ever used a modern method of contraception
Ever use of specified contraceptive methods
Heard of at least one modern method of contraception

Heard of specified contraceptive methods
Living children when contraception used for the first time

Pattern of contraceptive use:
- Currently using
- Contraceptively sterilized
- Using some other method
- Past but not current user

- Used in open interval
- Used in last closed interval
- Used only in an earlier interval
- Never used any method
- Intends future use
- Does not intend future use

Specific contraceptive method:
- Pill
- IUD
- Condom
- Injection
- Female Sterilization
- Male Sterilization
- Other female scientific
- Rhythm
- Withdrawal
- Abstinence
- Douche
- Herbs
- Massage
- Uterus inversion

Type of contraceptive method:
- Programme methods
- (Other) Modern methods
- (World-wide) Traditional methods
- Folk methods

Fertility and child mortality

Age at birth of child in single years

Birth History
- — Temporal distribution of births

Intervalle entre le premier mariage et la première naissance
Cohorte des mariages
Dissolution de mariage et remariage

Nombre de mariages
Statut du premier mariage
Durée écoulée depuis le premier mariage en état de femme mariée
Années écoulées depuis le premier mariage

Connaissance et pratique de la contraception

Méthode contraceptive actuellement utilisée
Méthode contraceptive (stérilisation exclue) utilisée dans l'intervalle ouvert
Méthode contraceptive utilisée dans le dernier intervalle fermé
Pratique actuellement la contraception (quelle que soit la méthode)
Utilise actuellement une méthode contraceptive moderne
A déjà utilisé une méthode contraceptive (quelle que soit la méthode)
A déjà utilisé une méthode contraceptive moderne
A déjà utilisé des méthodes précises de contraception
A entendu parler d'au moins une méthode contraceptive moderne
A entendu parler de méthodes précises de contraception
Nombre d'enfants vivants quand elle a utilisé pour la première fois une méthode contraceptive

Type de pratique contraceptive:
- Pratique actuellement
- A subi une stérilisation volontaire
- Utilise d'autres méthodes
- A pratiqué dans le passé mais ne pratique pas actuellement
- A pratiqué durant l'intervalle ouvert
- A pratiqué dans le dernier intervalle fermé
- A pratiqué seulement dans un intervalle antérieur
- N'a jamais pratiqué
- Pense pratiquer dans le futur
- Ne pense pas pratiquer dans le futur

Méthode contraceptive:
- Pilule
- DIU ou stérilet
- Préservatif
- Injection
- Ligature des trompes
- Vasectomie
- Autres méthodes scientifiques pour la femme
- Continence périodique
- Retrait
- Abstention
- Douche
- Herbes
- Massages
- Inversion de l'utérus

Type de méthode contraceptive:
- Méthodes du programme
- (Autres) méthodes modernes
- Méthodes traditionnelles (largement répandues)
- Méthodes populaires

Fecondité et mortalité infantile

Année d'âge de la mère à la naissance de l'enfant

Historique des naissances
- — distribution des naissances dans le temps

Intervalo entre el primer matrimonio y el primer nacimiento	Jarak antara perkawinan pertama dengan kelahiran pertama
Cohorte de matrimonio	Kohor perkawinan
Disolución del matrimonio y matrimonio en segundas nupcias	Berahirnya perkawinan dan perkawinan kembali
Número de veces que ha estado casada	Banyaknya perkawinan
Situación del primer matrimonio	Status perkawinan pertama
Tiempo transcurrido en estado matrimonial, desde su primer matrimonio	Lamanya waktu berada dalam deadaan kawin semenjak perkawinan pertama
Años transcurridos desde el primer matrimonio	Jumlah tahun semenjak perkawinan pertama
Conocimiento y uso de anticoncepción	**Pengetahuan dan penggunaan alat kontrasepsi**
Método anticonceptivo que usa actualmente	Alat kontrasepsi yang sedang dipakai
Uso de anticoncepción (excluyendo esterilización) en el intervalo abierto	Alat kontrasepsi yang dipakai (kecuali sterilisasi) dalam interval terbuka
Uso de anticoncepción en el último intervalo cerrado	Alat kontrasepsi yang dipakai dalam interval tertutup yang terahir
Usa anticoncepción actualmente (cualquier método)	Sedang menggunakan alat kontrasepsi (cara apa saja)
Usa actualmente un método anticonceptivo moderno	Sedang menggunakan alat kontrasepsi modern
Ha usado anticoncepción alguna vez (cualquier método)	Pernah menggunakan alat kontrasepsi (cara apa saja)
Ha usado alguna vez un método anticonceptivo moderno	Pernah menggunakan alat kontrasepsi modern
Uso de métodos anticonceptivos específicos	Pernah menggunakan alat kontrasepsi tertentu
Ha oído hablar de por lo menos un método anticonceptivo moderno	Mendengar paling tidak satu alat kontrasepsi modern
Métodos anticonceptivos especificos de los que ha oído hablar	Mendengar alat kontrasepsi tertentu
Número de hijos vivos que tenía cuando usó anticoncepción por primera vez	Jumlah anak yang hidup pada waktu pertama kali menggunakan alat kontrasepsi
Patrón de uso de métodos anticonceptivos:	Pola penggunaan alat kontrasepsi:
Usa actualmente	Sedang menggunakan
Esterilizada por razones anticonceptivas	Sterilisasi sebagai alat kontrasepsi
Usa otro método	Menggunakan cara lain
Ha usado en el pasado pero no actualmente	Dahulu menggunakan tetapi sekarang tidak
Usó en el intervalo abierto	Menggunakan dalam interval terbuka
Usó en el último intervalo cerrado	Menggunakan dalam interval tertutup yang terahir
Usó solamente en un intervalo cerrado anterior	Hanya menggunakan dalam interval permulaan
Nunca ha usado anticoncepción	Tidak pernah menggunakan cara apapun
Piensa usar en el futuro	Berkeinginan menggunakan diwaktu mendatang
No tiene intenciones de usar en el futuro	Tidak berkeinginan menggunakan diwaktu mendatang
Métodos anticonceptivos específicos:	Alat kontrasepsi spesifik:
Píldora	Pil KB
Dispositivo intra-uterino (DIU)	IUD (Spiral)
Condón	Kondom
Inyección	Suntikan
Esterilización femenina	Pemandulan wanita
Esterilización masculina	Pemandulan laki-laki
Otros métodos científicos femeninos	Cara lain untuk wanita
Ritmo	Pantangan berkala
Retiro	Sanggama terputus
Abstinencia	Tidak campur
Ducha	Douche
Hierbas	Jamu
Masaje	Urut (pijat)
Inversión del útero	Peranakan dibalik
Tipo de método anticonceptivo	Penggolongan alat kontrasepsi:
Métodos proporcionados por el programa	Alat kontrasepsi berasal dari program
(Otros) métodos modernos	Alat kontrasepsi modern lainnya
Métodos tradicionales (mundialmente conocidos)	Alat kontrasepsi tradisionil pada umumnya
Métodos folklóricos	Alat kontrasepsi spesifik Indonesia
Fecundidad y mortalidad infantil	**Fertilitas dan mortalitas anak**
Edad al tener el hijo, en años cumplidos	Umur pada waktu melahirkan anak (umur tunggal)
Historia de nacimientos	Riwayat kelahiran
— Distribución temporal de los nacimientos	— Distribusi kelahiran menurut waktu

Birth Order	Rangs de naissances
Birth Intervals	Intervalles entre naissances
— Length of the open interval	— longueur de l'intervalle ouvert
— Length of the last closed interval	— longueur du dernier intervalle fermé
Breast-feeding	Allaitement
— Breast-feeding in the last closed interval	— Allaitement dans le dernier intervalle fermé
— Last closed interval begins with a live birth, is longer than 32 months, with the child surviving at least 24 months	— Dernier intervalle fermé commençant avec une naissance vivante, ayant une durée supérieure à 32 mois et dont l'enfant a survécu au moins 24 mois
Calendar year of birth of child	Millésime de naissance de l'enfant
Child mortality by age at death	Mortalité infantile par âge au décès
Child's age at death	Age au décès
Children born before or within first 5 years of first marriage	Nombre d'enfants nés avant ou durant les 5 premières années du premier mariage
Children born in past 5 years	Nombre d'enfants nés durant les 5 dernières années
Children ever born (number of)	Nombre d'enfants déjà nés (descendance actuelle)
Children ever born plus current pregnancy	Nombre d'enfants déjà nés plus la grossesse actuelle
Children who died before 2 years of age	Nombre d'enfants décédés avant l'âge de 2 ans
Current pregnancy	Grossesse actuelle
Duration since first marriage at birth of child	Durée écoulée entre le premier mariage et la naissance de l'enfant
Initial Fertility	Fécondité initiale du mariage
Interval between first marriage and first birth	Intervalle entre premier mariage et première naissance
Live births in past 7 years	Nombre de naissances vivantes au cours des 7 dernières années
Living children	Nombre d'enfants vivants
Living children plus current pregnancy	Nombre d'enfants vivants plus la grossesse actuelle
Living children 5 years ago	Nombre d'enfants vivants il y a 5 ans
Living children when contraception was used for the first time	Nombre d'enfants vivants au moment où la contraception a été utilisée pour la première fois
Living daughters	Nombre de filles vivantes
Living sons	Nombre de garçons vivants
Male childen born in past 5 years	Nombre de garçons nés au cours des 5 dernières années
Month of current pregnancy	Mois de la grossesse actuelle
Recent fertility	Fécondité récente du mariage
Survivorship status	Survivants
Years ago birth occurred (in 5 year groups)	Années écoulées depuis la naissance (par groupes quinquennaux)
Years since birth occurred (in single years)	Années écoulées depuis la naissance (par année)
Preferences for number and sex of children	**Préférénce relatives au nombre et au sexe des enfants**
Additional children wanted (number of)	Nombres d'enfants supplémentaires désirés
Desire for more children	Désire avoir d'autres enfants
Desire to cease child-bearing	Désire ne plus avoir d'enfants
Desired family size	Dimension désirée de la famille
— exceeds number of living children	— dépasse le nombre d'enfants vivants
Desires fewer than number living	Aurait désiré avoir moins d'enfants que le nombre de ses enfants actuellement vivants
Desires the same as number living	Désire avoir un nombre d'enfants égal à celui de ses enfants actuellement vivants
Desire more than number living	Désire avoir plus d'enfants que le nombre de ses enfants actuellement vivants
Fertility preferences and the use of contraception	Descendance désirée et pratique de la contraception
Last child not wanted	Dernier enfant non désiré
Prefers a boy	Préfère avoir un garçon
Prefers a girl	Préfère avoir une fille
Preference concerning the sex of children	Préférence concernant le sexe des enfants
Total number of children desired	Nombre total d'enfants désirés
Wants another child	Désire avoir un autre enfant
— and states a sex preference	— et a une préférence pour le sexe
Wants no more children	Ne désire plus avoir d'enfants

Orden de nacimiento	Urutan kelahiran
Intervalos genésicos — Duración del intervalo abierto — Duración del último intervalo cerrado	Jarak kelahiran — Lamanya interval terbuka — Lamanya interval tertutup yang terahir
Lactancia — Lactancia en el último intervalo cerrado — El último intervalo cerrado comienza con un nacido vivo, dura más de 32 meses y el niño sobrevivió por lo menos 24 meses	Menyusui — Menyusui dalam interval tertutup yang terahir — Interval tertutup yang terahir mulai dengan kelahiran hidup, lebih lama dari 32 bulan, dengan anak yang masih hidup paling sedikit 24 bulan
Año calendario de nacimiento del niño	Tahun kelahiran anak
Mortalidad infantil por edad al morir	Mortalitas anak menurut umur ketika meninggal
Edad del niño al morir	Umur anak ketika meninggal
Hijos nacidos antes o durante los primeros 5 años de matrimonio	Jumlah anak yang dilahirkan sebelum atau dalam waktu 5 tahun pertama dari perkawinan pertama
Hijos nacidos en los últimos 5 años	Jumlah anak yang dilahirkan 5 tahun yang lalu
Número de hijos tenidos	Jumlah anak yang pernah dilahirkan
Número de hijos tenidos, más embarazo actual	Anak yang pernah dilahirkan ditambah dengan yang dikandung
Hijos que murieron antes de los 2 años de edad	Anak yang meninggal sebelum berumur 2 tahun
Embarazo actual	Kehamilan sekarang
Duraciòn del matrimonio al nacimiento del hijo	Tenggang waktu antara perkawinan pertama dengan kelahiran anak
Fecundidad inicial	Fertilitas permulaan
Intervalo entre el primer matrimonio y el primer nacimiento	Interval (jarak) antara perkawinan pertama dan kelahiran pertama
Nacidos vivos en los últimos 7 años	Kelahiran hidup selama 7 tahun yang lalu
Hijos actualmente vivos	Jumlah anak yang hidup
Número de hijos actualmente vivos más embarazo actual	Jumlah anak yang hidup ditambah dengan yang dikandung sekarang
Número de hijos vivos hace 5 años	Jumlah anak yang hidup 5 tahun yang lalu
Número de hijos vivos que tenía cuando usó anticoncepción por primera vez	Jumlah anak yang hidup pada waktu pertama kali menggunakan alat kontrasepsi
Número de hijas mujeres actualmente vivas	Jumlah anak perempuan yang hidup
Número de hijos varones actualmente vivos	Jumlah anak laki-laki yang hidup
Hijos varones nacidos en los últimos 5 años	Jumlah anak laki-laki yang dilahirkan selama 5 tahun yang lalu
Meses de embarazo del embarazo actual	Bulan kehamilan yang sekerang
Fecundidad reciente	Fertilitas terahir ini
Supervivencia	Status yang bertahan hidup
Cuantos años hace que ocurrió el nacimiento (en grupos quinquenales)	Jumlah tahun sejak adanya kelahiran (delam 5 tahunan)
Cuantos años hace que ocurrió el nacimiento (en años cumplidos)	Jumlah tahun sejak adanya kelahiran (tahunan)
Preferencia por numero y sexo de los hijos	**Keinginan akan jumlah dan jenis kelamin anak**
Número de hijos adicionales deseados	Menginginkan tambahan anak (jumlah)
Deseo de más hijos	Menginginkan anak lagi
Deseo de no tener más hijos	Tidak menginginkan tambahan anak
Tamaño de familia deseado — excede el número de hijos vivos	Besarnya keluarga yang diinginkan — Melebihi jumlah anak yang sekerang hidup
Desea menos hijos de que los que tiene	Menginginkan jumlah anak kurang dari jumlah yang sekarang hidup
Desea el mismo número de hijos que tiene	Menginginkan jumlah anak sama dengan jumlah yang sekarang hidup
Desea más hijos que los que tiene	Menginginkan jumlah anak lebih dari jumlah yang sekarang hidup
Preferencias de fedundidad y uso de anticoncepción	Keinginan jumlah anak dan penggunaan alat kontrasepsi
Ultimo hijo no deseado	Anak terahir tidak diinginkan
Prefiere un hijo varón	Menginginkan laki-laki
Prefiere una hija mujer	Menginginkan perempuan
Preferencias en cuanto al sexo de los hijos	Keinginan akan jenis kelamin anak
Número total de hijos deseados	Jumlah anak yang diinginkan
Desea otro hijo — e indica preferencia por el sexo	Menginginkan anak lagi — dan pilihan akan jenis kelamin
No desea más hijos	Tidak menginginkananak lagi

Appendix VII Conversion table between Jawanese/Sundanese/Muslim and western calendar

Tahun dan bulan masehi—Islam
Tabel konversi 1920/1338—1976/1398

1920	Januari	1338 Rab. Akhir
	Pebruari	J. Awal
	Maret	J. Akhir
	April	Rajab
	Mei	Sya'ban
	Juni	Ramadhan
	Juli	Syawal
	Agustus	Z. Kaedah
	September	Z. Hijah
	Oktober	1339 Muharam
	Nopember	Syafar/R. Awal
	Desember	R. Awal/R. Akhir
1921	Januari	R. Akhir/J. Awal
	Pebruari	J. Awal/J. Akhir
	Maret	Rajab
	April	Sya'ban
	Mei	Ramadhan
	Juni	Syawal
	Juli	Z. Kaedah
	Agustus	Z. Hijah
	September	1340 Muharam
	Oktober	Syafar
	Nopember	R. Awal
	Desember	R. Akhir
1922	Januari	J. Awal
	Pebruari	J. Akhir
	Maret	Rajab
	April	Sya'ban
	Mei	Ramadhan
	Juni	Syawal
	Juli	Z. Kaedah
	Agustus	Z. Hijah
	September	1341 Muharam
	Oktober	Syafar
	Nopember	R. Awal
	Desember	R. Akhir
1923	Januari	J. Awal/J. Akhir
	Pebruari	J. Akhir/Rajab
	Maret	Rajab/Sya'ban
	April	Ramadhan
	Mei	Syawal
	Juni	Z. Kaedah
	Juli	Z. Hijah
	Agustus	1342 Muharam
	September	Syafar
	Oktober	R. Awal
	Nopember	R. Akhir
	Desember	J. Awal
1924	Januari	J. Akhir
	Pebruari	Rajab
	Maret	Sya'ban
	April	Ramadhan
	Mei	Syawal
	Juni	Z. Kaedah
	Juli	Z. Hijah
	Agustus	1343 Muharam
	September	Syafar
	Oktober	R. Awal
	Nopember	R. Akhir
	Desember	J. Awal
1925	Januari	J. Akhir
	Pebruari	Rajab
	Maret	Sya'ban
	April	Ramadhan
	Mei	Syawal
	Juni	Z. Kaedah
	Juli	Z. Hijah
	Agustus	1344 Muharam
	September	Syafar
	Oktober	R. Awal
	Nopember	R. Akhir
	Desember	R. Awal
1926	Januari	J. Akhir
	Pebruari	Rajab
	Maret	Sya'ban/Ramadhan
	April	Ramadhan/Syawal
	Mei	Syawal/Z. Kaedah
	Juni	Z. Hijah
	Juli	1345 Muharam
	Agustus	Syafar
	September	R. Awal
	Oktober	R. Akhir
	Nopember	J. Awal
	Desember	J. Akhir
1927	Januari	Rajab
	Pebruari	Sya'ban
	Maret	Ramadhan
	April	Syawal
	Mei	Z. Kaedah
	Juni	Z. Hijah
	Juli	1346 Muharam
	Agustus	Syafar
	September	R. Awal
	Oktober	R. Akhir
	Nopember	J. Awal
	Desember	J. Akhir
1928	Januari	Rajab
	Pebruari	Sya'ban
	Maret	Ramadhan
	April	Syawal
	Mei	Z. Kaedah
	Juni	Z. Hijah
	Juli	1347 Muharam
	Agustus	Syafar
	September	R. Awal/R. Akhir
	Oktober	R. Akhir/J. Awal
	Nopember	J. Awal/J. Akhir
	Desember	J. Akhir/Rajab
1929	Januari	Sya'ban
	Pebruari	Ramadhan
	Maret	Syawal
	April	Z. Kaedah
	Mei	Z. Hijah
	Juni	1348 Muharam
	Juli	Syafar
	Agustus	R. Awal
	September	R. Akhir
	Oktober	J. Awal
	Nopember	J. Akhir
	Desember	Rajab

1930	Januari	Sya'ban
	Pebruari	Ramadhan
	Maret	Syawal
	April	Z. Kaedah
	Mei	Z. Hijah
	Juni	1349 Muharam
	Juli	Syafar
	Agustus	R. Awal
	September	R. Akhir
	Oktober	J. Awal
	Nopember	J. Akhir
	Desember	Rajab
1931	Januari	Sya'ban
	Pebruari	Ramadhan
	Maret	Syawal
	April	Z. Kaedah
	Mei	Z. Hijah
	Juni	1350 Muharam
	Juli	Syafar
	Agustus	R. Awal/R. Akhir
	September	R. Akhir/J. Awal
	Oktober	J. Awal/J. Akhir
	Nopember	Rajab
	Desember	Sya'ban
1932	Januari	Ramadhan
	Pebruari	Syawal
	Maret	Z. Kaedah
	April	Z. Hijah
	Mei	1351 Muharam
	Juni	Syafar
	Juli	R. Awal
	Agustus	R. Akhir
	September	J. Awal
	Oktober	J. Akhir
	Nopember	Rajab
	Desember	Sya'ban
1933	Januari	Ramadhan
	Pebruari	Syawal
	Maret	Z. Kaedah
	April	Z. Hijah
	Mei	1352 Muharam
	Juni	Syafar
	Juli	R. Awal
	Agustus	R. Akhir
	September	J. Awal
	Oktober	J. Akhir
	Nopember	Rajab
	Desember	Sya'ban
1934	Januari	Ramadhan
	Pebruari	Syawal/Z. Kaedah
	Maret	Z. Kaedah/Hijah
	April	1353 Z. Hijah/Muharam
	Mei	Syafar
	Juni	R. Awal
	Juli	R. Akhir
	Agustus	J. Awal
	September	J. Akhir
	Oktober	Rajab
	Nopember	Sya'ban
	Desember	Ramadhan
1935	Januari	Syawal
	Pebruari	Z. Kaedah
	Maret	Z. Hijah
	April	1354 Muharam
	Mei	Syafar
	Juni	R. Awal
	Juli	R.Akhir
	Agustus	J. Awal
	September	J. Akhir
	Oktober	Rajab
	Nopember	Sya'ban
	Desember	Ramadhan
1936	Januari	Syawal
	Pebruari	Z. Kaedah
	Maret	Z. Hijah
	April	1355 Muharam
	Mei	Syafar
	Juni	R. Awal
	Juli	R. Akhir
	Agustus	J. Awal
	September	J. Akhir
	Oktober	Rajab
	Nopember	Sya'ban
	Desember	Ramadhan
1937	Januari	Syawal/Z. Kaedah
	Pebruari	Z. Kaedah/Z. Hijah
	Maret	1356 Z. Hijah/Muharam
	April	Syafar
	Mei	R. Awal
	Juni	R. Akhir
	Juli	J. Awal
	Agustus	J. Akhir
	September	Rajab
	Oktober	Sya'ban
	Nopember	Ramadhan
	Desember	Syawal
1938	Januari	Z. Kaedah
	Pebruari	Z. Hijah
	Maret	1357 Muharam
	April	Syafar
	Mei	R. Awal
	Juni	R. Akhir
	Juli	J. Awal
	Agustus	J. Akhir
	September	Rajab
	Oktober	Sya'ban
	Nopember	Ramadhan
	Desember	Syawal
1939	Januari	Z. Kaedah
	Pebruari	Z. Hijah
	Maret	1358 Muharam
	April	Syafar
	Mei	R. Awal
	Juni	R. Akhir
	Juli	J. Awal
	Agustus	J. Akhir/Rajab
	September	Rajab/Sya'ban
	Oktober	Sya'ban/Ramadhan
	Nopember	Syawal
	Desember	Z. Kaedah
1940	Januari	Z. Hijah
	Pebruari	1359 Muharam
	Maret	Syafar
	April	R. Awal
	Mei	R. Akhir
	Juni	J. Awal
	Juli	J. Akhir
	Agustus	Rajab
	September	Sya'ban
	Oktober	Ramadhan
	Nopember	Syawal
	Desember	Z. Kaedah

1941	Januari	Z. Hijah
	Pebruari	1360 Muharam
	Maret	Syafar
	April	R. Awal
	Mei	R. Akhir
	Juni	J. Awal
	Juli	J. Akhir
	Agustus	Rajab
	September	Sya'ban
	Oktober	Ramadhan
	Nopember	Syawal
	Desember	Z. Kaedah
1942	Januari	Z. Hijah
	Pebruari	1361 Muharam
	Maret	Syafar
	April	R. Awal
	Mei	R. Akhir
	Juni	J. Awal
	Juli	J. Akhir/Rajab
	Agustus	Rajab/Sya'ban
	September	Sya'ban/Ramadhan
	Oktober	Syawal
	Nopember	Z. Kaedah
	Desember	Z. Hijah
1943	Januari	1362 Muharam
	Pebruari	Syafar
	Maret	R. Awal
	April	R. Akhir
	Mei	J. Awal
	Juni	J. Akhir
	Juli	Rajab
	Agustus	Sya'ban
	September	Ramadhan
	Oktober	Syawal
	Nopember	Z. Kaedah
	Desember	Z. Hijah
1944	Januari	1363 Muharam
	Pebruari	Syafar
	Maret	R. Awal
	April	R. Akhir
	Mei	J. Awal
	Juni	J. Akhir
	Juli	Rajab
	Agustus	Sya'ban
	September	Ramadhan
	Oktober	Syawal
	Nopember	Z. Kaedah
	Desember	Z. Hijah
1945	Januari	1364 Muharam
	Pebruari	Syafar
	Maret	R. Awal/R. Akhir
	April	R. Akhir/J. Awal
	Mei	J. Akhir
	Juni	Rajab
	Juli	Sya'ban
	Agustus	Ramadhan
	September	Syawal
	Oktober	Z. Kaedah
	Nopember	Z. Hijah
	Desember	1365 Muharam
1946	Januari	Syafar
	Pebruari	R. Awal
	Maret	R. Akhir
	April	J. Awal
	Mei	J. Akhir
	Juni	Rajab
	Juli	Sya'ban
	Agustus	Ramadhan
	September	Syawal
	Oktober	Z. Kaedah
	Nopember	Z. Hijah
	Desember	1366 Muharam
1947	Januari	Syafar
	Pebruari	R. Awal
	Maret	R. Akhir
	April	J. Awal
	Mei	J. Akhir
	Juni	Rajab
	Juli	Sya'ban
	Agustus	Ramadhan
	September	Syawal
	Oktober	Z. Kaedah
	Nopember	Z. Hijah
	Desember	1367 Muharam
1948	Januari	Syafar
	Pebruari	R. Awal/R. Akhir
	Maret	R. Akhir/J. Awal
	April	J. Awal/J. Akhir
	Mei	Rajab
	Juni	Sya'ban
	Juli	Ramadhan
	Agustus	Syawal
	September	Z. Kaedah
	Oktober	Z. Hijah
	Nopember	1368 Muharam
	Desember	Syafar
1949	Januari	R. Awal
	Pebruari	R. Akhir
	Maret	J. Awal
	April	J. Akhir
	Mei	Rajab
	Juni	Sya'ban
	Juli	Ramadhan
	Agustus	Syawal
	September	Z. Kaedah
	Oktober	Z. Hijah
	Nopember	1369 Muharam
	Desember	Syafar
1950	Januari	R. Awal
	Pebruari	R. Akhir
	Maret	J. Awal
	April	J. Akhir
	Mei	Rajab
	Juni	Sya'ban
	Juli	Ramadhan
	Agustus	Syawal
	September	Z. Kaedah/Z. Hijah
	Oktober	1370 Z. Hijah/Muharam
	Nopember	Muharam/Syafar
	Desember	R. Awal
1951	Januari	R. Akhir
	Pebruari	J. Awal
	Maret	J. Akhir
	April	Rajab
	Mei	Sya'ban
	Juni	Ramadhan
	Juli	Syawal
	Agustus	Z. Kaedah
	September	Z. Hijah
	Oktober	1371 Muharam
	Nopember	Syafar
	Desember	R. Awal

1952	Januari	R. Akhir
	Pebruari	J. Awal
	Maret	J. Akhir
	April	Rajab
	Mei	Sya'ban
	Juni	Ramadhan
	Juli	Syawal
	Agustus	Z. Kaedah
	September	Z. Hijah
	Oktober	1372 Muharam
	Nopember	Syafar
	Desember	R. Awal
1953	Januari	R. Akhir
	Pebruari	J. Awal
	Maret	J. Akhir
	April	Rajab/Sya'ban
	Mei	Sya'ban/Ramadhan
	Juni	Ramadhan/Syawal
	Juli	Z. Kaedah
	Agustus	Z. Hijah
	September	1373 Muharam
	Oktober	Syafar
	Nopember	R. Awal
	Desember	R. Akhir
1954	Januari	J. Awal
	Pebruari	J Akhir
	Maret	Rajab
	April	Sya'ban
	Mei	Ramadhan
	Juni	Syawal
	Juli	Z. Kaedah
	Agustus	Z. Hijah
	September	1374 Muharam
	Oktober	Syafar
	Nopember	R. Awal
	Desember	R. Akhir
1955	Januari	J. Awal
	Pebruari	J. Akhir
	Maret	Rajab
	April	Sya'ban
	Mei	Ramadhan
	Juni	Syawal
	Juli	Z. Kaedah
	Agustus	Z. Hijah
	September	1375 Muharam
	Oktober	Syafar
	Nopember	R. Awal
	Desember	R. Akhir/J. Awal
1956	Januari	J. Awal/J. Akhir
	Pebruari	J. Akhir/Rajab
	Maret	Sya'ban
	April	Ramadhan
	Mei	Syawal
	Juni	Z. Kaedah
	Juli	Z. Hijah
	Agustus	1376 Muharam
	September	Syafar
	Oktober	R. Awal
	Nopember	R. Akhir
	Desember	J. Awal
1957	Januari	J. Akhir
	Pebruari	Rajab
	Maret	Sya'ban
	April	Ramadhan
	Mei	Syawal
	Juni	Z. Kaedah
	Juli	Z. Hijah
	Agustus	1377 Muharam
	September	Syafar
	Oktober	R. Awal
	Nopember	R. Akhir
	Desember	J. Awal
1958	Januari	J. Akhir
	Pebruari	Rajab
	Maret	Sya'ban
	April	Ramadhan
	Mei	Syawal
	Juni	Z. Kaedah
	Juli	Z. Hijah
	Agustus	1378 Muharam
	September	Syafar
	Oktober	R. Awal/R. Akhir
	Nopember	R. Akhir/J. Awal
	Desember	J. Awal/J. Akhir
1959	Januari	Rajab
	Pebruari	Sya'ban
	Maret	Ramadhan
	April	Syawal
	Mei	Z. Kaedah
	Juni	Z. Hijah
	Juli	1379 Muharam
	Agustus	Syafar
	September	R. Awal
	Oktober	R. Akhir
	Nopember	J. Awal
	Desember	J. Akhir
1960	Januari	Rajab
	Pebruari	Sya'ban
	Maret	Ramadhan
	April	Syawal
	Mei	Z. Kaedah
	Juni	Z. Hijah
	Juli	1380 Muharam
	Agustus	Syafar
	September	R. Awal
	Oktober	R. Akhir
	Nopember	J. Awal
	Desember	J. Akhir
1961	Januari	Rajab
	Pebruari	Sya'ban
	Maret	Ramadhan
	April	Syawal
	Mei	Z. Kaedah
	Juni	1381 Z. Hijah/Muharam
	Juli	Muharam/Syafar
	Agustus	Syafar/R. Awal
	September	R. Akhir
	Oktober	J. Awal
	Nopember	J. Akhir
	Desember	Rajab
1962	Januari	Sya'ban
	Pebruari	Ramadhan
	Maret	Syawal
	April	Z. Kaedah
	Mei	Z. Hijah
	Juni	1382 Muharm
	Juli	Syafar
	Agustus	R. Awal
	September	R. Akhir
	Oktober	J. Awal
	Nopember	J. Akhir
	Desember	Rajab

1963	Januari	Sya'ban
	Pebruari	Ramadhan
	Maret	Syawal
	April	Z. Kaedah
	Mei	Z. Hijah
	Juni	1383 Muharam
	Juli	Syafar
	Agustus	R. Awal
	September	R. Akhir
	Oktober	J. Awal
	Nopember	J. Akhir
	Desember	Rajab
1964	Januari	Sya'ban
	Peburari	Ramadhan
	Maret	Syawal
	April	Z. Kaedah
	Mei	Z. Hijah
	Juni	1384 Muharam/Syafar
	Juli	Syafar/R. Awal
	Agustus	R. Awal/R. Akhir
	September	J. Awal
	Oktober	J. Akhir
	Nopember	Rajab
	Desember	Sya'ban
1965	Januari	Ramadhan
	Pebruari	Syawal
	Maret	Z. Kaedah
	April	Z. Hijah
	Mei	1385 Muharam
	Juni	Syafar
	Juli	R. Awal
	Agustus	R. Akhir
	September	J. Awal
	Oktober	J. Akhir
	Nopember	Rajab
	Desember	Sya'ban
1966	Januari	Ramadhan
	Pebruari	Syawal
	Maret	Z. Kaedah
	April	Z. Hijah
	Mei	1386 Muharam
	Juni	Syafar
	Juli	R. Awal
	Agustus	R. Akhir
	September	J. Awal
	Oktober	J. Akhir
	Nopember	Rajab
	Desember	Sya'ban
1967	Januari	Ramadhan
	Pebruari	Syawal/Z. Kaedah
	Maret	Z. Kaedah/Z. Hijah
	April	1387 Z. Hijah/Muharam
	Mei	Syafar
	Juni	R. Awal
	Juli	R. Akhir
	Agustus	J. Awal
	September	J. Akhir
	Oktober	Rajab
	Nopember	Sya'ban
	Desember	Ramadhan
1968	Januari	Syawal
	Pebruari	Z. Kaedah
	Maret	Z. Hijah
	April	1388 Muharam
	Mei	Syafar
	Juni	R. Awal
	Juli	R. Akhir
	Agustus	J. Awal
	September	J. Akhir
	Oktober	Rajab
	Nopember	Sya'ban
	Desember	Ramadhan
1969	Januari	Syawal
	Pebruari	Z. Kaedah
	Maret	Z. Hijah
	April	1389 Muharam
	Mei	Syafar
	Juni	R. Awal
	Juli	R. Akhir
	Agustus	J. Awal
	September	J. Akhir
	Oktober	Rajab
	Nopember	Sya'ban
	Desember	Ramadhan
1970	Januari	Syawal/Z. Kaedah
	Pebruari	Z. Kaedah/Z. Hijah
	Maret	1390 Z. Hijah/Muharam
	April	Syafar
	Mei	R. Awal
	Juni	R. Akhir
	Juli	J. Awal
	Agustus	J. Akhir
	September	Rajab
	Oktober	Sya'ban
	Nopember	Ramadhan
	Desember	Syawal
1971	Januari	Z. Kaedah
	Pebruari	Z. Hijah
	Maret	1391 Muharam
	April	Syafar
	Mei	R. Awal
	Juni	R. Akhir
	Juli	J. Awal
	Agustus	J. Akhir
	September	Rajab
	Oktober	Sya'ban
	Nopember	Ramadhan
	Desember	Syawal
1972	Januari	Z. Kaedah
	Pebruari	Z. Hijah
	Maret	1392 Muharam
	April	Syafar
	Mei	R. Awal
	Juni	R.Akhir
	Juli	J. Awal
	Agustus	J. Akhir/Rajab
	September	Rajab/Sya'ban
	Oktober	Sya'ban/Ramadhan
	Nopember	Syawal
	Desember	Z. Kaedah
1973	Januari	Z. Hijah
	Pebruari	1393 Muharam
	Maret	Syafar
	April	R. Awal
	Mei	R. Akhir
	Juni	J. Awal
	Juli	J. Akhir
	Agustus	Rajab
	September	Sya'ban
	Oktober	Ramadhan
	Nopember	Syawal
	Desember	Z. Kaedah

1974	Januari	Z. Hijah
	Pebruari	1394 Muharam
	Maret	Syafar
	April	R. Awal
	Mei	R. Akhir
	Juni	J. Awal
	Juli	J. Akhir
	Agustus	Rajab
	September	Sya'ban
	Oktober	Ramadhan
	Nopember	Syawal
	Desember	Z. Kaedah
1975	Januari	Z. Hijah
	Pebruari	1395 Muharam
	Maret	Syafar
	April	R. Awal
	Mei	R. Akhir
	Juni	J. Awal
	Juli	J. Akhir/Rajab
	Agustus	Rajab/Sya'ban
	September	Sya'ban/Ramadhan
	Oktober	Syawal
	Nopember	Z. Kaedah
	Desember	Z. Hijah

1976	Januari	1396 Muharam
	Pebruari	Syafar
	Maret	R. Awal
	April	R. Akhir
	Mei	J. Awal
	Juni	J. Akhir
	Juli	Rajab
	Agustus	Sya'ban
	September	Ramadhan
	Oktober	Syawal
	Nopember	Z. Kaedah
	Desember	Z. Hijah

Bulan—Jawa	**Bulan—Sunda**
Suro	Muharam
Syafar	Syafar
Mulud	Mulud
Badmulud	Silih Mulud
Jumadil Awal	Jumadil Awal
Jumadil Akhir	Jumadil Akhir
Rajeb	Rajab
Ruwah	Rewah
Pasa	Puasa
Sawal	Sawal
Selo	Hapit
Besar	Rayagung

Appendix VIII List of participants

Director-General CBS:	M. Abdulmadjid
Project Co-ordinator:	Sugito
National Director:	Sam Suharto
Survey Director:	Bambang Sungkono
Senior Project Staff:	1. Sri Pudjastuti 2. Toto E.S. 3. Ayub R. 4. Sri Budiyanti
Administrative Co-ordinator:	1. Sutjipto Wirosarjono 2. Sutopo Martowardoyo 3. Sukarno Slamet 4. Suwondo H.P. 5. Sukayat 6. Ida Kade Surya
Technical Co-ordinator and Trainer:	1. Amin Yitno 2. Murdijanto 3. Bondan Supraptilah 4. I Wayan Suamba 5. Suprapto 6. R. Imroni 7. Djumed Cholid 8. Siti Munigar
Data Processing Staff:	1. Yowono H.P. 2. Suhandono 3. Sri Handayani
Supporting Staff:	1. Sukotjo 2. Muswir