

Kenya

Demographic and Health Survey 1989



National Council for Population and Development
Ministry of Home Affairs and National Heritage



Demographic and Health Surveys
Institute for Resource Development/Macro Systems, Inc.

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**National Council for Population and Development
Ministry of Home Affairs and National Heritage
Nairobi, Kenya**

**Institute for Resource Development/Macro Systems, Inc.
Columbia, Maryland USA**

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This report presents the findings of the Kenya Demographic and Health Survey (KDHS). The survey was a collaborative effort between the National Council for Population and Development and the Institute for Resource Development/Macro Systems, Inc. (IRD). The survey is part of the worldwide Demographic and Health Surveys Program, which is designed to collect data on fertility, family planning, and maternal and child health. Funding for the survey was provided by the U.S. Agency for International Development (Contract No. DPE-3023-C-00-4083-00) and the Government of Kenya. Additional information on the KDHS can be obtained from the Kenya National Council for Population and Development, Ministry of Home Affairs and National Heritage, P.O. Box 30478, Nairobi, Kenya. Additional information about the DHS Program can be obtained by writing to: DHS Program, IRD/Macro Systems, Inc., 8850 Stanford Blvd., Suite 4000, Columbia, MD 21045, USA (Telephone: 301-290-2800; Telex: 87775; Fax: 301-290-2999).

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FOREWORD

The Kenya Demographic and Health Survey is a welcome addition to demographic and health data sources in Kenya. It provides us with a complete set of relevant data to evaluate population, health and family planning programmes and to assess the overall demographic situation in the country. Given the scope and representativeness, it can stand with census and intercensal survey data to provide the National Council for Population and Development, social scientists and other policymakers with a clear picture about Kenya's demographic trends in the recent past and likely directions for the future.

The KDHS is an addition to previous surveys that have been conducted by the Central Bureau of Statistics and have utilised the CBS sample survey programme. Demographic surveys that have been conducted by CBS in the past include: the Kenya Fertility Survey (KFS) in 1977/78; the National Demographic Survey I (NDS I) in 1977; NDS II (1978); NDS III (1983); and the Kenya Contraceptive Prevalence Survey (KCPS) (1984).

The Kenya Demographic and Health Survey is the most complex survey to have been undertaken by NCPD. The KDHS findings provide the first evidence of a major decline in fertility and an increase in the use of family planning. It further reveals that the infant mortality rate has declined between 1978 and 1989.

I would like to acknowledge assistance by the United States Agency for International Development for financial support, IRD/DHS (Columbia, Maryland, USA) which provided technical assistance, the Central Bureau of Statistics, and the other members of the National Population Council who contributed to the success of the KDHS project.

S. W. Ndirangu
Director,
National Council for Population and Development

SUMMARY OF FINDINGS

The Kenya Demographic and Health Survey (KDHS) was conducted between December 1988 and May 1989 to collect data regarding fertility, family planning and maternal and child health. The survey covered 7,150 women aged 15-49 and a subsample of 1,116 husbands of these women, selected from a sample covering 95 percent of the population. The purpose of the survey was to provide planners and policymakers with data useful in making informed programme decisions.

The survey data can also be used to evaluate Kenya's efforts to reduce fertility and the picture that emerges shows significant strides have been made toward this goal. KDHS data provide the first evidence of a major decline in fertility. If young women continue to have children at current rates, they will have an average of 6.7 births in their lifetime. This is down considerably from the average of 7.5 births for women now at the end of their childbearing years. The fertility rate in 1984 was estimated at 7.7 births per woman.

A major cause of the decline in fertility is increased use of family planning. Twenty-seven percent of married women in Kenya are currently using a contraceptive method, compared to 17 percent in 1984. Although periodic abstinence continues to be the most common method (8 percent), of interest to programme planners is the fact that two-thirds of married women using contraception have chosen a modern method--either the pill (5 percent) or female sterilisation (5 percent). Contraceptive use varies by province, with those closest to Nairobi having the highest levels. Further evidence of the success in promoting family planning is the fact that more than 90 percent of married women know at least one modern method of contraception (and where to obtain it), and 45 percent have used a contraceptive method at some time in their life.

The survey indicates a high level of knowledge, use and approval of family planning by husbands of interviewed women. Ninety-three percent of husbands know a modern method of family planning. Sixty-five percent of husbands have used a method at some time and almost 49 percent are currently using a method, half of which are modern methods. Husbands in Kenya are strongly supportive of family planning. Ninety-one percent of those surveyed approve of family planning use by couples, compared to 88 percent of married women.

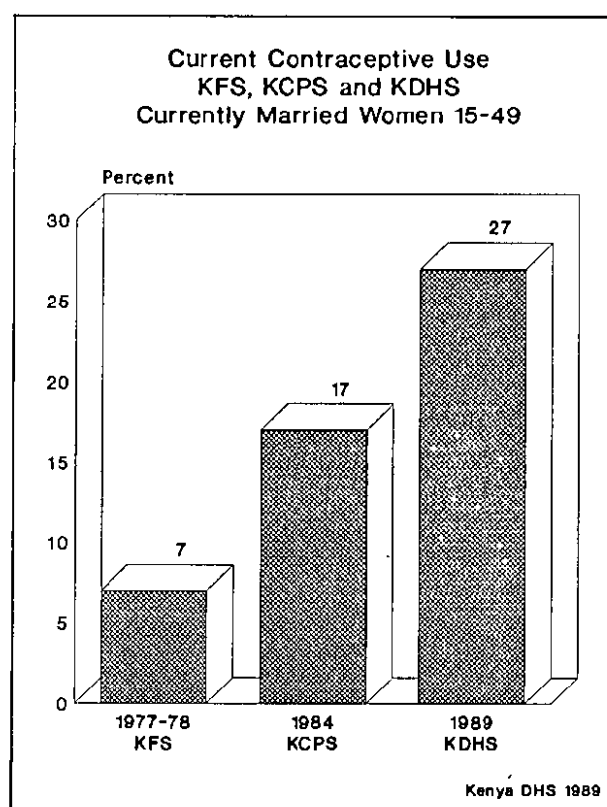
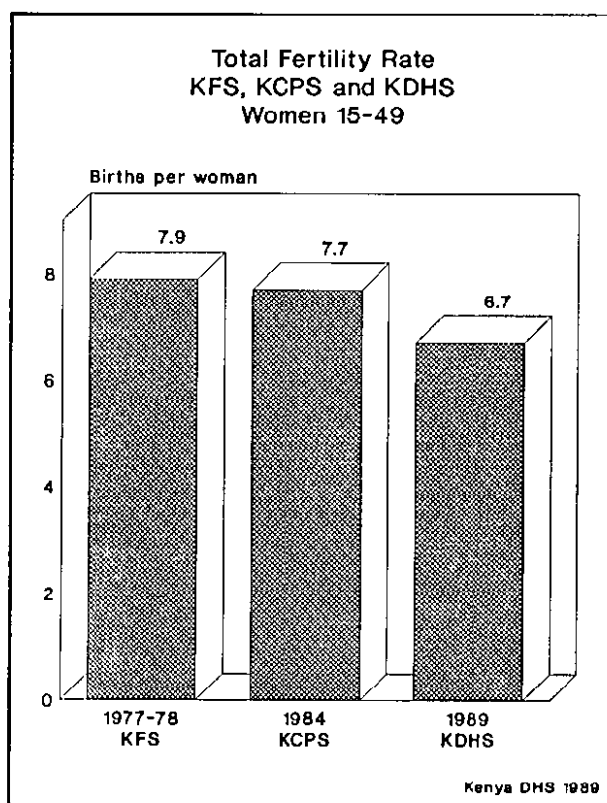
If couples are able to realise their childbearing preferences, fertility may continue to decline in the future. One half of married women say that they want no more children; another 26 percent want to wait at least two years before having another child. Husbands report similar views on limiting births--one-half say they want no more children. The desire to limit childbearing appears to be greater in Kenya than in other subSaharan countries. In Botswana and Zimbabwe, for example, only 33 percent of married women want no more children. Another indicator of possible future decline in fertility in Kenya is the decrease in ideal family size. According to the KDHS, the mean ideal family size declined from 5.8 in 1984 to 4.4 in 1989.

The KDHS indicates that in the area of health, government programmes have been effective in providing health services for women and children. Eight in ten births benefit from ante-natal care from a doctor, nurse, or midwife and one-half of births are assisted at delivery by a doctor, nurse, or midwife. At least 44 percent of children 12-23 months of age are fully immunised against the major childhood diseases. Almost all children benefit from an extended period of breastfeeding. The average duration of breastfeeding is 19 months and the practice does not appear to be waning among either younger women or urban women. Another encouraging

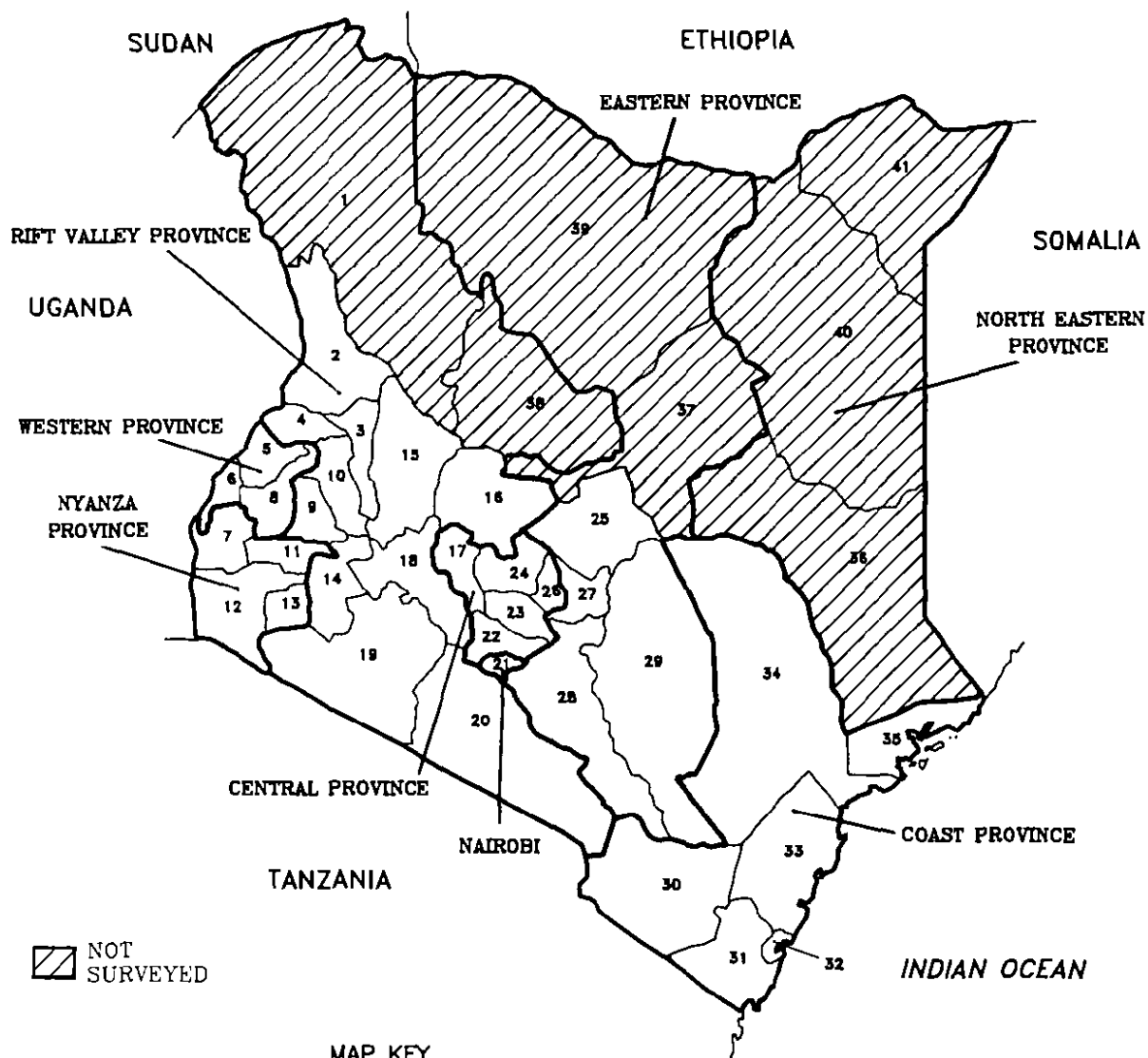
piece of information is the high level of ORT (oral rehydration therapy) use for treating childhood diarrhoea. Among children under five reported to have had an episode of diarrhoea in the two weeks before the survey, half were treated with a homemade solution and almost one-quarter were given a solution prepared from commercially prepared packets.

The survey indicates several areas where there is room for improvement. Although young women are marrying later, many are still having births at young ages. More than 20 percent of teen-age girls have had at least one child and 7 percent were pregnant at the time of the survey. There is also evidence of an unmet need for family planning services. Of the births occurring in the 12 months before the survey, over half were either mistimed or unwanted; one fifth occurred less than 24 months after a previous birth.

Hopefully, the data in this report will be useful to those making decisions regarding the future direction of health and family planning programmes.

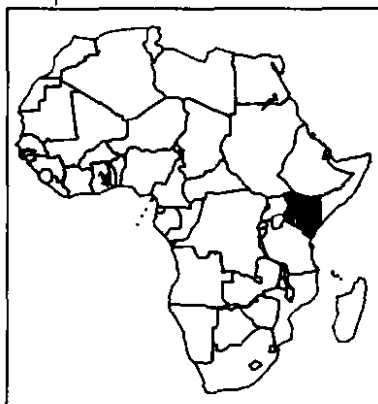


Kenya



MAP KEY

21 NAIROBI	EASTERN PROVINCE	RIFT VALLEY PROVINCE
CENTRAL PROVINCE	27 Embu	15 Baringo
22 Kiambu	37 Isiolo	3 Elgeyo Marakwet
26 Kirinyaga	29 Kitui	20 Kajiado
23 Muranga	28 Machakos	14 Kericho
17 Nyandarua	39 Marsabit	16 Laikipia
24 Nyeri	25 Meru	18 Nakuru
COAST PROVINCE	NORTH-EASTERN PROVINCE	9 Nandi
33 Kilifi	36 Garissa	19 Narok
31 Kwale	41 Mandera	38 Samburu
35 Lamu	40 Wajir	4 Trans Nzoia
32 Mombasa	NYANZA PROVINCE	1 Turkana
30 Taita	13 Kilifi	10 Uasin Gishu
34 Tana River	11 Kisumu	2 West Pokot
	7 Siaya	WESTERN PROVINCE
	12 South Nyanza	5 Bungoma
		6 Busia
		8 Kakamega



1 BACKGROUND

1.1 Geography, History and Economy

Kenya is located in East Africa and lies between a longitude of 34 degrees and 42 degrees east and a latitude of 4 degrees north and 4 degrees south. It covers an area of approximately 582,646 sq. kilometres and is bordered by Ethiopia and Sudan to the north, Somalia and the Indian Ocean to the east, Uganda to the west and Tanzania to the south (see map).

Kenya consists of eight areas called provinces. The next lower administrative units are districts, followed by divisions, locations, sublocations, and villages. Altogether, there are 41 districts in the country, in addition to Nairobi. The climate varies throughout the country and is determined by topography, altitude and precipitation. Most of the northern and eastern part of the country is semi-arid and less than one-third of the country is arable.

Kenya achieved her independence in 1963 after a bitter and protracted struggle during which the indigenous people regained self determination and control of their destiny from the British colonial administration. Since then, the country has enjoyed political stability. In the past decade, the government began a new era with the establishment of the District Focus for Rural Development, which emphasizes the development of all parts of the country.

The Government has been committed to the provision of equal educational opportunities for all by providing free primary education. In 1985, the government introduced the 8-4-4 system of education (8 years of primary, 4 years of secondary and 4 years of university) that places emphasis on vocational and technical training at all levels. In addition to private universities, Kenya has established four public universities since independence.

In Kenya, agriculture remains the leading sector in stimulating economic growth. The most important foreign exchange earners are coffee and tea in the agricultural sector and tourism in the non-agricultural sector. The country registered an impressive growth performance over the period 1964-71, with an average gross domestic product (GDP) of 6.5 percent. The oil crisis, that was caused by a steep rise in the price of crude oil, resulted in a drop in the GDP from an average of 6.7 percent in 1972 to 3.1 percent in 1975. In 1975, a severe frost which affected the coffee crop in Brazil led to an unexpected increase in the price of coffee and tea on the world market from 1976 to 1978. However, another oil crisis in 1979 dampened economic growth until 1983.

1.2 Population

On the basis of census statistics, Kenya's population increased from 5.4 million in 1948 to 16.1 million in 1979 (Republic of Kenya, 1989). Estimates from the 1979 population census indicated that the population growth rate in Kenya was 3.8 percent per annum (Central Bureau of Statistics, no date). At this rate, the population is expected to increase to 35 million by the year 2000 (Central Bureau of Statistics, 1983).

As a result of high fertility and declining mortality, Kenya is characterised by a young population. Almost 50 percent of Kenya's population is less than 15 years of age. The momentum

generated by high fertility and declining mortality implies that the population growth rate will remain high for some time.

The crude birth rate increased from 50 per thousand in 1948 to 52 per thousand in 1979, whereas the crude death rate decreased from 25 to 14 in the same period. The infant mortality rate decreased from 184 deaths per thousand births in 1948 to 104 in 1979 (Republic of Kenya, 1989). The 1984 Kenya Contraceptive Prevalence Survey (KCPS) showed some evidence of a possible decline in fertility, from a total fertility rate of 8.1 children per woman in 1977/78 (Kenya Fertility Survey) to 7.7 in 1984 (Central Bureau of Statistics, 1984).

The population growth rate in the urban areas is more than 7 percent per year (Republic of Kenya, 1989). The population of the capital, Nairobi, has increased from 897,000 in 1980 to an estimated 1,429,000 in 1989. This increase can be attributed in large part to rural-urban migration.

1.3 Population and Family Planning Policies and Programmes

The Government of Kenya became concerned about the high rate of population growth after the 1962 population census. During the early 1960s, the Family Planning Association of Kenya (FPAK) was established by private individuals, but it was not until 1967 that the official national family planning programme was launched. Family planning was integrated into the Maternal and Child Health Division of the Ministry of Health. At first, due to lack of an effective health infrastructure and adequate skilled manpower, the Ministry of Health relied mainly on FPAK and expatriate staff for technical assistance.

After the 1969 census provided evidence of a high level of fertility, the government decided to launch a five-year (1975-1979) family planning programme. The specific goals of the programme were to reduce the high annual rate of natural population increase from 3.3 percent (in 1975) to 3.0 percent (in 1979) and to improve the health of mothers and their children under the age of five.

Initially, however, the family planning component of the Maternal and Child Health Programme had limited success. The 1979 census results indicated a population growth rate of 3.8 percent per annum, which was higher than the projected growth rate of 3.0 percent. This failure in achieving the population growth rate target could be attributed to shortfalls in the assumptions used to arrive at the target. The plan to reduce the growth rate concentrated on the supply side of family planning instead of putting emphasis on programmes aimed at changing family size norms.

It was with the realisation of the need to improve on the earlier weaknesses of the family planning programme that the government of Kenya approved the establishment of the National Council for Population and Development (NCPD) in 1982. The Council's mandate is to formulate population policies and strategies and to co-ordinate the activities of government ministries, non-governmental organisations, and donors involved in population, integrated rural health, and family planning programmes.

1.4 Health Priorities and Programmes

The 1989-1993 Kenya Development Plan emphasises the government's commitment to developments in the health sector that are geared toward the attainment of "Health for All by the

Year 2000". The government encourages an integrated approach to the health system that involves such essential components as appropriate health education, provision of proper nutrition, basic sanitary facilities, and maternal and child health, including family planning and immunisation against major infectious diseases, among others.

In 1981, the Ministry of Health started a major programme in preventive health, the Kenya Expanded Programme on Immunisation (KEPI). Several other government programmes aimed at the reduction of diseases, improvement of nutrition, and provision of maternal and child health services have also been launched.

1.5 Objectives of the Kenya Demographic and Health Survey

On March 1, 1988, 'on behalf of the Government of Kenya, the National Council for Population and Development (NCPD) signed an agreement with the Institute for Resource Development (IRD) to carry out the Kenya Demographic and Health Survey (KDHS).

The KDHS is intended to serve as a source of population and health data for policymakers and for the research community. In general, the objectives of the KDHS are to:

- assess the overall demographic situation in Kenya,
- assist in the evaluation of the population and health programmes in Kenya,
- advance survey methodology, and
- assist the NCPD strengthen and improve its technical skills to conduct demographic and health surveys.

The KDHS was specifically designed to:

- provide data on the family planning and fertility behaviour of the Kenyan population to enable the NCPD to evaluate and enhance the National Family Planning Programme,
- measure changes in fertility and contraceptive prevalence and at the same time study the factors which affect these changes, such as marriage patterns, urban/rural residence, availability of contraception, breastfeeding habits and other socioeconomic factors, and
- examine the basic indicators of maternal and child health in Kenya.

1.6 Survey Organisation

The KDHS was a national survey that was carried out by NCPD in collaboration with the Central Bureau of Statistics (CBS) and the Institute for Resource Development (IRD). Funds for the survey came from three sources--the Government of Kenya, the United States Agency for International Development (USAID) office in Kenya, and IRD, through its contract with USAID/Washington. IRD also provided technical assistance throughout all stages of the survey.

The sample for the KDHS is based on the National Sample Survey and Evaluation Programme (NASSEP) master sample maintained by the CBS. The KDHS sample is national in coverage, with the exclusion of North Eastern Province and four northern districts which together account for only about five percent of Kenya's population. The KDHS sample was designed to

produce completed interviews with 7,500 women aged 15-49 and with a subsample of 1,000 husbands of these women.

The NASSEP master sample is a two-stage design, stratified by urban-rural residence, and within the rural stratum, by individual district. In the first stage, 1979 census enumeration areas (EAs) were selected with probability proportional to size. The selected EAs were segmented into the expected number of standard-sized clusters, one of which was selected at random to form the NASSEP cluster. The selected clusters were then mapped and listed by CBS field staff. In rural areas, household listings made between 1984 and 1985 were used to select the KDHS households, while KDHS pretest staff were used to relist households in the selected urban clusters.

Despite the emphasis on obtaining district-level data for planning purposes, it was decided that reliable estimates could not be produced from the KDHS for all 32 districts in NASSEP, unless the sample were expanded to an unmanageable size. However, it was felt that reliable estimates of certain variables could be produced for the rural areas in the 13 districts that have been initially targeted by the NCPD: Kilifi, Machakos, Meru, Nyeri, Murang'a, Kirinyaga, Kericho, Uasin Gishu, South Nyanza, Kisii, Siaya, Kakamega, and Bungoma. Thus, all 24 rural clusters in the NASSEP were selected for inclusion in the KDHS sample in these 13 districts. About 450 rural households were selected in each of these districts, just over 1000 rural households in other districts, and about 3000 households in urban areas, for a total of almost 10,000 households. Sample weights were used to compensate for the unequal probability of selection between strata, and weighted figures are used throughout the remainder of this report.

The KDHS utilised three questionnaires: one to list members of the selected households (household questionnaire); another to record information from all women aged 15-49 who were present in the selected households the night before the interview (woman's questionnaire); and the third to record information from the husbands of interviewed women in a subsample of households (husband's questionnaire). The questionnaires were pretested in August 1988. Copies of the final versions appear in Appendix E.

The field staff for the KDHS consisted of nine teams, each of which was fluent in one of the major indigenous languages. The teams were composed of four or five female interviewers, one editor, one supervisor, and a male interviewer. There was a smaller tenth team that had three interviewers for the Narok-Kajiado region. The teams were supervised by the local District Population Officer, the District Statistical Officer, or in some cases, an officer from NCPD headquarters. A more complete description of the survey design appears in Appendix A.

Interviewers and data entry staff were recruited in October 1988 and trained in November 1988. The training included practice interviewing both in the classroom and in the field. Data collection began on 1 December and was completed during the last week of May. The proportion of women interviewed by month was: December 1988 (7 percent); January 1989 (13 percent); February (14 percent); March (24 percent); April (25 percent); and May (17 percent).

1.7 Background Characteristics of Women Respondents

A total of 9,836 households were selected in the Kenya Demographic and Health Survey. Of these, 8,343 were identified as occupied households during the fieldwork and 8,173 were successfully interviewed. Respondents for the individual interview were women aged 15-49 who had spent the night before the interview in the selected household. In the interviewed households,

7,424 eligible women were identified and 7,150 were successfully interviewed. In general, few problems were encountered during the interviewing and the response rate was high--98 percent for households and 96 percent for individual female respondents. In addition, 1,116 husbands were interviewed out of a total of 1,397 eligible, for a response rate of 81 percent. Eligible husbands were defined as those who spent the night before the interview in the selected households and whose wives were successfully interviewed. Every other household was considered eligible for the husband interview. Details on nonresponse appear in Appendix A.

This section of the report briefly examines the background characteristics of the female respondents. Knowledge of these characteristics provides a crude measure of the representativeness of KDHS data and facilitates the interpretation of other survey findings.

Table 1.1 presents the distribution of all women and currently married women by selected background characteristics. Table 1.2 indicates that the distribution for all women generally fits the pattern established by the 1977/1978 KFS and 1984 KCPS (Central Bureau of Statistics, 1980; Central Bureau of Statistics, 1984). The proportion of the respondents in the 15-19 age group is slightly lower in the KDHS than in the 1977/1978 and 1984 surveys, and there has been a steady increase over time in the proportion living in urban areas to 17 percent in 1989.

The distribution of all women by province indicates only minor differences among the three sources of data. For purposes of comparison, in Table 1.2 respondents are classified into 4 educational categories, according to the highest grade attained at each level. These categories are: no education, 1-4 years, 5-8 years, and 9 or more years.¹ The data show a strong increase in the educational attainment of women over time. The proportion of women with no education declined from 44 percent in 1977/78 to 25 percent in 1989. The proportion of women who have 5 to 8 years of education is higher in 1989 (43 percent) than in 1984 (32 percent) and 1977/78 (27 percent).

Women interviewed in the survey were classified into five religious groups: Catholic, Protestant, Moslem, Other, and no religion. More than half of the interviewed women are Protestant. The distribution of the respondents according to religion has changed little over time.

There are also inter-relationships between various background characteristics. Table 1.3 shows the distribution of the surveyed women by education, according to other selected characteristics. Nearly one-quarter of the women in the KDHS sample have never attended school, about 28 percent have some primary education only, 27 percent graduated from primary school with no further education, and 1 out of 5 women attended secondary school or higher education. Education is inversely related to age; that is, older women are generally less educated than younger women. For example, whereas only 5 percent of women aged 15-19 have had no formal education, more than 50 per cent of the women aged 40 and over have never been to school.

¹ For the remainder of the report, respondents are classified into the categories: no education, some primary (Standard 1-6), primary complete (Standard 7 or 8), and secondary or higher (Form I and above). Although the introduction of the 8-4-4 system has changed the definition of primary complete, the new system came in 1986 and has not had a chance to affect respondents age 15 and above.

Table 1.1 Percent distribution of all women and currently married women by background characteristics, Kenya, 1989

Background characteristic	All Women			Currently Married Women		
	Weighted percent	Weighted no. of women	Unwtd. no. of women	Weighted percent	Weighted no. of women	Unwtd. no. of women
Age						
15-19	20.9	1497	1481	5.8	276	300
20-24	18.5	1321	1402	17.3	827	882
25-29	18.7	1334	1357	23.2	1104	1126
30-34	13.7	982	1007	17.5	833	853
35-39	12.6	898	830	16.4	781	720
40-44	9.4	674	646	12.1	576	544
45-49	6.2	445	427	7.7	369	353
No. Living Children						
0-2	47.0	3364	3506	29.4	1400	1535
3-4	20.7	1477	1499	27.1	1291	1314
5 or more	32.3	2310	2145	43.5	2075	1929
Residence						
Urban	17.3	1236	1917	15.7	748	1160
Rural	82.7	5914	5233	84.3	4018	3618
Province						
Nairobi	7.7	554	859	7.0	335	519
Central	15.7	1120	1281	13.6	648	787
Coast	7.0	498	720	7.3	350	529
Eastern	17.8	1269	898	16.9	804	561
Nyanza	17.0	1218	1265	18.3	872	895
Rift Valley	21.2	1519	1100	22.0	1047	742
Western	13.6	971	1027	14.9	710	745
Education						
No education	25.1	1797	1702	31.6	1506	1438
Some primary	27.7	1977	1888	30.7	1462	1394
Primary complete	26.7	1910	1938	20.7	987	1026
Secondary +	20.4	1457	1612	16.9	804	914
Missing	0.1	9	10	0.1	6	6
Religion						
Catholic	34.7	2480	2390	34.8	1656	1589
Protestant	57.4	4107	4075	56.8	2706	2670
Muslim	3.5	253	317	3.5	165	213
Other	1.6	115	104	1.7	79	77
No religion	2.6	184	254	3.2	151	222
Missing	0.2	12	10	0.2	9	7
Total	100.0	7150	7150	100.0	4765	4778

Women who reside in the urban areas have considerably more education than those living in the rural areas. In urban areas, the percentage of women who never attended school is lower than in rural areas and the percentage who have secondary or higher education is more than twice as high as in the rural areas.

Looking at the data by province, Nairobi, the capital, has the smallest proportion of uneducated women (9 percent), compared to 47 percent in Coast Province, and 13 percent in Central Province. There is little difference among the other four provinces in terms of the

Table 1.2 Percent distribution of all women by background characteristics, 1977/78 Kenya Fertility Survey, 1984 Kenya Contraceptive Prevalence Survey, and 1989 KDHS

Background characteristic	1977/78 KFS	1984 KCPS	1989 KDHS
Age			
15-19	23.8	25.9	20.9
20-24	17.9	19.6	18.5
25-29	18.4	15.8	18.7
30-34	12.5	12.7	13.7
35-39	11.5	10.5	12.6
40-44	7.7	8.5	9.4
45-49	8.0	7.0	6.2
Residence			
Urban	12.3	14.0	17.3
Rural	87.7	86.0	82.7
Province			
Nairobi	5.4	4.7	7.7
Central	15.2	16.3	15.7
Coast	8.4	10.1	7.0
Eastern	17.2	16.7	17.8
Nyanza	21.9	18.8	17.0
Rift Valley	18.3	20.9	21.2
Western	13.4	12.5	13.6
Education			
No education	44.2	34.8	25.1
1-4 years	18.4	16.1	13.6
5-8 years	27.4	32.1	42.6
9+ years	9.8	16.8	18.3
Missing	0.2	0.2	0.3
Religion			
Catholic	36.2	36.5	34.7
Protestant	53.1	52.8	57.4
Muslim	4.8	3.7	3.5
Other	0.4	1.9	1.6
No religion	5.4	5.1	2.6
Missing	0.1	0.1	0.2
Total	100.0	100.0	100.0

proportion who are uneducated. The KDHS data show that educational achievement of women in Nairobi is highest among all the provinces, with 30 percent having completed primary school, and 43 percent having attained secondary or higher education. Among the other provinces, Central Province shows the highest level of educational achievement. The proportions of women who have attended secondary or higher education in the other regions are very similar--16 percent in the Coast, 15 percent in Eastern, 17 percent in Nyanza, 16 percent in Rift Valley, and 20 percent in Western Province.

Table 1.4 provides information regarding certain household amenities available to women. Overall, 10 percent of women live in households that have electricity and 61 percent have radios. Only 5 percent of women's households have televisions and 4 percent have refrigerators. As for means of transportation, 28 percent of women live in households in which some member owns a bicycle, 7 percent a car, and just over 1 percent either a motorcycle or tractor. Almost 90 percent

Table 1.3 Percent distribution of women by level of education, according to background characteristics, Kenya, 1989

Background characteristic	Level of education					Total	Wtd. number of women
	None	Some primary	Primary complete	Secondary +	Missing		
Age							
15-19	4.7	23.5	50.4	21.4	0.1	100.0	1497
20-24	8.5	25.6	30.7	35.0	0.1	100.0	1321
25-29	18.2	30.3	23.2	28.1	0.2	100.0	1334
30-34	36.8	28.7	16.9	17.3	0.2	100.0	982
35-39	42.7	28.6	19.0	9.7	0.1	100.0	898
40-44	50.4	34.0	10.9	4.6	0.1	100.0	674
45-49	64.6	25.8	7.2	2.4	0.1	100.0	445
Residence							
Urban	12.3	18.6	27.6	41.4	0.1	100.0	1236
Rural	27.8	29.5	26.5	16.0	0.1	100.0	5914
Province							
Nairobi	8.5	18.2	30.2	43.0	0.2	100.0	554
Central	12.8	26.9	33.1	26.7	0.5	100.0	1120
Coast	47.5	15.5	21.5	15.5	0.0	100.0	498
Eastern	23.6	32.7	28.3	15.3	0.1	100.0	1269
Nyanza	27.4	31.7	23.9	16.9	0.1	100.0	1218
Rift Valley	32.1	28.2	23.4	16.2	0.0	100.0	1519
Western	25.5	27.6	26.6	20.2	0.1	100.0	971
Total	25.1	27.7	26.7	20.4	0.1	100.0	7150

of women live in households with land, 76 percent live in households with cattle, sheep or goats, and 40 percent live in households where cash crops are grown. Only 35 percent live in permanent houses. It should be noted that interviewers usually relied on personal observation of the respondent's house and did not ask whether the house was permanent or not. Thus, the definition of what constitutes a "permanent" house may have varied by interviewer and/or by team.

Ownership of household amenities varies tremendously by urban-rural residence. As expected, the proportion of urban women living in households with these amenities is higher than the proportion of rural women for all items except bicycles, land, animals, and cash crops. The urban-rural differential is particularly strong for electricity, televisions, and refrigerators.

Table 1.4 Percent of women who live in households with selected amenities, according to urban-rural residence, Kenya, 1989

Household amenity	Residence		
	Urban	Rural	Total
Electricity	45.2	2.8	10.1
Radio	77.6	58.0	61.4
Television	22.4	1.5	5.1
Refrigerator	16.4	0.9	3.6
Bicycle	24.8	28.7	28.0
Motorcycle	3.1	1.1	1.5
Car	18.1	4.7	7.0
Tractor	1.8	1.2	1.3
Land	61.3	92.7	87.3
Cattle, sheep, goats	47.4	81.4	75.5
Cash crops	25.5	43.5	40.4
Permanent house	65.5	28.5	34.9
Number of Women	1236	5914	7150

2 NUPTIALITY, BREASTFEEDING AND POSTPARTUM INSUSCEPTIBILITY

2.1 Introduction

Fertility levels and trends depend in part on the extent of and age at marriage among women. From past demographic surveys and censuses, Kenya has reliable indices on nuptiality. Such data show that age at first marriage for Kenyan women has been rising.

As in other demographic surveys and censuses carried out in Kenya, marriage is defined in the KDHS to include informal unions. This chapter investigates the trends in age at marriage of different cohorts. Other proximate determinants of fertility that render a woman to be at risk of pregnancy, such as breastfeeding, postpartum amenorrhoea and postpartum sexual abstinence are also explored.

2.2 Marital Status

In this report, the terms "living together" and "married" are combined and referred to as "currently married". Women who are currently married, widowed, divorced or no longer living together are referred to as "ever-married".

Table 2.1 Percent distribution of women by current marital status, according to age, Kenya, 1989

Age	Current marital status						Total	Wtd. no. of women
	Never married	Married	Living together	Widowed	Divorced	Separated		
15-19	79.9	17.2	1.2	0.0	1.1	0.5	100.0	1497
20-24	31.8	58.6	4.0	0.7	2.7	2.3	100.0	1321
25-29	10.7	78.6	4.1	1.5	3.6	1.3	100.0	1334
30-34	5.4	79.6	5.3	2.1	5.4	2.2	100.0	982
35-39	3.2	82.4	4.5	4.7	3.8	1.4	100.0	898
40-44	1.5	82.4	3.1	8.2	3.0	1.8	100.0	674
45-49	2.4	79.7	3.2	11.0	3.1	0.6	100.0	445
Total	26.0	63.1	3.6	2.7	3.1	1.5	100.0	7150

Table 2.1 shows that 26 percent of women of childbearing age have never married, 67 percent are currently married and 7 percent are either widowed, divorced, or no longer living together (separated). The proportion never married falls sharply from 80 percent in the age group 15-19 to 11 percent in the age group 25-29 (see Figure 2.1). This proportion declines to 2 percent in the age group 45-49, reinforcing the findings of other demographic surveys--that most women in Kenya marry early. The proportion currently married rises steeply in the first two age groups reaching a high of 87 percent among women 35-39. As expected, widowhood increases steadily with age, varying from none for women aged 15-19 years to 11 percent for the age group 45-49.

The proportion divorced or separated increases from 2 percent for women aged 15-19 years to 8 percent for women aged 30-34 years, and declines to 4 percent for women in their forties.

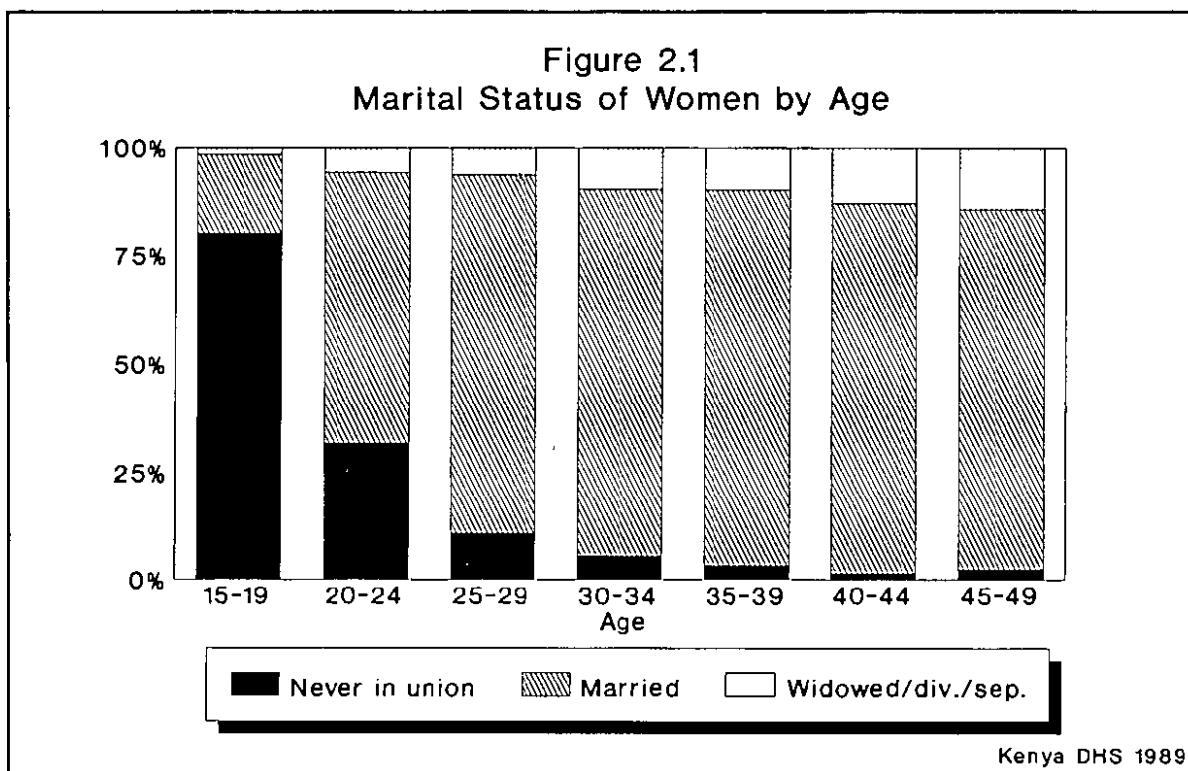


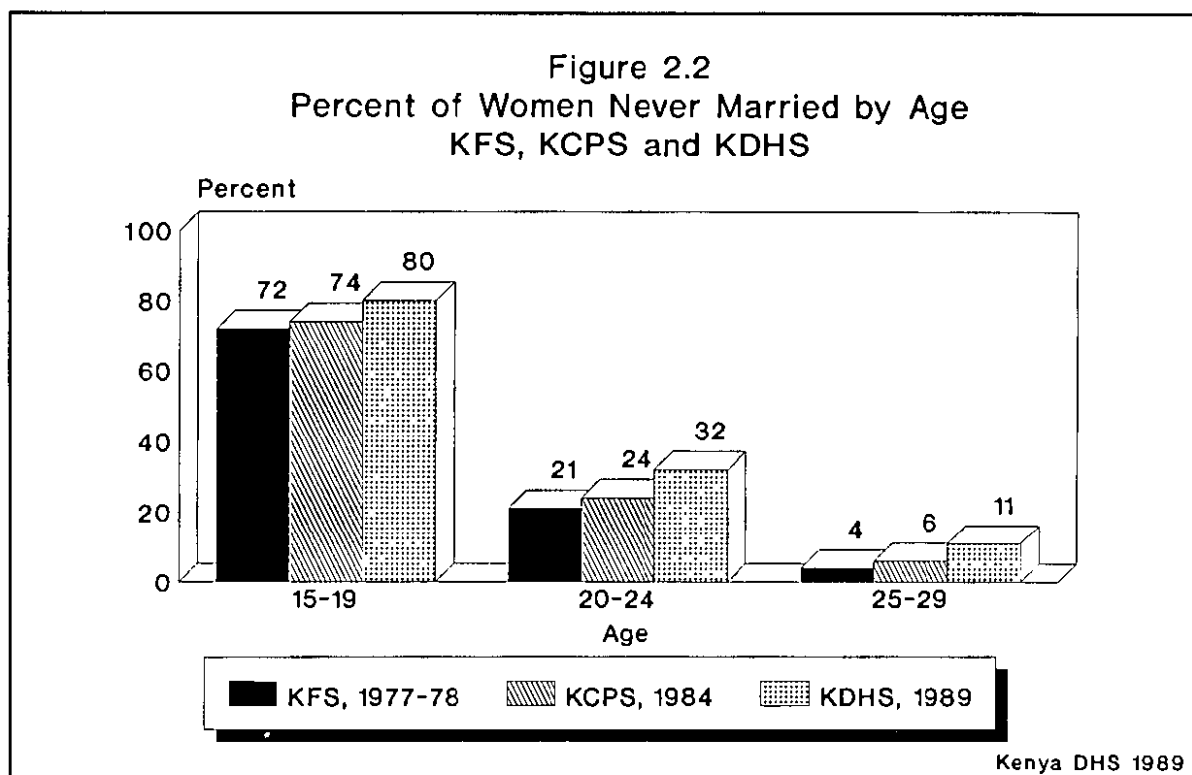
Table 2.2 Percent of women who have never married at the time of various surveys and censuses, by age group, Kenya, 1989

Age	1962 Census	1969 Census	1977 NDS	1977/78 KFS	1979 Census	1984 KCPS	1989 KDHS
15-19	55	64	71	72	71	74	80
20-24	13	18	22	21	25	24	32
25-29	5	6	6	4	9	6	11
30-34	3	4	3	1	5	4	5
35-39	2	3	2	1	3	2	3
40-44	2	3	1	1	3	1	2
45-49	2	3	1	0	2	1	2

Source: Central Bureau of Statistics, 1984, Table 4.4

Table 2.2 shows the trend in the proportion of women reported as never married by age from past censuses and surveys in Kenya. It is evident that the proportion of women under 30 who have never married has been increasing (Figure 2.2). The KDHS data show an increase for every age group over the KCPS data. For example, the proportion of women 15-19 who have never married increased from 74 percent in 1984 to 80 percent in 1989 and the proportion in age group 20-24 rose from 24 percent in 1984 to 32 percent in 1989. There is also a notable increase in the proportion never married for women aged 25-29, from 6 in 1984 to 11 percent in 1989. These observations suggest that age at first marriage in Kenya is increasing. Above age 25, the proportions of women remaining single are too small to discern any trend over time.

As has been observed in other surveys, increased enrolment of women in higher education may be the major cause of the increasing proportions of single women aged 15-24 years.



2.3 Polygyny

In order to measure the extent of polygyny in Kenya, married women in the KDHS were asked if their husbands had other wives. Table 2.3 displays the answers to this question by age of the woman.

Overall, 23 percent of currently married women are in polygynous unions. This is a slight decline from the 25 percent in the 1984 KCPS and the 30 percent in the 1977/78 KFS. The table indicates that polygyny is more common among older than younger women, which may reflect a trend away from this traditional practice.

Polygyny is more common in the rural areas than in the urban areas. This is true for women in most age groups. Nyanza Province has the highest proportion of women in polygynous unions (37 percent), with Central Province having the lowest (8 percent). There is considerable provincial variation in polygyny according to the age of the woman. Twenty-nine percent of married women aged 15-19 in Nyanza Province are in polygynous unions, compared to only 4 percent of women in Rift Valley. Among women in the age group 40-44, Coast Province shows 54 percent in polygynous marriages, while Nairobi has only 10 percent. Except for Nyanza and Eastern Provinces, polygyny decreases slightly among women aged 45-49 years.

As in other surveys carried out in Kenya, the KDHS found that there is a negative relationship between education and polygyny. The percentage in polygynous unions decreases from 35 percent among women with no education to 12 percent among women with secondary education and higher.

Table 2.3 Percentage of currently married women in a polygynous union, by age, according to background characteristics, Kenya, 1989

Background characteristic	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	14.5	14.6	14.6	22.9	27.6	18.5	17.5	17.7
Rural	11.9	18.4	18.2	28.4	26.1	34.1	32.2	24.4
Province								
Nairobi	15.1	10.3	14.6	18.0	34.0	10.3	6.3	15.4
Central	5.3	3.3	2.5	13.6	4.7	18.8	14.8	8.3
Coast	16.0	24.0	30.8	35.8	37.7	53.7	45.3	34.1
Eastern	9.3	14.7	13.6	20.4	11.8	34.0	36.2	19.5
Nyanza	28.7	24.9	32.5	44.1	50.0	34.9	47.3	37.4
Rift Valley	4.0	18.8	13.9	23.6	20.0	34.0	20.2	19.8
Western	5.7	22.3	19.3	29.3	41.8	40.2	39.6	28.0
Education								
No education	16.3	39.2	25.8	37.2	35.7	44.5	30.2	35.3
Some primary	14.2	17.6	21.2	26.9	21.4	22.8	38.3	22.5
Primary complete	12.7	16.3	11.2	20.6	17.5	22.4	21.3	15.8
Secondary +	5.8	10.0	13.1	13.0	16.3	10.1	(0.0)	11.9
Total	12.7	17.5	17.6	27.6	26.3	33.0	31.2	23.4

Note: Numbers in parentheses are based on fewer than 20 unweighted cases.

2.4 Age at First Marriage

Table 2.4 shows that the proportion of women who marry before age 15 has declined from 25 percent of women 40-44 to only 4 percent of women 15-19. This suggests a rising age at first union in Kenya. As the table shows, 75 percent of women aged 40-44 married before the age of 20, compared to only 52 percent of women aged 20-24.

With the exception of women 45-49, the median age at marriage has increased over time, from 17.3 among women 40-44 to 19.8 for those aged 20-24. That the median age of marriage for women aged 45-49 years is higher than expected (18.5) could be explained by recall lapse.

Table 2.5 presents the median age at first marriage by selected background characteristics. Only women aged 20-49 are included in the table since median age at marriage for younger women is influenced by the large proportion that have not yet married.

In general, urban women marry later than their rural counterparts. This is true for all age groups, with an overall difference of 1.5 years in the median age at marriage.

Table 2.4 Percent distribution of women by age at first marriage and median age at first marriage, according to current age, Kenya, 1989

Current age	Never married	Age at first marriage						Total	Wtd. no. of women	Median* age
		<15	15-17	18-19	20-21	22-24	25+			
15-19	79.8	3.5	11.8	4.9	0.0	0.0	0.0	100.0	1497	-
20-24	31.8	5.6	25.9	20.3	12.0	4.4	0.0	100.0	1321	19.8
25-29	10.7	15.7	27.5	22.0	11.3	8.5	4.2	100.0	1334	18.6
30-34	5.4	23.0	27.7	17.2	13.6	8.5	4.7	100.0	982	17.9
35-39	3.2	20.1	31.3	20.0	12.4	7.1	5.9	100.0	898	17.9
40-44	1.5	25.0	30.3	19.7	11.9	7.1	4.4	100.0	674	17.3
45-49	2.4	17.7	28.0	20.5	13.4	10.1	7.9	100.0	445	18.5
Total	26.0	13.8	24.7	16.9	9.7	5.8	3.1	100.0	7150	-

- Some data for women age 15-19 and the median for all women have been omitted, since a substantial proportion of these women have not yet married.

* Defined as the exact age by which 50 percent of women have experienced marriage.

Table 2.5 Median age at first marriage among women age 20-49 years, by current age and background characteristics, Kenya, 1989

Background Characteristic	Current age						Total
	20-24	25-29	30-34	35-39	40-44	45-49	
Residence							
Urban	20.3	19.9	19.6	18.7	18.7	19.5	19.8
Rural	19.7	18.3	17.7	17.8	17.3	18.4	18.3
Province							
Nairobi	20.5	20.1	19.9	19.5	19.4	22.6	20.2
Central	21.9	20.2	19.3	19.3	18.2	19.1	19.9
Coast	19.5	17.1	16.3	16.2	15.1	16.3	17.0
Eastern	22.5	19.2	20.0	19.1	18.3	18.9	19.5
Nyanza	17.7	17.1	16.4	16.6	16.4	17.1	16.9
Rift Valley	19.3	17.6	17.2	18.3	17.3	20.4	18.1
Western	19.0	18.5	17.7	17.1	16.9	15.4	17.9
Education							
No education	16.7	16.7	16.2	17.1	16.7	18.6	16.9
Some primary	18.3	17.4	17.5	17.5	17.1	17.6	17.6
Primary complete	19.7	18.6	19.3	19.0	19.5	19.9	19.2
Secondary +	22.6	21.0	21.0	21.2	22.6	(22.4)	21.6
Total	19.8	18.6	17.9	17.9	17.3	18.5	18.5

Note: Numbers in parentheses are based on fewer than 20 unweighted cases.

Provincial differentials in age at marriage also exist in Kenya. Women in Coast and Nyanza Provinces marry the earliest, with a median age of about 17 years, while women in Nairobi and Central Province marry the latest, with a median age of about 20 years.

Differences in age at marriage have perhaps been influenced most by increased education of women. As Table 2.5 shows, the median age at marriage increases with the level of education

for every cohort of women. Those with a secondary school or higher education have the highest median age at marriage (21.6). The difference in the median age at marriage between this group and women who have no education is 4.7 years over all ages and is almost 6 years for those aged 20-24. Perhaps Kenya's 8-4-4 system of education will effect further increases in age at marriage for younger women now in school.

2.5 Breastfeeding and Postpartum Insusceptibility

Breastfeeding, postpartum amenorrhoea and postpartum sexual abstinence are factors related to the risk of pregnancy. The duration of amenorrhoea (the period following a birth before the return of the menstrual cycle) is directly related to breastfeeding--the longer a woman breastfeeds, the longer she is likely to be amenorrhoeic.

Table 2.6 shows that over 95 percent of babies in Kenya are breastfed for at least some time. Over 80 percent are breastfed to their first birthday, and almost three-fifths are breastfed for at least 18 months.

Table 2.6 Percentage of births whose mothers are still breast-feeding, postpartum amenorrhoeic, abstaining, and insusceptible, by number of months since birth, Kenya 1989

Months since birth	Breast-feeding	Amenor-rhoeic	Abstain-ing	Insus-ceptible*	No. of births
Less than 2	96.0	95.6	88.6	97.3	194
2-3	94.4	85.7	50.8	89.2	244
4-5	91.9	69.8	22.2	74.7	262
6-7	92.2	64.1	21.6	69.2	252
8-9	87.2	56.2	15.4	60.3	260
10-11	91.0	51.4	15.2	54.5	241
12-13	81.7	42.4	17.0	46.0	246
14-15	68.3	28.9	9.1	31.0	263
16-17	63.4	19.5	5.8	22.2	257
18-19	55.9	11.4	6.0	15.7	246
20-21	42.3	10.0	10.1	17.2	211
22-23	40.9	9.2	9.9	16.8	200
24-25	21.7	6.4	5.4	9.8	256
26-27	14.6	2.0	6.1	8.1	235
28-29	15.7	0.7	5.4	6.1	234
30-31	12.5	3.5	3.3	6.4	276
32-33	4.0	0.5	1.3	1.6	233
34-35	4.1	0.4	2.9	3.3	278
Total	54.0	30.6	15.6	34.5	4387
Median	19.4	10.8	2.6	11.6	-

Note: Includes births 0-35 months before survey

* Either amenorrhoeic or abstaining at the time of the survey

More than 85 percent of Kenyan women experience amenorrhoea for at least two months after birth, with this percentage dropping rapidly to about 42 percent still amenorrhoeic one year after giving birth. The proportion of amenorrhoeic women decreases faster than that of the breastfeeding women, reaching 11 percent by the 18-19 months after birth.

There is a sharper decline in the practice of sexual abstinence after a birth than the decline of either breastfeeding or postpartum amenorrhoea. Only 51 percent of women are abstaining 2-3 months after birth, whereas 17 percent abstain for at least one year and 5 percent abstain for two years after birth.

Table 2.6 also shows the proportion of women who are insusceptible to pregnancy due to either amenorrhoea or the practice of sexual abstinence. One year after giving birth, 46 percent of the women are insusceptible.

Table 2.7 provides estimates of the mean duration¹ in months of the four birth-related variables by selected background characteristics. As the table and Figure 2.3 show, there is not much difference in any of the variables by age of the woman. Rural women have slightly longer mean durations of breastfeeding, postpartum amenorrhoea and sexual abstinence than their urban counterparts. As a result, they have a longer period of insusceptibility to pregnancy.

Table 2.7 Mean number of months of breastfeeding, postpartum amenorrhoea, postpartum abstinence, and postpartum insusceptibility, by background characteristics, Kenya, 1989

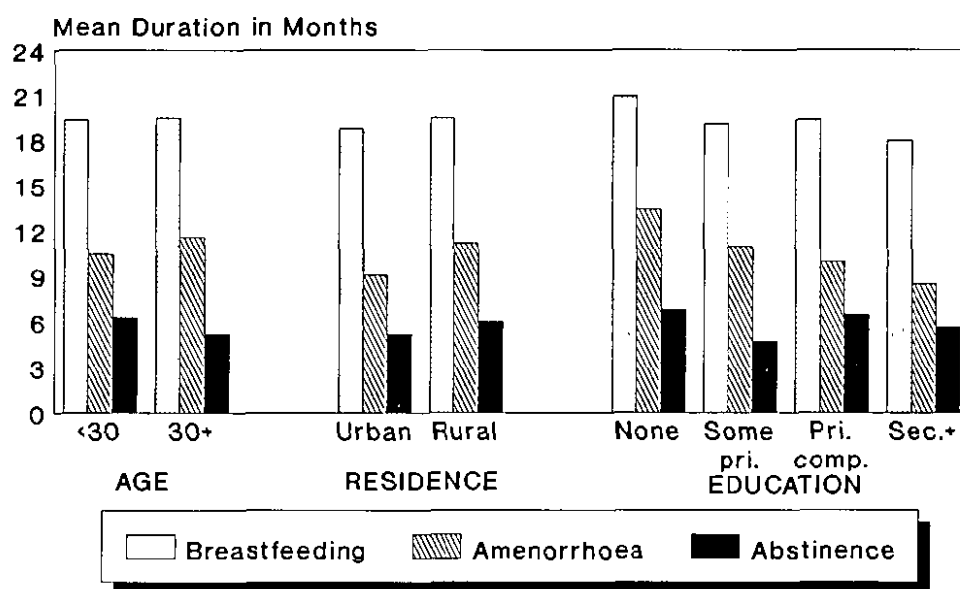
Background characteristic	Breast-feeding	Amenor-rhoeic	Abstain-ing	Insus-ceptible*	No. of births
Age					
<30	19.4	10.5	6.3	12.5	2760
30+	19.5	11.6	5.2	12.9	1689
Residence					
Urban	18.8	9.1	5.2	11.0	612
Rural	19.5	11.2	6.0	12.9	3837
Province					
Nairobi	19.9	9.1	6.3	11.5	264
Central	18.4	10.7	7.7	13.9	619
Coast	17.7	9.4	2.6	9.9	255
Eastern	20.9	9.3	6.4	11.2	794
Nyanza	19.3	11.5	3.9	13.0	789
Rift Valley	19.1	12.2	8.2	14.1	1007
Western	19.7	11.7	3.4	12.1	721
Education					
No education	20.9	13.4	6.8	14.7	1144
Some primary	19.1	11.0	4.7	12.1	1395
Primary complete	19.4	10.0	6.5	12.4	1088
Secondary +	18.0	8.5	5.7	10.8	819
Total	19.4	10.9	5.9	12.6	4449

Note: Includes births 1-36 months before survey. Estimates are based on prevalence/incidence method (see text). Three women with education level not stated are omitted.

* Either amenorrheic or abstaining at the time of the survey

¹ Estimates of mean duration are calculated using the prevalence/incidence method, borrowed from epidemiology. The duration of breastfeeding, for example, is defined as the prevalence (number of children whose mothers are breastfeeding at the time of the survey), divided by the incidence (average number of births per month over the last 36 months).

Figure 2.3
Duration of Breastfeeding,
Amenorrhoea and Postpartum Abstinence



Kenya DHS 1989

Eastern Province recorded the highest mean duration of breastfeeding (21 months), with Coast Province having the shortest, about 18 months. Mean duration of sexual abstinence is particularly short for women in Coast, Western and Nyanza Provinces. In Coast Province, this may be attributed to Islamic religious practices.

There is an inverse relationship between education and the mean duration of breastfeeding, amenorrhoea and insusceptibility. The higher the level of education, the shorter the mean duration of these variables. This may be attributed to the fact that better educated women are more likely to work in jobs that make breastfeeding more difficult.

3 FERTILITY

3.1 Background

Everything affecting the demographic character of a population--its size, rate of increase, geographic distribution, age and sex structure, life expectation and family composition--must work through one of three demographic variables: fertility, mortality and migration. Of these, fertility is the major dynamic element. In most instances it is the prime determinant of age structure, family composition and population growth rates. To understand fertility is, therefore, to understand not only a major portion of all demographic behaviour, but a fundamental element in social structure.

The fertility measures presented in this chapter are based on the reported reproductive histories of women aged 15-49 interviewed in the KDHS. Each woman was asked the number of sons and daughters living with her, the number living elsewhere, and the number who had died. She was then asked for a history of all her births, including the month and year each was born, the sex, the name, and if dead, the age at death, and if alive, whether he/she was living with the mother. Based on this information, fertility measures like completed fertility (number of children ever born) and current fertility (total fertility rate, or TFR) are examined. These measures are also analyzed in connection with different background characteristics. Thus, the chapter contains a discussion of levels, trends and differentials in fertility of Kenyan women.

It is appropriate to mention that the birth history approach has some limitations and is susceptible to data collection errors. Data on the total number of children ever born may be distorted due to socio-cultural factors. Women are likely to include relatives' children among their own children, due to the extended family system in the country. Also, babies who die very young are more likely to be omitted from reporting. Another source of error in the reported number of children could be the inclusion of stillbirths. Women in older age groups also tend to forget grown children, especially those who have left the household. Finally, misreporting of the dates of birth is common in many cultures. So, fertility levels can be affected by underreporting, while misreporting of dates of births can seriously distort estimates of fertility trends.

There is no complete solution to the above problems, but the interviewers were instructed to do all they could to facilitate respondents' recall, probe for early infant deaths, and avoid including stillbirths. Furthermore cross-checks were built into the questionnaires. Interviewers were instructed to probe for reasons for longer birth intervals and to compare ages, dates, etc., for inconsistencies.

Despite these safeguards, there are indications in the KDHS results that births occurring five and six years prior to the survey were shifted to seven years before the survey, presumably to avoid the necessity of filling in the health section for the children. In order to obtain data for all children under age five, questions in the health section were asked for all children born since January 1, 1983. KDHS data on births by year show that there are roughly 30 percent more births reported as occurring in 1982 than in 1983. Similar displacement of births has been found in other DHS surveys. For the purpose of this report, data on trends in fertility that involve the year 1982 or 1983 should be regarded with caution. However, this problem most likely does not affect the rates for the five-year period prior to the survey.

3.2 Levels and Trends in Fertility

The total fertility rate (TFR) for the five-year period prior to the survey is 6.7, which represents the total number of births a woman would have by the time she reached age 50 if she had children at the same rate as women are currently having at each age group.

As shown in Table 3.1, the KDHS data are the first evidence of a major decline in fertility in Kenya. The total fertility rate was about 8 children per woman in the late 1970s, and although the 1984 Kenya Contraceptive Prevalence Survey (KCPS) showed some slight evidence of decline (to a TFR of 7.7), the KDHS rate of 6.7 represents a substantial decline in fertility. It should be noted that the estimates are not strictly comparable. For example, the rates from the 1962 and 1969 censuses are based on reported data, without the upward adjustment for underreporting that is common for census data. Data from the censuses, the 1977 NDS and the 1984 KCPS refer to rates in the 12-month period before the survey, while the rates from the KDHS refer to the five-year period prior to the survey.

Age	1962 Census	1969 Census	1977 NDS	1977/78 KFS	1979 Census	1984 KCPS	1989 KDHS
15-19	83	111	135	177	179	143	152
20-24	207	284	365	369	368	358	314
25-29	223	290	361	356	372	338	303
30-34	203	253	316	284	311	291	255
35-39	163	200	231	216	226	233	183
40-44	109	121	133	132	105	109	99
45-49	63	60	56	51	14	66	35
Total fertility rate	5.3	6.6	8.0	7.9	7.9	7.7	6.7

Source: Central Bureau of Statistics, 1984, Table 4.13 and Central Bureau of Statistics, no date, Table 6.15. Data from the 1979 Census have been adjusted for underreporting of births.

Age-specific fertility rates for the KDHS show that the rate increases from 152 births per 1000 women in the youngest age group to over 300 for women aged 20-29 and then decreases steadily to 35 for women aged 45-49. Figure 3.1 gives a graphical representation of the KDHS age-specific fertility rates for comparison with other survey results. For every age group except the youngest the age-specific fertility rates recorded in the KDHS are lower than those recorded in the other surveys.

Further evidence of a fertility decline appears in Table 3.2, which presents age-specific fertility rates for five-year periods prior to the survey, based on data from the KDHS birth histories. In reading the table, one should note that the figures in parenthesis represent partial fertility rates due to truncation. Women 50 years and over were not included in the survey and the further back into time rates are calculated, the more severe is the truncation. For example, rates cannot be calculated for women aged 45-49 for the period 5-9 years before the survey,

because those women would have been aged 50-54 at the time of the survey and were not interviewed.

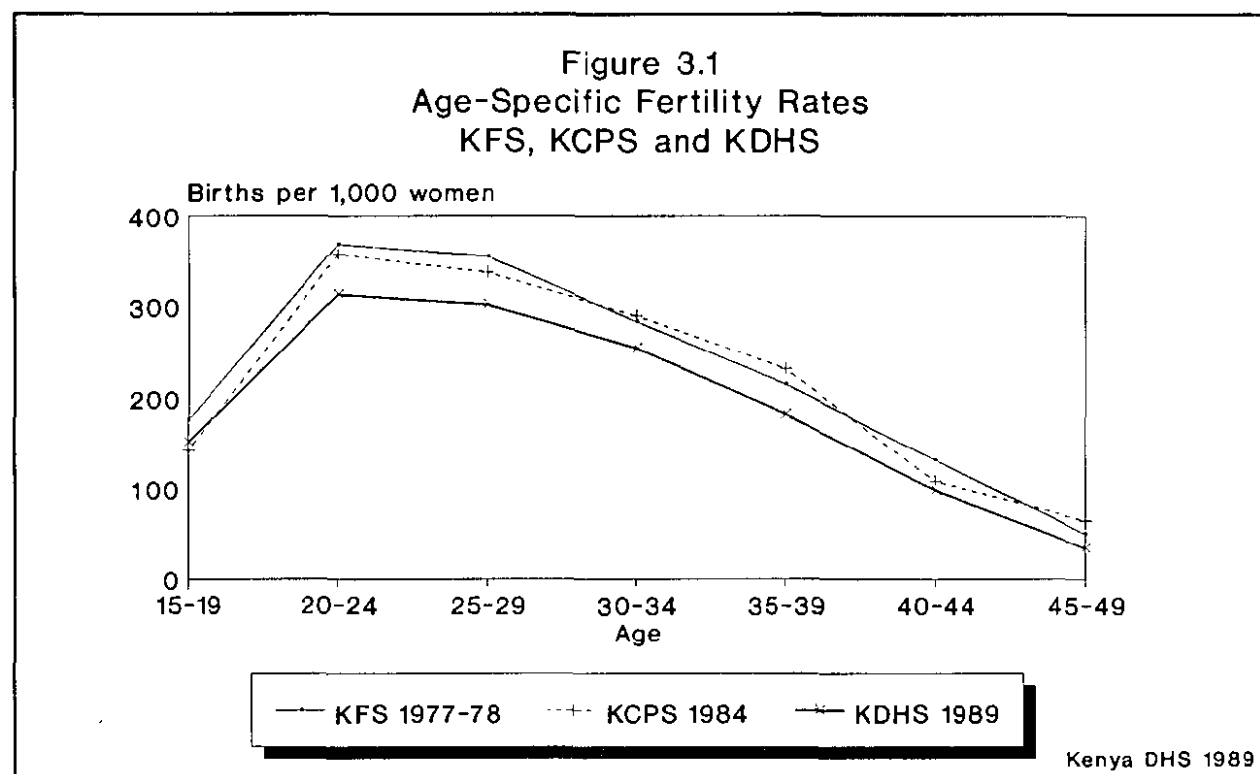


Table 3.2 Age-period fertility rate by age of woman at birth, Kenya, 1989

Age at birth	Number of years preceding survey						
	0-4	5-9	10-14	15-19	20-24	25-29	30-34
15-19	152	189	203	216	190	192	(108)
20-24	314	338	357	334	347	(322)	-
25-29	303	314	337	332	(329)	-	-
30-34	255	293	304	(285)	-	-	-
35-39	183	241	(306)	-	-	-	-
40-44	99	(158)	-	-	-	-	-
45-49	(35)	-	-	-	-	-	-

Note: Figures in parentheses are partially truncated rates.
- Not available due to age truncation.

The data show a decline in fertility rates at all ages from those prevailing 10-14 years before the survey. It is interesting to note that, if one assumes that the same fertility rate at age 45-49 prevailed 5-9 years before the survey as 0-4 years before the survey, the total fertility rate 5-9 years before the survey (approximately 1979-1984) would be 7.8, which is equivalent to the rates recorded in Table 3.1 for the late 1970s and 1984. The data in Table 3.2 show a peak in fertility 10-14 years prior to the survey for all but the youngest age group. While it is possible that fertility has risen and then fallen, another possible explanation is a shifting of births from the period 15-19 and/or 5-9 years prior to the survey.

It is important to note that the decline in fertility is consistent with the increase in age at marriage discussed in Chapter 2, as well as the increase in contraceptive use recorded by the KDHS (see Chapter 4). Another factor relating to the decline could be the recent extension of a comprehensive health care system, which makes it easy to promote population programmes. The fall in the rate of infant mortality could also have contributed to the fertility decline. Several studies have shown that there is a close relationship between the infant mortality rate and the fertility rate. When the probability of child survival increases, couples need to have only that number of children which they actually desire, especially when childbearing involves both physical and mental strain and childrearing is expensive. By achieving major reductions in infant mortality in Kenya, a similar decline in fertility has been possible. Perhaps the largest single factor that has contributed to fertility decline is education, especially education of women. Age at marriage increases with education, hence delaying the start of childbearing.

Age at birth	Months prior to survey		
	12 months	24 months	60 months
15-19	139	148	152
20-24	302	317	314
25-29	305	297	303
30-34	250	235	255
35-39	192	180	183
40-44	95	87	99
45-49	12	21	35
Total fertility rates:			
15-49	6.5	6.4	6.7
15-44	6.4	6.3	6.5

Table 3.3 presents age-specific fertility rates for the 12-month, 24-month and 60-month periods prior to the survey. They indicate a slight decline between the 60-month period and the 24-month period prior to the survey and an increase at certain ages and a decline at other ages between the 24-month and 12-month period before the survey. The most that can be concluded from these data is that fertility has probably continued to decline in the few years before the survey.

In the KDHS, all women were asked whether or not they were pregnant at the time of the survey. The percentage of women pregnant in each age group is shown in Table 3.4 along with comparable information from the 1977/78 KFS and the 1984 KCPS.

Age	1977/78 KFS	1984 KCPS	1989 KDHS	No. of women
15-19	8	8	6.8	1497
20-24	17	16	13.6	1321
25-29	19	17	10.5	1334
30-34	16	13	10.9	982
35-39	12	10	8.4	898
40-44	9	6	3.6	674
45-49	3	2	2.2	445
Total	13	11	8.9	7150

The data provide further corroboration of a recent fertility decline. Only 9 percent of women in the KDHS said they were pregnant, compared to 11 percent in 1984 and 13 percent in 1977/78. Moreover, the KDHS results reveal a consistent decline in the proportion pregnant in all age groups.

3.3 Fertility Differentials

Knowledge of differential fertility provides valuable information about the relative contributions of different socio-economic and cultural factors to the overall level of fertility, thus providing an indication of future fertility rates. Only after these differences have been ascertained is it possible to investigate the pattern of causation underlying it. Questions asked in the 1989 KDHS make it possible to study differentials by urban-rural residence, province, and education; these are presented in Table 3.5.

Table 3.5 also presents the total fertility rates for two calendar year periods (1986-88) and (1983-1985) and for the five-year period preceding the survey, as well as the mean number of children ever born to women 40-49 years old, according to background characteristics of women. Caution should be exercised in comparing these rates, as the average number of births to women 40-49 refers to past or completed fertility, while total fertility in the preceding five years refers to a more current measure of fertility. As mentioned above, the rates for 1983-85 are especially suspect, as they include the year 1983, from which a number of births were evidently displaced back to 1982. This has the effect of reducing the apparent decline in fertility between the two 3-year periods.

Comparing the last two columns of Table 3.5 reveals that there has been a major decline in fertility, from 7.5 children ever born to women 45-49 to a total fertility rate of 6.7. This is consistent with the other evidence of fertility decline.

Table 3.5 Total fertility rates for calendar year periods and for five years preceding the survey, and mean number of children ever born to women 40-49 years of age, by background characteristics, Kenya, 1989

Background characteristic	Total fertility rates*		0-4 years before survey	Mean number of children ever born to women age 40-49
	1986-1988**	1983-1985		
Residence				
Urban	4.5	5.8	4.8	5.1
Rural	7.1	7.1	7.1	7.7
Province				
Nairobi	4.2	7.0	4.6	4.9
Central	6.0	6.4	6.0	7.3
Coast	5.4	6.0	5.5	7.3
Eastern	7.2	7.0	7.0	7.4
Nyanza	6.9	7.1	7.1	7.9
Rift Valley	7.0	6.7	7.0	7.4
Western	8.1	7.9	8.1	8.2
Education				
No education	7.5	7.2	7.2	7.4
Some primary	7.5	7.5	7.5	8.0
Primary complete	6.4	6.4	6.5	7.3
Secondary +	4.8	5.0	4.9	4.7
Total 15-49	6.7	6.8	6.7	7.5
Total 15-44	6.5	6.5	6.5	-

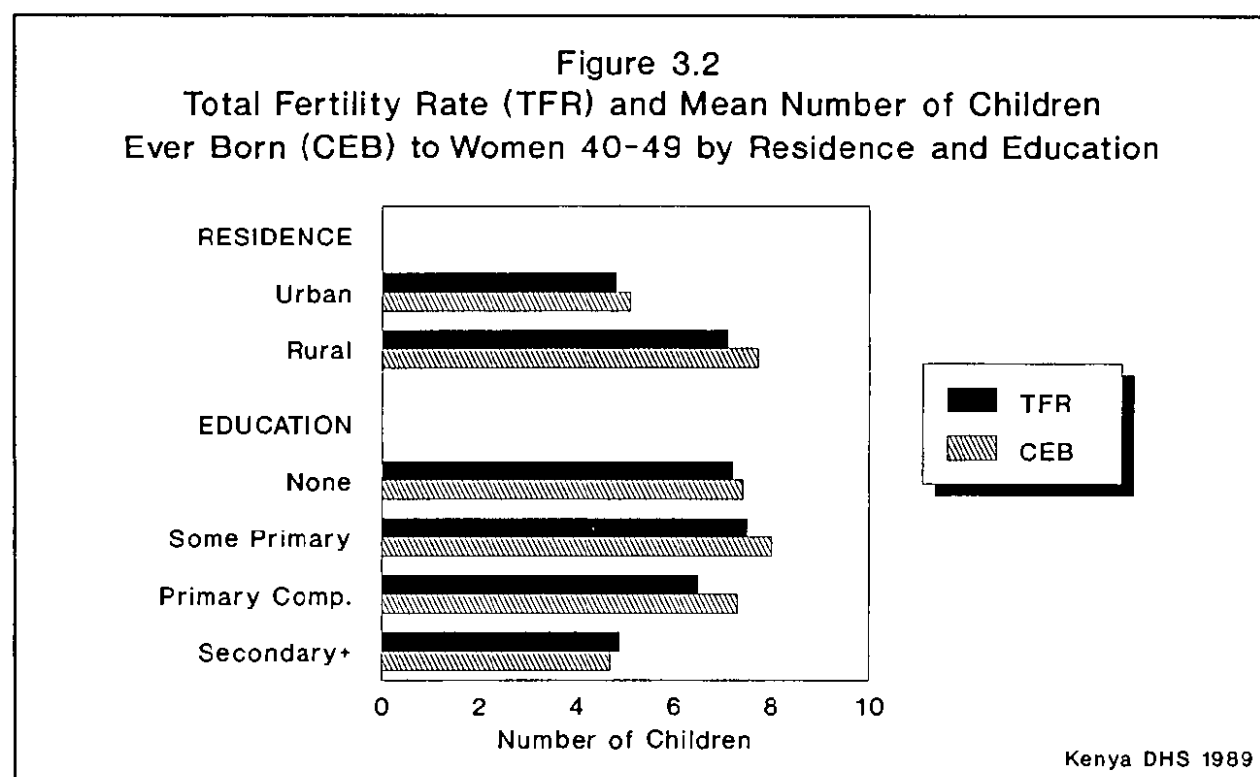
* Based on women 15-49

** Includes exposure in 1989 up to the time of interview.

There is a considerable difference in fertility between rural and urban areas. Based on births in the five years before the survey, women in urban areas have a total fertility rate of approximately 5 live births, compared to about 7 for rural women. This difference also exists in the mean number of children ever born to women 40-49 (Figure 3.2). Much of the observed urban-rural differences in fertility are probably due to the differential practice of birth control, which spread outward from urban to rural areas. Urban areas usually have the most educated, highest income population, as well as the best medical facilities. The difference could also be attributed to urban-rural differences in three inter-related factors that determine the ability to control fertility: knowledge about birth control, skill in its practice and degree of access to the most effective means.

Although fertility rates are still high in Kenya, there is considerable variation between provinces (Figure 3.3). For the five years prior to the survey, Nairobi had the lowest total fertility rate (4.6), while Western Province had the highest (8.1). This is also consistent with the mean number of children ever born to women 40-49 years old. The observed regional differentials could be due to the highly diverse physical and climatic environment, reflecting diverse modern and traditional systems of land use. The geographic distribution of Kenyan tribes, with particular tribes being concentrated in certain provinces, leads to variation in cultural practices among the provinces. The large difference in the total fertility rates for Nairobi for 1983-85 and 1986-88 is most probably

due to a combination of sampling error due to small sample sizes in certain age groups of women and to misreporting of dates of birth.



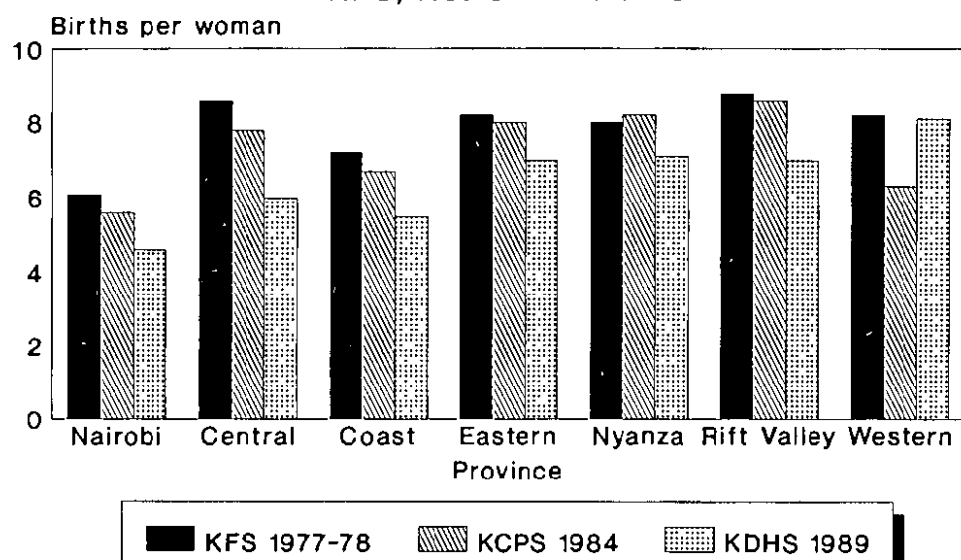
No other social variable has been as frequently associated with fertility differentials as education. The total fertility rate of women with complete primary education (6.5) is lower than the one for women with no education (7.2). Women with secondary and higher education have the lowest total fertility rate of 4.9 live births. A negative association between schooling and fertility has been widely observed. Schooling may have its own independent effect on fertility, through raising the age at marriage or it may be an indicator of the existence of certain elements that are correlated with lower fertility, such as higher socio-economic status.

3.4 Cumulative Fertility

The number of children ever born (cumulative fertility) is one of the basic measures of fertility. As pointed out above, it is subject to possible errors such as omission of births and inclusion of stillbirths and children of relatives.

Table 3.6 shows that the level of fertility in Kenya is still high. It should be noted that just as marriage occurs relatively early, childbearing also occurs early with teenage girls (15-19) reporting an average of 0.3 births (last column of Table 3.6). Women in their early twenties have had an average of more than one and half births each. This increases rapidly to 3.5 births among women in their late twenties and 6.5 births for women in their late thirties. By the time women reach the end of their childbearing years (45-49), they have had, on average, 7.6 live births.

Figure 3.3
Total Fertility Rates by Province,
KFS, KCPS and KDHS



Kenya DHS 1989

Table 3.6 Percent distribution of all women and currently married women by number of children ever born (CEB), according to age, Kenya, 1989

Age	Number of children ever born											Total	Wtd. no. of women	Mean no. CEB
	0	1	2	3	4	5	6	7	8	9	10+			
All Women														
15-19	78.6	15.9	4.4	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1497	0.3
20-24	21.5	30.0	25.4	16.3	5.5	1.0	0.2	0.0	0.0	0.0	0.0	100.0	1321	1.6
25-29	5.3	9.3	13.7	20.3	24.2	14.7	8.9	2.6	0.8	0.0	0.1	100.0	1334	3.5
30-34	2.9	4.1	6.7	10.8	16.0	14.8	19.0	12.9	8.5	3.3	1.2	100.0	982	5.0
35-39	2.2	1.4	4.9	4.7	7.4	12.9	14.3	15.1	16.2	9.0	11.9	100.0	898	6.5
40-44	2.3	1.7	3.2	3.1	5.6	8.4	12.2	10.9	14.8	14.1	23.6	100.0	674	7.4
45-49	2.8	1.9	1.4	4.3	4.8	6.2	11.8	12.2	14.0	13.7	26.7	100.0	445	7.6
Total	22.5	11.6	10.1	9.6	9.5	7.8	8.0	5.9	5.6	3.8	5.6	100.0	7150	3.7
Curently Married Women														
15-19	32.8	42.8	19.2	4.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0	276	1.0
20-24	8.4	25.0	32.6	23.9	8.3	1.5	0.3	0.0	0.0	0.0	0.0	100.0	827	2.0
25-29	3.0	6.7	12.5	21.8	24.7	16.9	10.2	3.0	1.0	0.0	0.1	100.0	1104	3.7
30-34	1.8	3.2	4.9	10.0	16.5	15.3	19.8	14.3	8.9	3.8	1.4	100.0	833	5.2
35-39	1.3	0.9	4.5	3.7	7.1	12.2	14.8	16.1	15.9	10.3	13.1	100.0	781	6.7
40-44	2.1	1.3	3.0	2.6	5.0	6.8	11.4	11.5	15.4	15.5	25.5	100.0	576	7.6
45-49	2.6	0.8	1.4	4.5	4.7	5.6	9.0	10.7	15.7	15.7	29.4	100.0	369	7.9
Total	5.0	9.3	11.7	12.5	12.2	10.1	10.4	8.1	7.5	5.4	7.8	100.0	4765	4.8

The distribution of women by number of births reveals that almost 78 percent of women 20-24 have had at least one child. By the time Kenyan women reach the end of childbearing, 27 percent have had ten or more live births. Primary infertility--the proportion of married women aged 45-49 who have never had children--is quite low at 3 percent. This confirms the 1984 KCPS finding that only 3 percent of women aged 40 years and above reported never having given birth (Central Bureau of Statistics, 1984, Table 4.8).

Information on cumulative fertility from past surveys and censuses can be compared with the KDHS results. Table 3.7 indicates that fertility generally increased between 1962 and 1984 and declined thereafter; however, these trends should be interpreted cautiously because different methods were employed in eliciting information on births. For example, KFS and KDHS questionnaires employed a birth history approach, while the KCPS collected only summary data on the number of children ever born. The data on children ever born from the censuses may be biased downwards due to difficulty in obtaining high quality data on such a large scale.

Age	1962 Census	1969 Census	1977 NDS	1977/78 KFS	1979 Census	1984 KCPS	1989 KDHS
15-19	0.4	0.4	0.3	0.4	0.3	0.4	0.3
20-24	1.7	1.9	1.8	1.8	1.9	2.0	1.6
25-29	3.0	3.7	3.7	3.8	3.7	4.0	3.5
30-34	4.2	5.1	5.6	5.6	5.4	5.7	5.0
35-39	5.1	6.0	6.7	6.8	6.5	7.0	6.5
40-44	5.6	6.4	7.3	7.6	7.0	7.8	7.4
45-49	5.9	6.7	7.5	7.9	7.2	8.2	7.6

Source: Central Bureau of Statistics, 1984, Table 4.9

Looking only at the data from the surveys, the mean number of children ever born from the 1984 KCPS is higher for each age group than from either the 1977/78 KFS or the 1989 KDHS. The investigation of possible overreporting of fertility in the KCPS or underreporting in the KDHS could be a useful topic for further analysis. Previous methodological research in Kenya (Central Bureau of Statistics, 1975 and 1977) has shown that birth histories result in lower estimates of cumulative fertility than summary data, though the cause is unclear. In any case, the figures from the KDHS are lower than those from the two surveys in the late 1970s, which is consistent with other evidence of a recent decline in fertility.

The mean number of children ever born by age at first marriage and duration of marriage is given in Table 3.8. As expected, the mean number of children born rises with increasing marital duration. The results indicate that irrespective of the age at first marriage, a Kenyan woman would have given birth to an average of 3.3 children during the first 5-9 years of her marriage.

At shorter marriage durations, the mean number of children ever born increases with age at marriage, which is unexpected. This could be due to a greater possibility that late-marrying women experience pre-marital conceptions or births, thus artificially raising the tempo of early marital fertility. Another possibility could be that late-marrying women have shorter birth intervals due to shorter breastfeeding durations. At longer durations of marriage, the relationship between

Table 3.8 Mean number of children ever born to ever-married women, by age at first marriage and years since first marriage, Kenya, 1989

Years since first marriage	Age at first marriage						Total
	<15	15-17	18-19	20-21	22-24	25+	
0-4	1.2	1.3	1.3	1.6	1.4	2.9	1.5
5-9	2.7	3.2	3.2	3.5	3.5	3.8	3.3
10-14	4.4	4.6	4.7	4.7	4.9	5.3	4.7
15-19	5.5	6.3	6.0	6.3	6.5	4.6	6.0
20-24	6.9	7.3	7.1	6.8	6.5	(6.4)	7.0
25-29	7.5	8.4	7.8	8.2	(5.3)	-	7.9
30+	8.2	8.6	(8.7)	-	-	-	8.3
Total	6.0	4.9	4.3	4.3	3.8	3.9	4.8

() Fewer than 20 unweighted cases.

- No cases, since by definition these women would be age 50 or over.

children born and age at marriage is erratic. The data in Table 3.8 may also reflect adolescent subfecundity, in that women who marry when they are under 15 years generally have a lower mean number of children ever born. Caution should be exercised in interpreting the data in Table 3.8 because the data on age at first marriage are subject to reporting errors.

3.5 Age at First Birth

The onset of childbearing is an important demographic indicator. In many countries, postponement of first births, reflecting a rise in age at marriage, has made a large contribution to the overall fertility decline. Also, the proportion of women who become mothers in their teenage years, before the age of 20, is a basic indicator of maternal and child health. Table 3.9 shows the distribution of women by age at first birth and current age.

Table 3.9 Percent distribution of women by age at first birth, according to current age, Kenya, 1989

Current age	No births	Age at first birth							Wtd. number of women	Median age at first birth*
		<15	15-17	18-19	20-21	22-24	25+	Total		
15-19	78.6	2.3	14.0	5.1	-	-	-	100.0	1497	-
20-24	21.5	4.0	28.0	26.4	15.3	4.8	-	100.0	1321	19.3
25-29	5.3	11.1	29.2	27.2	16.4	8.3	2.5	100.0	1334	18.7
30-34	2.9	15.1	32.0	22.4	14.0	9.4	4.3	100.0	982	18.2
35-39	2.2	11.3	28.7	27.5	16.6	9.8	3.9	100.0	898	18.6
40-44	2.3	14.7	29.2	20.7	15.8	10.6	6.6	100.0	674	18.6
45-49	2.8	10.2	21.2	22.7	17.7	13.4	11.9	100.0	445	19.7
Total	22.5	8.8	25.6	20.9	12.5	6.8	2.9	100.0	7150	-

* Defined as the exact age by which 50 percent of women have had a birth.

The data show that 55 percent of Kenyan women become mothers before they reach age 20. This finding has serious health implications, since young mothers suffer more health problems than older mothers, and their children have higher mortality rates.

The data imply that the median age at first birth has been relatively constant over time, with younger women having almost the same median ages at first birth as the older women. However, it should be noted that the data are heavily dependent on correct reporting of dates of birth of both the woman and her first birth.

Table 3.10 presents data on differentials in median age at first birth among women aged 20-49 years by background characteristics of women. The table reveals that urban women start childbearing late compared to their rural counterparts. Nyanza Province has the lowest median age at first birth (17.8), while Nairobi has the highest median age at first birth (19.9). As expected, women with no education report the lowest median age at first birth (18.1), which is almost 3 years earlier than their secondary and higher educated counterparts (20.7).

Table 3.10 Median age at first birth among women aged 20-49 years, by current age and background characteristics, Kenya, 1989

Background characteristics	Current age						Total
	20-24	25-29	30-34	35-39	40-44	45-49	
Residence							
Urban	19.9	19.9	19.7	19.2	19.9	21.2	19.8
Rural	19.1	18.4	18.0	18.6	18.5	19.6	18.6
Province							
Nairobi	19.9	19.9	19.4	18.0	20.5	23.2	19.9
Central	19.7	19.1	18.6	19.2	19.1	19.7	19.2
Coast	20.5	18.3	19.3	17.5	17.4	18.7	18.7
Eastern	19.5	19.2	18.5	19.4	19.2	19.8	19.3
Nyanza	18.0	17.8	17.3	17.7	17.5	18.2	17.8
Rift Valley	19.1	18.2	17.9	18.7	18.6	22.0	18.6
Western	19.2	18.7	18.1	18.3	18.7	17.9	18.6
Education							
No education	17.7	17.3	17.6	18.2	18.1	20.0	18.1
Some primary	18.3	17.8	17.6	18.5	18.6	18.9	18.2
Primary complete	18.9	18.7	18.5	18.8	20.2	20.6	18.8
Secondary +	20.9	20.3	20.8	20.9	22.4	(23.3)	20.7
Total	19.3	18.7	18.2	18.6	18.6	19.7	18.8

Note: Median is defined as the exact age by which 50 percent of women have had a birth. Numbers in parentheses are based on fewer than 20 unweighted cases.

4 FERTILITY REGULATION

4.1 Contraceptive Knowledge

Determining the level of knowledge of contraceptive methods and services was a major survey objective, since knowledge of contraceptive methods and of places where these methods can be obtained are preconditions for their use. Information about knowledge of contraceptive methods was collected by asking the respondent to name ways by which a couple could delay or avoid pregnancy. If a respondent failed to mention any particular method spontaneously, the method was described by the interviewer and then the respondent was asked if she recognized the method. In the questionnaire, seven modern methods--pill, IUD, injection, condom, barrier methods (diaphragm, foam and jelly), female sterilisation, and male sterilisation--were described, as well as two traditional methods--periodic abstinence (or rhythm) and withdrawal. Any other methods mentioned by the respondent, such as herbs or breastfeeding, were also recorded. For any method that she recognised, the respondent was asked if she knew of a source or a person from whom she could obtain the method. If she reported knowing about rhythm she was also asked if she knew a place or person from whom she could get information on the method.

Table 4.1 Percentage of all women and currently married women knowing a contraceptive method and knowing a source by specific method, Kenya, 1989

Method	Knows method	Knows method	Knows source	Knows source
	AW	CMW	AW	CMW
Any method	90.0	92.4	88.1	90.8
Any modern method	88.4	91.3	86.5	89.9
Pill	84.4	88.4	81.6	86.3
IUD	62.0	67.0	60.0	65.1
Injections	76.3	81.9	74.2	79.9
Diaphragm/Foam/Jelly	24.4	26.7	23.2	25.5
Condom	53.4	55.7	49.2	51.7
Female sterilisation	68.2	72.5	65.9	70.6
Male sterilisation	19.8	21.7	19.0	21.2
Any traditional method	54.8	55.8	44.6	44.8
Periodic abstinence	50.7	50.8	44.6	44.8
Withdrawal	16.8	18.2	-	-
Other	5.1	6.3	-	-

AW = All women (7150); CMW = Currently married women (4765)

The KDHS results indicate that 90 percent of Kenyan women know at least one contraceptive method (Table 4.1). This is an increase from the levels reported in the 1977/78 Kenya Fertility Survey (88 percent) and the 1984 Kenya Contraceptive Prevalence Survey (81 percent). More women indicate that they know a modern method (88 percent) than a traditional method (55 percent).

The pill, recognised by 84 percent of women interviewed, is the most widely known method. In the 1984 KCPS, only 73 percent of women interviewed recognised the pill. Injection is the second most widely known method (76 percent). The other better known methods are female sterilisation (68 percent) and the IUD (62 percent). Fifty-three percent of all women report knowing about the condom and 24 percent know about barrier methods. The least known method is male sterilisation (20 percent). Lack of knowledge of condom and male sterilisation may be attributed to the fact that they are male oriented.

Considering the traditional methods included in the questionnaire, periodic abstinence (51 percent) is better known than withdrawal (17 percent) or any other traditional method (5 percent). It should be noted that for all methods knowledge is higher among currently married women than among all women.

In order for women to adopt family planning, they need to know about the available methods as well as to be aware of where they can obtain contraceptive information and services. More currently married women (91 percent) know a source for a contraceptive method than do all women (88 percent). While only 45 percent of all the women interviewed know a source for a traditional method, 87 percent know of a source where they can obtain a modern contraceptive method. Most women (82 percent) know a source where they can obtain the pill, 74 percent know where to obtain injections, 66 percent know a source for female sterilisation and 60 percent know a source for the IUD. Forty-nine percent know where to obtain condoms, 45 percent know where to obtain information on periodic abstinence, and less than 25 percent know a source for either the barrier methods or male sterilisation.

Some interesting differences are revealed when knowledge of methods and sources is considered in connection with background characteristics of the respondents (Table 4.2). Over 80 percent of currently married women in each age group know at least one modern contraceptive method. Knowledge of modern methods is lowest (83 percent) among women aged 45-49 and highest (95 percent) among women aged 20-24. Similarly, knowledge of a source for contraceptive information or services is lowest among women 45-49 (81 percent) and highest among women 20-24 (93 percent).

Table 4.2 Percentage of currently married women knowing at least one modern method, knowing a source for a modern method, by background characteristics, Kenya, 1989

Background characteristic	Knows modern method	Knows source	Wtd. no. of women
Age			
15-19	86.0	84.5	276
20-24	94.5	93.3	827
25-29	93.9	92.4	1104
30-34	92.3	91.1	833
35-39	92.9	92.1	781
40-44	85.4	83.8	576
45-49	83.1	80.6	369
Residence			
Urban	95.2	94.1	748
Rural	90.5	89.1	4018
Province			
Nairobi	94.8	93.8	335
Central	95.8	95.2	648
Coast	92.3	89.2	350
Eastern	92.7	90.1	804
Nyanza	93.3	91.6	872
Rift Valley	84.6	84.0	1047
Western	90.6	89.7	711
Education			
No education	82.8	80.6	1506
Some primary	92.0	90.9	1462
Primary complete	96.9	95.8	987
Secondary +	98.8	98.1	804
Religion			
Catholic	90.7	89.2	1656
Protestant	93.1	92.0	2706
Muslim	94.7	92.0	165
Other	79.3	79.3	79
No religion	65.5	62.0	151
Total	91.3	89.9	4765

Note: Excludes a small number of women not stated as to education and religion.

Although urban women are more likely than rural women to know about a method of contraception or a source of information or services, the difference is not pronounced. Ninety-five percent of currently married urban women know at least one modern contraceptive method, compared to 91 percent of their rural counterparts. While 94 percent of urban women could name a source, almost as many (89 percent) rural women could do the same.

Provincial variations in contraceptive knowledge are rather small. Central Province has the highest level of contraceptive knowledge (96 percent), followed closely by Nairobi (95 percent), Eastern and Nyanza Provinces (93 percent), Coast Province (92 percent) and Western Province (91 percent). Contraceptive knowledge is lowest in Rift Valley Province (85 percent).

Both knowledge of a modern method and knowledge of a source of information or services increase with higher levels of education. While 83 percent of the currently married women with no education know at least one modern contraceptive method, 97 percent of women with some primary education and 99 percent of those who had acquired secondary and higher education know at least one modern method. The same is true with knowledge of a source of contraceptive information or services--knowledge goes up with increased education.

Often contraceptive knowledge is associated with religious affiliation. The results from this survey, however, indicate that the differentials in knowledge by religion are small; over 90 percent of Catholic, Protestant and Muslim women know of a modern method and almost as many know of a source. Knowledge of both method and source is lowest among currently married women with no religion.

4.2 Acceptability of Methods

The women interviewed during the KDHS were asked to report problems in connection with contraceptive methods that they had heard about. Table 4.3 shows that the proportion of women who give "no problem" or "don't know" as answers is high for most methods, which may reflect a lack of depth of knowledge of many methods. "Health concerns" were cited frequently for most modern methods, especially the pill (39 percent), IUD (29 percent) and injection (26 percent). Substantial proportions reported ineffectiveness as the major problem with periodic abstinence (20 percent), withdrawal (18 percent), barrier methods (17 percent), and the condom (15 percent). It is somewhat surprising that ineffectiveness was also cited by 10 percent of women knowing the IUD. Disapproval of the partner was cited more frequently for the male-oriented methods (withdrawal, condom, and male sterilisation) and inconvenience was cited more frequently for withdrawal, condom, barrier methods, and periodic abstinence.

4.3 Knowledge of Supply Sources

Information on knowledge of sources of contraceptive methods was obtained by asking women who know a method about where they could obtain the method if they wanted to use it. Results show that government institutions are perceived as the primary source of contraceptive services for most methods (Table 4.4). Over 85 percent of respondents said they would go to either a government hospital or health center to obtain the pill, IUD, injection, and female and sterilisation, while over 70 percent said they would go to one of these sources to obtain barrier methods and condoms. The Family Planning Association of Kenya (FPAK) was the next most frequently named potential source for most of the modern methods, except condoms, which a

Table 4.3 Percent distribution of women who have ever heard of a contraceptive method by main problem perceived in using the method, according to specific method, Kenya, 1989

Main problem perceived	Contraceptive method								
	Pill	IUD	Injection	Diaphragm/foam jelly	Condom	Female sterilisation	Male sterilisation	Periodic abstinence	Withdrawal
None	21.9	17.0	24.2	16.7	25.3	34.7	27.0	51.1	22.7
Not effective	2.7	9.7	3.0	16.5	14.8	2.9	0.7	19.8	18.3
Partner disapproves	0.2	0.4	0.3	2.1	5.2	2.0	5.5	1.2	11.0
Community disapprove	0.1	0.2	0.4	0.0	0.0	0.2	0.5	0.0	0.2
Religion disapproves	0.3	0.3	0.2	0.1	0.0	0.3	0.4	0.1	0.0
Health concerns	38.8	28.9	25.9	6.4	1.7	17.3	10.3	0.6	0.3
Access/Availability	0.1	0.2	0.2	0.1	0.0	0.1	0.3	0.1	0.0
Costs too much	0.2	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.2
Inconvenient to use	1.5	3.7	1.1	5.0	5.5	1.2	1.3	5.3	12.6
Other	1.3	1.4	2.0	0.8	0.4	1.4	0.7	0.3	2.3
Don't know	32.6	37.8	42.2	51.7	46.2	39.0	52.4	20.1	28.3
Missing	0.2	0.4	0.5	0.5	0.8	0.8	0.8	1.3	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	6032	4436	5459	1747	3815	4874	1413	3624	1202

Table 4.4 Percent distribution of women knowing a contraceptive method by supply source they say they would use, according to specific method, Kenya, 1989

Supply source that would be used	Contraceptive method							
	Pill	IUD	Injection	Diaphragm/ foam jelly	Con- dom	Female steril- isation	Male steril- isation	Periodic abstin- ence
Nowhere	0.1	0.1	0.1	0.3	0.1	0.2	0.1	7.9
Govt. hospital	56.7	59.5	59.1	48.5	42.8	80.7	82.1	11.3
Govt. health center	29.1	27.9	27.9	29.4	28.4	8.9	7.4	10.4
FPAK*	5.0	5.1	5.4	8.1	6.6	3.1	2.4	5.6
Mobile clinic	1.1	0.4	0.6	1.1	1.2	0.1	0.0	1.5
Field educator	0.2	0.0	0.0	0.1	0.3	0.0	0.0	1.6
Pharmacy/Shop	0.7	0.2	0.1	3.4	8.1	0.1	0.3	0.0
Private hospital	1.4	1.6	1.8	2.0	1.9	1.7	1.6	1.3
Mission hospital/dispens.	1.9	1.4	1.7	1.6	1.1	1.7	0.9	1.9
Employer's clinic	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2
Private doctor	0.4	0.5	0.4	0.7	0.5	0.4	0.6	1.7
Traditional healer	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Husband would get	0.0	0.0	0.0	0.0	1.0	0.0	0.1	2.4
Friends/Relatives	0.1	0.0	0.0	0.0	0.1	0.0	0.6	43.2
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8
Don't know	3.0	3.1	2.4	4.4	7.1	2.6	3.1	3.4
Missing	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	6032	4436	5459	1747	3815	4874	1413	3624

* Family Planning Association of Kenya

larger proportion of respondents said they would obtain at a pharmacy or shop. Those who know about periodic abstinence were most likely to say they would go to friends or relatives for advice about the method.

4.4 Ever Use of Contraception

Ever use of contraception is one of the most important items of information in the Kenya Demographic and Health Survey. The survey asked women if they had ever used any of the contraceptive methods they said they knew.

Age	Contraceptive method													Wtd. number of women
	Any method	Any modern method	Pill	IUD	Injection	Dia-phragm/foam jelly	Con-dom	Female sterilisation	Male sterilisation	Any trad'l method	Peri-odic absti-nence	With-draw-al	Other	
All Women														
15-19	14.9	4.2	2.2	0.6	0.5	0.3	1.5	0.0	0.1	12.1	11.4	1.0	0.9	1497
20-24	40.3	21.2	14.9	3.6	2.9	1.5	3.8	0.8	0.0	25.9	23.6	2.4	3.0	1321
25-29	47.1	30.6	21.0	7.9	6.4	1.8	5.1	1.3	0.1	25.6	23.6	3.1	1.4	1334
30-34	50.5	35.9	23.8	11.7	9.9	2.7	4.4	6.3	0.2	24.5	21.9	3.4	3.5	982
35-39	49.8	34.4	18.0	11.4	8.3	3.2	5.0	8.8	0.4	24.6	20.3	2.9	3.8	898
40-44	43.9	29.2	15.7	9.6	9.8	3.0	2.6	9.1	0.5	23.3	18.6	2.1	4.9	674
45-49	39.4	26.2	15.9	9.2	5.1	1.6	2.3	10.3	0.1	19.6	14.6	2.4	3.9	445
Total	39.1	24.1	15.1	6.8	5.5	1.8	3.6	3.8	0.2	21.9	19.4	2.4	2.7	7150
Currently Married Women														
15-19	26.2	11.1	8.2	1.6	0.3	0.3	4.2	0.0	0.0	19.0	18.4	2.5	0.3	276
20-24	41.7	22.8	16.2	4.1	3.2	1.3	4.4	0.7	0.0	25.7	22.6	2.7	3.6	827
25-29	46.5	30.0	19.9	8.1	6.7	1.8	5.2	1.4	0.1	25.2	23.3	3.0	1.3	1104
30-34	48.2	35.1	22.6	11.1	9.4	2.3	4.2	6.4	0.3	22.7	19.6	3.7	3.9	833
35-39	49.8	33.7	17.3	11.4	8.2	3.4	5.3	8.9	0.4	25.7	21.2	3.4	3.8	781
40-44	46.3	30.1	16.2	9.4	10.0	3.1	2.6	9.8	0.0	25.1	20.2	2.2	5.2	576
45-49	42.6	27.6	16.9	9.8	4.9	1.8	2.7	10.0	0.2	20.7	15.3	2.6	4.1	369
Total	45.0	29.0	18.0	8.4	6.7	2.1	4.3	5.0	0.1	24.2	20.9	3.0	3.2	4765

Table 4.5 shows the proportion of all women and currently married women who have had experience with contraceptive methods. The level of ever use of any method among all women is 39 percent, higher than the level of 29 percent reported in both the 1977/78 Kenya Fertility Survey and the 1984 Kenya Contraceptive Prevalence Survey. KDHS data also show that the level of ever-use among all women (39 percent) is lower than that of currently married women (45 percent). Ever use of modern methods of contraception is slightly higher (24 percent) than that of traditional methods (22 percent) among all women and among the currently married women, 29 percent of whom had used at least one modern method and 24 percent of whom had used a traditional method. Three observations are that:

- ever-use has increased over the past decade,
- ever-use is higher among currently married women than all women, and
- ever-use is slightly higher for the modern methods.

The KDHS results reveal that the ever-use rate for any method is low for all women aged 15-19 (15 percent), and then it increases for women in the age groups 20-24 (40 percent) and 25-29 (47 percent). Ever-use is highest among women aged 30-39 (50 percent), but then declines slightly for all women aged 40-44 (44 percent) and 45-49 (39 percent).

Periodic abstinence has been used by more women than any other method (19 percent), followed by the pill (15 percent). Seven percent of all women have used the IUD, 6 percent have used injection, and 4 percent have used either female sterilisation or condoms. The proportion of women who have been sterilised increases with age.

4.5 Current Contraceptive Use

The level of current use of contraceptives is the most widely used measure of the success of a family planning programme. The KDHS results show that 27 percent of currently married Kenyan women are currently using a contraceptive method (Table 4.6). As in the case of ever-use, the contraceptive prevalence rate among currently married women is higher (27 percent) than among all women (23 percent). Current use of contraceptives is usually presented for currently married women, because they are likely to be more consistently exposed to the risk of pregnancy.

More currently married women are using modern contraceptives (18 percent) than traditional methods (9 percent). Nevertheless, periodic abstinence is the single most widely used method--used by 8 percent of currently married women. The next most popular method is the pill, used by 5 percent of married women. Current use for other methods include female sterilisation (5 percent), IUD (4 percent) and injection (3 percent). Less than one percent of married women rely on barrier methods, condoms or withdrawal.

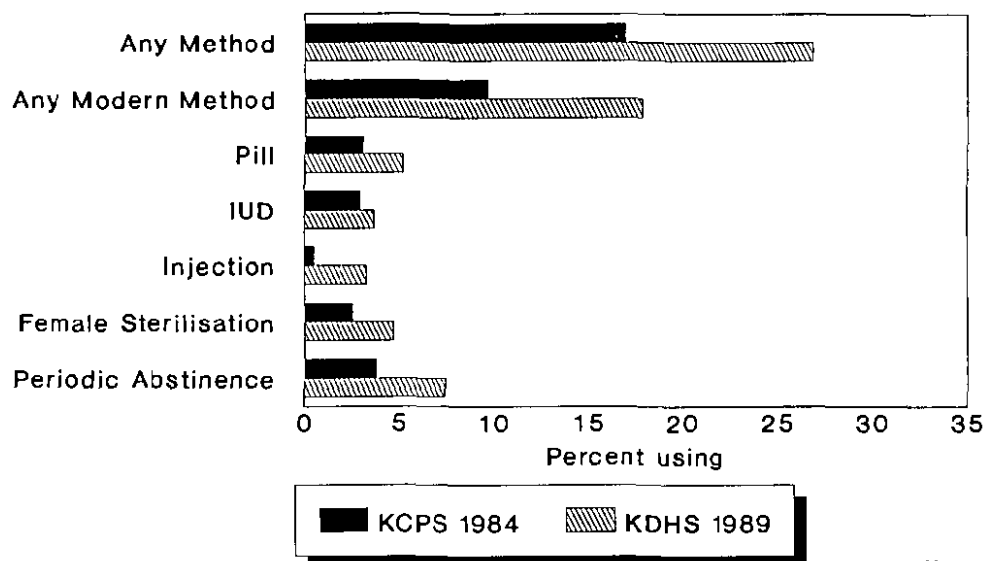
The 27 percent level of contraceptive use recorded in the KDHS represents an increase of more than 50 percent over the rate from the 1984 KCPS (17 percent) and almost four times the rate from the 1977/78 KFS (7 percent). Use of modern methods has doubled since 1984, from 9 to 18 percent of currently married women (Figure 4.1). Injectable contraceptives have shown the biggest gain, from less than 1 percent of married women in 1984 to over 3 percent in 1989. Use of periodic abstinence and female sterilisation has almost doubled since 1984.

An inverted U-pattern of prevalence by age was observed for the currently married sample. As in the case of ever-use, the current use rate for any method is low for the currently married women aged 15-19 (13 percent), but rises steadily, reaching 34 percent among those aged 35-39. Current use then falls to 31 percent in the 40-44 age group and 24 percent for women aged 45-49. Current use is probably lower among younger women because many of them are interested in starting their families and among older women, because some are no longer fecund.

Table 4.6 Percent distribution of all women and currently married women, by contraceptive method currently being used, according to age, Kenya, 1989

Contraceptive method															Weighted number of women
Age	Any method	Any modern method	Pill	IUD	Injection	Dia-phragm/foam/jelly	Con-dom	Female sterilisation	Any trad'l method	Periodic abstinence	Withdrawal	Other	Not currently using	Total	
All Women															
15-19	7.5	1.8	1.3	0.3	0.1	0.0	0.1	0.0	5.7	4.8	0.0	0.8	92.5	100.0	1497
20-24	20.7	11.5	6.6	2.0	1.4	0.3	0.8	0.4	9.2	7.8	0.1	1.2	79.3	100.0	1321
25-29	27.2	17.5	8.1	3.7	3.4	0.1	0.8	1.2	9.7	8.6	0.3	0.8	72.8	100.0	1334
30-34	32.1	22.5	5.6	4.7	5.6	0.6	0.1	5.8	9.6	7.0	0.2	2.4	67.9	100.0	982
35-39	34.1	23.1	3.7	5.7	4.5	0.4	0.4	8.4	10.9	8.9	0.2	1.8	65.9	100.0	898
40-44	27.8	19.7	2.3	3.6	3.6	1.0	0.1	8.5	8.2	6.9	0.3	1.5	72.2	100.0	674
45-49	22.3	16.7	1.9	2.8	1.3	0.5	0.1	10.1	5.6	4.0	0.0	1.6	77.7	100.0	445
Total	23.2	14.7	4.6	3.0	2.7	0.3	0.4	3.6	8.5	7.0	0.2	1.3	76.8	100.0	7150
Currently Married Women															
15-19	13.0	6.7	5.1	1.3	0.3	0.0	0.0	0.0	6.3	6.1	0.0	0.3	87.0	100.0	276
20-24	20.1	11.8	6.7	2.2	1.2	0.1	1.1	0.6	8.3	7.1	0.2	1.0	79.9	100.0	827
25-29	26.1	16.8	7.4	3.5	3.5	0.2	0.8	1.3	9.3	8.1	0.4	0.7	73.9	100.0	1104
30-34	31.5	22.2	5.6	4.9	5.1	0.6	0.1	5.8	9.2	6.4	0.2	2.6	68.5	100.0	833
35-39	34.2	22.9	3.4	5.4	4.8	0.5	0.3	8.4	11.3	9.6	0.2	1.5	65.8	100.0	781
40-44	30.6	21.2	2.7	3.8	4.2	1.2	0.1	9.1	9.4	7.9	0.3	1.1	69.4	100.0	576
45-49	23.7	17.5	1.8	3.4	1.5	0.6	0.2	10.0	6.2	4.7	0.0	1.6	76.3	100.0	369
Total	26.9	17.9	5.2	3.7	3.3	0.4	0.5	4.7	9.0	7.5	0.2	1.3	73.1	100.0	4765

Figure 4.1
Trends in Contraceptive Use Among
Currently Married Women 15-49



Kenya DHS 1989

4.6 Current Use by Background Characteristics

Table 4.7 presents the relationship between the level of contraceptive use and background characteristics for currently married women.

The percent of women using contraceptives is somewhat higher among urban women (31 percent) than rural women (26 percent). However, while use of modern methods is higher for urban women (26 percent) than for rural women (16 percent), the reverse is observed for traditional methods. The percentage using traditional methods among rural women (10 percent) is twice that of urban women (5 percent).

As for provincial differentials, Eastern and Central Provinces have the highest level of current use (40 percent) followed by Nairobi (34 percent), Rift Valley (30 percent), and Coast (18 percent). Nyanza and Western Provinces (14 percent) lag behind, creating a three-fold differential in use by province from highest to lowest (Figure 4.2). The mix of methods also varies substantially by province. In most provinces, about 75 percent of current users are using modern methods, however, in Eastern Province, the figure is less than 50 percent. The pill is the most commonly used method in Nairobi, Coast and Western Provinces, the IUD in Central Province, female sterilisation in Nyanza, and periodic abstinence in Eastern and Rift Valley Provinces.

Figures are also presented in Table 4.7 for the rural areas of the 13 individual districts that were targetted in the sample design for the survey. The results should be viewed with caution since the number of women interviewed in each district is not large (see discussion of sampling errors in Appendix B). The data show that there is a nine-fold difference in contraceptive use by district, ranging from a high of 52 percent of married rural women in Kirinyaga District to a low of 6 percent of women in South Nyanza District. In addition to Kirinyaga District, Nyeri, Machakos, Meru and Murang'a Districts all show high levels of use, while Siaya, Bungoma, and Kilifi Districts have levels only slightly higher than South Nyanza. The level of use of modern methods in Meru District (34 percent) is identical to the level found for the Chogoria Hospital catchment area in 1985 (Chogoria Hospital, 1987).

The method mix also varies; in some districts, periodic abstinence is the most widely used method, while in others it is the pill, female sterilisation, IUD, or injection. For example, it is clear that the high level of use of periodic abstinence in Eastern Province mentioned above is due almost entirely to the prominence of that method in Machakos District, not Meru District, the other targetted district from Eastern Province, where use of the pill and IUD predominate. Also notable is the high level of IUD use in Kirinyaga and Murang'a Districts and the extent of female sterilisation in Nyeri District.

Regarding education levels, the major observation is that the percent of currently married women using any method increases directly with education. Use among women with secondary and higher education is more than double (40 percent) that of women with no education (18 percent). Current contraceptive use directly increases with the number of living children that a woman has, ranging from 5 percent among women with no children to 31 percent among those with four or more.

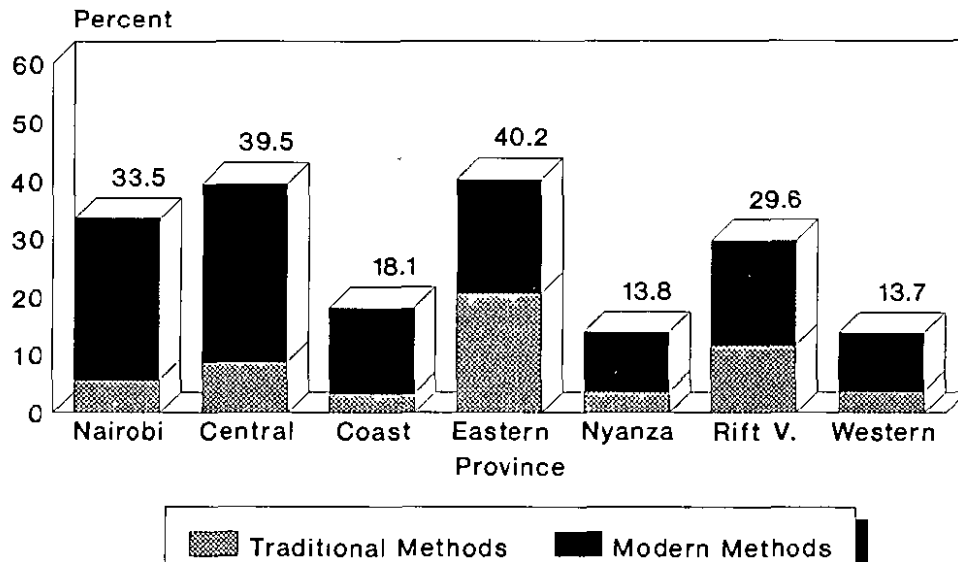
Christian women are more likely to be using contraceptives than are Muslim women and women of other religious groups, or those with no religious affiliation. There is, however, slightly more current use among Protestant women (29 percent) than among Catholic women (26 percent).

Table 4.7 Percent distribution of currently married women by contraceptive method currently being used, according to background characteristics, Kenya, 1989

Background characteristics	Contraceptive method currently being used													Total	Weighted number of women
	Any method	Any modern method	Pill	IUD	Injection	Dia-phragm/foam/jelly	Con-dom	Female ster-ilisa-tion	Any trad'l method	Peri-odic abati-nence	With-draw-al	Other	Not curr-ently using		
Residence															
Urban	30.5	25.5	9.8	8.0	2.8	0.5	0.8	3.6	5.0	4.0	0.4	0.6	69.5	100.0	748
Rural	26.2	16.4	4.3	2.9	3.4	0.4	0.4	4.9	9.8	8.1	0.2	1.4	73.8	100.0	4018
Province															
Nairobi	33.5	27.9	11.8	7.9	2.3	1.2	0.4	4.4	5.6	4.0	0.8	0.8	66.5	100.0	335
Central	39.5	30.8	8.1	10.0	3.6	0.3	1.3	7.7	8.7	7.1	0.3	1.3	60.5	100.0	648
Coast	18.1	14.8	5.5	1.7	3.6	0.1	0.3	3.6	3.3	3.0	0.3	0.0	81.9	100.0	350
Eastern	40.2	19.5	5.9	4.7	3.5	0.4	0.4	4.5	20.8	17.9	0.3	2.5	59.8	100.0	804
Nyanza	13.8	10.2	2.7	0.8	2.5	0.0	0.3	3.9	3.5	3.0	0.0	0.5	86.2	100.0	872
Rift Valley	29.6	18.1	3.6	2.3	5.3	1.0	0.5	5.5	11.5	9.0	0.3	2.1	70.4	100.0	1047
Western	13.7	10.0	3.8	1.6	1.6	0.2	0.2	2.6	3.7	3.0	0.0	0.7	86.3	100.0	711
District (Rural)															
Kilifi	9.7	8.3	3.7	0.7	2.3	0.3	0.3	1.0	1.3	1.0	0.3	0.0	90.3	100.0	300
Machakos	40.4	12.1	5.3	1.4	1.1	0.0	0.7	3.5	28.4	24.5	0.7	3.2	59.6	100.0	282
Meru	36.3	34.2	12.4	8.3	5.7	1.6	0.5	5.7	2.1	2.1	0.0	0.0	63.7	100.0	193
Nyeri	41.2	35.3	7.8	9.3	2.9	0.5	0.5	14.2	5.9	4.9	0.5	0.5	58.8	100.0	204
Muranga	31.3	24.2	2.8	10.0	2.4	0.5	0.9	7.6	7.1	6.6	0.5	0.0	68.7	100.0	211
Kirinyaga	52.2	44.2	12.4	18.6	8.0	0.4	0.9	4.0	8.0	7.1	0.4	0.4	47.8	100.0	226
Kericho	23.2	15.2	3.4	0.8	5.3	0.4	0.0	5.3	8.0	6.8	0.0	1.1	76.8	100.0	263
Uasin Gishu	14.9	10.1	4.1	0.7	4.1	0.0	0.0	1.4	4.7	3.4	0.7	0.7	85.1	100.0	148
South Nyanza	5.9	3.3	1.8	0.0	0.0	0.0	0.0	1.5	2.6	1.8	0.0	0.7	94.1	100.0	272
Kisii	20.2	15.5	1.7	1.7	5.6	0.0	0.4	6.0	4.7	4.3	0.0	0.4	79.8	100.0	233
Siaya	8.8	5.6	0.6	0.0	1.3	0.0	1.3	2.5	3.1	2.5	0.0	0.6	91.2	100.0	160
Kakamega	14.3	10.2	3.2	0.3	2.2	0.3	0.3	3.8	4.1	3.8	0.0	0.3	85.7	100.0	315
Bungoma	8.5	5.0	1.6	0.9	0.6	0.0	0.3	1.6	3.5	1.3	0.0	2.2	91.5	100.0	317
Education															
No education	18.3	9.7	2.1	1.3	2.2	0.1	0.3	3.7	8.6	6.9	0.0	1.7	81.7	100.0	1506
Some primary	26.1	17.3	4.3	2.8	4.1	0.3	0.1	5.7	8.8	7.3	0.2	1.3	73.9	100.0	1462
Primary comp.	30.4	22.0	7.2	4.3	4.5	0.7	0.3	4.9	8.4	6.9	0.3	1.2	69.6	100.0	987
Secondary +	40.4	29.3	10.2	9.3	2.6	1.0	1.7	4.5	11.1	9.8	0.7	0.7	59.6	100.0	804
No. of children															
None	4.7	0.8	0.6	0.0	0.2	0.0	0.0	0.0	3.8	3.4	0.4	0.0	95.3	100.0	290
1	16.9	8.6	5.2	1.8	0.7	0.0	0.5	0.3	8.3	8.1	0.0	0.2	83.1	100.0	497
2	24.2	16.0	6.7	4.4	1.6	0.2	1.2	1.9	8.2	7.2	0.1	0.9	75.8	100.0	613
3	28.5	18.5	9.3	3.3	2.4	0.3	0.5	2.7	9.9	8.4	0.9	0.6	71.5	100.0	649
4+	31.4	21.7	4.3	4.4	4.8	0.7	0.4	7.1	9.7	7.7	0.1	1.9	68.6	100.0	2716
Religion															
Catholic	25.8	14.4	4.4	3.2	2.3	0.7	0.6	3.2	11.4	9.8	0.4	1.2	74.2	100.0	1656
Protestant	29.3	20.9	5.8	4.1	4.3	0.3	0.4	6.0	8.4	6.7	0.1	1.6	70.7	100.0	2706
Muslim	16.7	13.9	4.6	2.9	2.7	0.0	1.0	2.6	2.8	2.6	0.2	0.0	83.3	100.0	165
Other	20.8	15.9	5.3	8.1	0.0	0.0	0.8	1.6	4.9	3.3	1.6	0.0	79.2	100.0	79
No religion	9.8	6.3	2.3	0.9	1.0	0.0	0.0	2.1	3.5	3.5	0.0	0.0	90.2	100.0	151
Total	26.9	17.9	5.2	3.7	3.3	0.4	0.5	4.7	9.0	7.5	0.2	1.3	73.1	100.0	4765

Note: Excludes a few women not stated as to education and religion. Since the sample within individual districts was self-weighting, numbers of women in each district are unweighted.

Figure 4.2
Current Contraceptive Use by Province
Currently Married Women 15-49



Kenya DHS 1989

4.7 Number of Children at First Use

Table 4.8 shows the number of living children at the time of first use of contraception among ever-married women. Generally, younger women are starting to use contraception at lower parities than the older women did. For example, 19 percent of women 20-24 started using contraception after their first child, compared to only 4 percent of women 45-49. This probably reflects the fact that younger women are more likely to use contraception to space births, while older women use it to limit births.

Table 4.8 Percent distribution of ever-married women by number of living children at time of first use of contraception, according to current age, Kenya, 1989

Age	Never used	Number of living children at time first used						Total	Wtd. no. of women
		None	1	2	3	4+	Missing		
15-19	73.6	12.9	11.9	0.8	0.5	0.0	0.3	100.0	302
20-24	58.8	9.3	18.8	7.5	4.4	0.5	0.6	100.0	901
25-29	53.9	3.7	15.6	10.7	6.9	7.9	1.2	100.0	1191
30-34	50.3	2.5	8.2	10.3	7.0	21.1	0.5	100.0	928
35-39	49.9	2.7	6.2	6.5	8.0	24.9	1.6	100.0	869
40-44	55.7	3.5	4.2	6.5	3.4	25.8	0.8	100.0	664
45-49	59.7	1.8	4.0	1.6	3.9	28.3	0.7	100.0	434
Total	55.3	4.6	10.7	7.6	5.6	15.2	0.9	100.0	5289

4.8 Knowledge of Fertile Period

An elementary knowledge of reproductive physiology provides a useful background for successful practice of coital-related methods such as withdrawal, condom or barrier methods, but more so for periodic abstinence. Successful practice of periodic abstinence is dependent on a correct understanding of when in the ovulatory cycle a woman is most likely to conceive. Table 4.9 presents the distribution of all respondents and the small number of respondents who had ever used periodic abstinence by knowledge of the period in the ovulatory cycle when a woman is fertile.

Table 4.9 Percent distribution of all women and women who have ever used periodic abstinence by knowledge of the fertile period during the ovulatory cycle, Kenya, 1989		
Fertile period	All women	Ever users of periodic abstinence
During her period	1.2	0.9
Right after period has ended	40.8	46.8
Middle of the cycle	22.4	32.7
Just before period begins	9.0	10.5
At any time	5.3	3.1
Other	0.7	0.7
Don't know	20.5	5.2
Missing	0.2	0.1
Total	100.0	100.0
Number of women	7150	1386

Over 40 percent of the women interviewed said a woman is most likely to conceive just after her period has ended, while 21 percent did not know when a woman is likely to conceive and a small number (9 percent) identified the fertile time to be just before the period begins. Only 22 percent gave the "correct" response--that a woman was most likely to conceive in the middle of the cycle. Ever-users of periodic abstinence seem to be more knowledgeable about the ovulatory cycle, since 33 percent identified the fertile time as occurring in the middle of the cycle (between two periods), and only 5 percent said they did not know. It should be noted that the response categories developed for this question are one attempt at dividing the ovulatory cycle into distinct periods. It is possible that women who gave an answer of, say, "one week after her period" were coded in the category "just after her period has ended," instead of in the category "in the middle of her cycle." Thus, women may actually have a more accurate understanding of their fertility cycles than is reflected in Table 4.9.

4.9 Sources for Contraceptive Methods

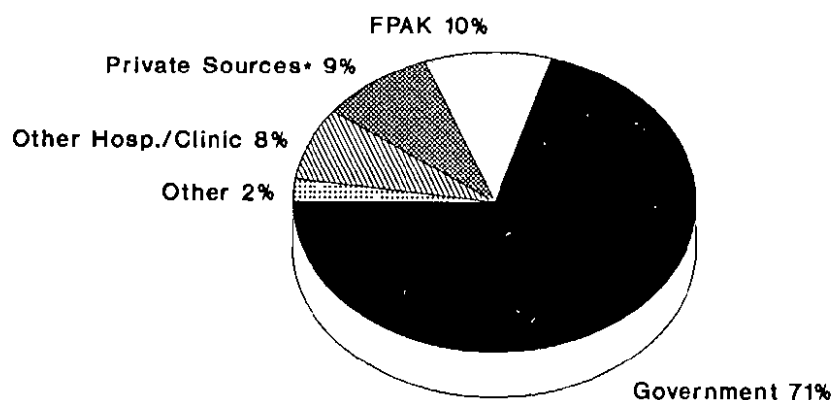
Information on the source for contraceptive methods was obtained by asking women using modern methods where they obtained their methods the last time and by asking women relying on periodic abstinence where they received advice about the method. The results are presented in Table 4.10 and Figure 4.3.

Table 4.10 Percent distribution of current users of modern methods by most recent source of supply or information, according to specific method, Kenya, 1989

Source of supply	Total supply methods	Pill	Condom	Diaph./ foam/ jelly	In-jection	Total clinic methods	IUD	Female sterilisation	Total users
Govt. hospital	46.1	44.4	27.8	53.4	50.7	67.4	58.9	75.4	55.7
Govt.clinic/health centre	20.5	24.1	26.9	8.4	15.0	7.9	15.7	1.5	14.8
FPAK clinic	13.0	14.6	9.1	3.1	12.1	6.7	11.4	2.8	10.1
Other hospital/clinic	7.5	6.4	4.1	25.5	7.6	5.7	1.5	9.3	6.7
Mobile clinic	1.6	1.2	0.0	0.0	2.7	0.6	0.5	0.7	1.1
Field educators	1.3	2.2	0.0	0.0	0.0	0.1	0.3	0.0	0.8
Private doctor	7.1	4.9	4.5	9.6	10.8	9.9	10.4	9.5	8.3
Pharmacy	1.4	1.0	17.6	0.0	0.0	0.0	0.0	0.0	0.8
Husband obtains	0.4	0.0	7.7	0.0	0.0	0.1	0.3	0.0	0.3
Friends/relatives	0.1	0.0	0.0	0.0	0.3	0.7	0.0	0.0	0.4
Other	0.7	0.8	0.0	0.0	0.8	0.7	0.9	0.5	0.7
Missing	0.4	0.4	2.3	0.0	0.0	0.1	0.0	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of users	574	328	29	25	192	475	215	256	1048

Note: Total includes 3 users of male sterilisation.

Figure 4.3
Source of Family Planning Supply
Current Users of Modern Methods



• Private doctor/pharmacy

Kenya DHS 1989

According to Table 4.10, the most frequently mentioned source for both supply methods and clinic methods is the government hospital, which supplies 56 percent of all users. This is followed by government clinics and health centres, which supply 15 percent of users, and the Family Planning Association of Kenya (FPAK) clinics, which supply 10 percent of users. Nine percent of users obtain their methods from private doctors or pharmacies, while 7 percent depend on non-

governmental hospitals and clinics, such as those run by private doctors and church missions. Users of clinic methods, such as sterilisation and the IUD, are more likely to depend on government hospitals than users of supply methods, such as the pill and condom.

Each current user of a modern method of family planning was asked how much time it takes for her to get from her home to the place she obtained her method and whether she walks or uses some means of transport to get there. These same questions were also asked of nonusers and users of traditional methods. The results are shown in Table 4.11.

Table 4.11 Percent distribution of current users of modern methods of family planning, nonusers of modern methods, and all women knowing a method, by time to reach source of supply and transport to source, according to urban-rural residence, Kenya, 1989									
Time to source/ transport to source	Current users of modern methods			Nonusers of modern methods			All women who know a contraceptive method		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Minutes to source									
0-14	16.4	2.6	6.1	14.8	3.3	5.2	15.2	3.2	5.3
15-29	32.3	30.9	31.2	35.2	29.8	30.7	34.6	30.0	30.8
30-59	45.2	49.8	48.7	42.1	44.0	43.7	42.8	44.8	44.5
60 or more	3.4	15.8	12.7	3.9	19.4	16.8	3.8	18.9	16.2
Does not know	0.7	0.1	0.2	2.7	1.8	1.9	2.2	1.5	1.6
Not stated	2.0	0.7	1.0	1.2	1.8	1.7	1.4	1.6	1.6
Transport to source									
Walk	54.0	45.9	47.9	67.7	65.1	65.5	64.5	62.3	62.7
Use transport	43.8	53.3	50.9	29.9	32.3	31.9	33.1	35.4	35.0
Does not know	2.2	0.8	1.1	2.5	2.6	2.6	2.4	2.4	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	264	785	1048	889	4497	5386	1153	5281	6434

The results show that most (45 percent) women knowing a contraceptive method report that they are 30 to 60 minutes from a place they **would** go to or **do** go to for family planning services. A sizable proportion (31 percent) are 15 to 30 minutes from a family planning source. As expected, urban women are more likely to be closer to a source than rural women. However, there is surprisingly little difference between users and nonusers of modern methods in terms of distance from a family planning source.

Regarding type of transport to reach family planning sources, roughly two-thirds of women knowing a method either walk to the source they use or say they would walk to a source if they were to use a method in the future; one-third say they would use transport. Users of modern methods are much more likely to use transport to get to their source than nonusers. Users are evenly split between those who walk and those who use transport, while nonusers of modern methods are more likely to say they would walk than use transport.

4.10 Attitude Toward Pregnancy and Reason for Nonuse

In the KDHS, nonpregnant women who were sexually active and who were not using any contraceptive method were asked their attitude toward becoming pregnant in the next few weeks. Table 4.12 presents information on the attitude toward becoming pregnant among these women.

Sixty-two percent of nonusers exposed to the risk of pregnancy report that they would be unhappy if they got pregnant in the next few weeks, 31 percent say they would be happy, and 5 percent say it would not matter. The percentage who say that they would be unhappy increases with the number of living children, ranging from 43 percent among women with no children to 74 percent among those with 4 or more children.

Table 4.13 examines the reasons for not using family planning given by exposed nonusers who say that they would be unhappy if they became pregnant right away. Twenty-three percent of the women cite lack of knowledge as the primary reason they are not contracepting, 12 percent cite factors relating to access and availability, whereas 11 percent cite infrequent sex as the reason for not using contraceptives. A further 10 percent of these women say they are not using contraception because their husbands disapprove. It is interesting to note that health concerns and religious beliefs do not appear to be major obstacles to use of family planning. Differences by age are not large, except that older women are more likely than younger women to cite inconvenience as the reason for non-use.

Table 4.12 Percent distribution of nonpregnant women who are sexually active and who are not using any contraceptive method by attitude toward becoming pregnant in the next few weeks, according to number of living children, Kenya, 1989

Number of living children	Attitude toward becoming pregnant in next few weeks				Total	Wtd. Number of women
	Happy	Unhappy	Would not matter	Missing		
None	51.0	42.6	4.9	1.6	100.0	550
1	49.1	45.0	4.8	1.0	100.0	400
2	33.4	60.5	2.4	3.8	100.0	403
3	33.7	60.4	4.3	1.6	100.0	378
4+	17.5	73.8	5.1	3.7	100.0	1614
Total	30.5	62.1	4.6	2.8	100.0	3345

4.12 Intention to Use in the Future

Married women who were not using a contraceptive method at the time of the KDHS interview were asked if they thought that they would do something to keep from getting pregnant at any time in the future. Data obtained from this question are shown in Table 4.14.

About 53 percent of nonusers intend to use a contraceptive method in the future, 12 percent are unsure, and 34 percent do not intend to do anything to avoid future pregnancy. The percentage of women intending to use is lowest for those with no children (41 percent), increases for those with one child (53 percent), and is highest for the women with 2 children (61 percent). The percentage decreases again for women who have 3 or more children.

Table 4.15 presents information on method preferences for currently married nonusers who say they intend to use in the future. The most popular method is injection (37 percent), followed by the pill (24 percent), and female sterilisation (13 percent).

Table 4.13 Percent distribution of non-pregnant women who are sexually active, not using any contraceptive method and who would be unhappy if they became pregnant, by main reason for nonuse, according to age, Kenya, 1989

Main reason for nonuse	Age		Total
	<30	30+	
Lack of knowledge	23.9	21.2	22.5
Opposed to family planning	3.7	3.7	3.7
Husband disapproves	10.9	8.8	9.8
Others disapprove	0.8	0.8	0.8
Infrequent sex	8.9	13.8	11.4
Postpartum/breastfeeding	1.4	0.7	1.0
Menopausal/subfecund	0.1	0.8	0.5
Health concerns	1.5	1.8	1.7
Access/availability	14.2	10.2	12.1
Costs too much	1.4	2.3	1.9
Fatalistic	0.8	1.7	1.2
Religion	7.0	3.1	5.0
Inconvenient to use	0.5	15.6	8.3
Other	18.1	9.9	13.9
Don't know	6.2	4.6	5.4
Missing	0.6	1.2	0.9
Total	100.0	100.0	100.0
Number	1011	1075	2086

Table 4.14 Percent distribution of currently married women who are not currently using any contraceptive method, by intention to use in the future, according to number of living children, Kenya, 1989

Intention to use in future	Number of living children*					Total
	None	1	2	3	4+	
Plan future use	41.1	53.2	60.7	55.7	51.4	53.2
Unsure about use	22.0	9.7	9.7	12.7	11.2	11.7
Does not intend	36.9	37.1	29.5	30.8	36.2	34.3
Missing	0.0	0.0	0.1	0.8	1.2	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	199	385	484	478	1871	3483

* Includes current pregnancy

4.13 Approval of Family Planning

Table 4.16 shows responses to a question on whether women believe it acceptable to have family planning messages on the radio. The table shows that almost 90 percent of respondents believe that radio messages are acceptable. Over 80 percent of women in each age group find the idea acceptable, though women in their 20s are more likely than those in their 40s to accept radio messages.

Table 4.15 Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future, by preferred method, Kenya, 1989

Preferred method	Percent
Pill	24.4
IUD	7.1
Injections	37.0
Diaphragm/Foam/Jelly	0.4
Condom	0.9
Female sterilisation	12.7
Male sterilisation	0.1
Periodic abstinence	4.3
Other	1.8
Don't know	11.2
Missing	0.1
Total	100.0
Number	1852

Table 4.16 Percent distribution of all women by whether they feel it is acceptable to have family planning information presented on the radio, by age and background characteristics, Kenya, 1989

Background characteristic	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Urban	89.5	92.5	92.8	96.6	93.4	91.7	82.5	92.2
Rural	83.7	92.7	91.7	87.0	90.4	81.5	83.9	87.8
Nairobi	91.6	91.7	91.3	97.5	94.7	98.0	77.3	92.7
Central	86.3	95.3	93.6	94.4	91.7	92.8	94.9	92.2
Coast	63.6	86.1	81.8	81.0	71.0	56.2	58.2	74.4
Eastern	86.2	94.3	98.5	95.9	91.7	87.2	89.2	92.0
Nyanza	90.0	95.7	92.4	92.9	95.9	79.5	90.3	91.7
Rift Valley	86.4	91.0	91.4	81.5	89.3	80.3	83.7	87.1
Western	76.9	90.6	86.9	80.5	95.8	76.5	67.4	83.0
No education	59.8	72.0	81.1	81.3	86.1	76.3	80.4	79.8
Some primary	78.4	93.3	93.2	90.4	92.8	85.3	87.7	88.9
Primary complete	86.2	92.6	94.6	95.6	94.9	95.6	96.1	91.0
Secondary +	93.8	97.3	95.3	94.2	97.1	96.8	(93.9)	95.6
Total	84.8	92.7	91.9	88.6	90.7	82.4	83.8	88.6

Note: Numbers in parentheses are based on fewer than 20 unweighted cases.

Urban-rural differentials in the acceptability of family planning messages on radio are small. Variations by province are also small, except that women in Coast Province are less likely to find radio messages acceptable. The proportion who believe that radio messages on family planning are acceptable increases with educational attainment, from 80 percent of women with no education to

96 percent of women with secondary education. It is notable that high proportions of women in almost all categories find radio messages on family planning to be acceptable. This fact encourages increased use of radio for family planning messages.

To obtain information about attitudes toward family planning, the respondents were asked whether they approved of couples using something to avoid pregnancy. Although all women were asked the question on approval, the analysis presented here is focused on currently married women and excludes those women who have never heard of a contraceptive method. Currently married women were further asked whether they thought that their husbands approved of the use of family planning. Table 4.17 presents information obtained from answers to these questions.

Table 4.17 Percent distribution of currently married women knowing a contraceptive method by the husband's and wife's attitude toward the use of family planning, Kenya, 1989						
Wife's attitude toward family planning	Husband's attitude toward family planning				Total	Number
	Disapproves	Approves	Don't know	Missing		
Disapproves	4.5	0.9	3.2	0.0	8.7	382
Approves	14.0	57.5	16.4	0.3	88.2	3885
Missing	0.5	2.1	0.5	0.1	3.1	138
Total	19.1	60.4	20.1	0.4	100.0	4405
Number	841	2661	888	16	4405	4405

Overall, 88 percent of married women say they approve of family planning, while 9 percent disapprove. Sixty percent say that their husbands approve of family planning, while 19 percent say their husbands disapprove, and 20 percent say they do not know their husband's attitude. According to the wife's report, only 58 percent of couples jointly approve of family planning, while 5 percent jointly disapprove. Approval of family planning is also discussed in Chapter 7, where the responses of husbands are compared with their wives' perceptions of their beliefs.

Table 4.18 shows that there are few differentials in approval of family planning by married women or their husbands by age of the wife, urban-rural residence, or province, except that Coast province has the lowest percentage of women and husbands approving of family planning (78 and 45 percent respectively). Approval by women and their husbands increases with education of the woman.

A good indication of the acceptability of family planning is the extent to which couples discuss the subject with each other. Table 4.19 indicates that one-third of currently married women had never talked about family planning with their husbands in the year preceding the survey. About one-third said that they discussed the subject once or twice with their husbands in the past year, while another one-third said they had discussed it more often.

Table 4.18 Percentage of currently married women knowing a contraceptive method who approve of family planning and who say their husband approves of family planning by background characteristics, Kenya, 1989

Background characteristics	Woman Approves	Husband Approves	Total
Age			
15-19	87.8	53.8	241
20-24	89.3	61.5	784
25-29	90.3	62.1	1044
30-34	88.9	61.2	779
35-39	90.7	62.2	731
40-44	80.7	56.6	508
45-49	83.4	57.2	318
Residence			
Urban	90.6	65.4	716
Rural	87.7	59.4	3689
Province			
Nairobi	92.1	68.5	319
Central	92.0	69.9	628
Coast	77.7	44.8	323
Eastern	91.0	68.6	763
Nyanza	93.8	49.8	814
Rift Valley	81.1	63.9	910
Western	87.7	53.7	648
Education			
No education	81.4	45.4	1289
Some primary	89.7	59.1	1357
Primary complete	92.0	68.4	958
Secondary +	92.4	77.6	795
Total	88.2	60.4	4405

Note: Excludes a small number of women with education not stated.

Table 4.19 Percent distribution of currently married women knowing a contraceptive method by number of times discussed family planning with husband, according to current age, Kenya, 1989

Age	Number of times discussed				Total	Wtd. number of women
	Never	Once or twice	More often	Missing		
15-19	42.1	32.0	25.9	0.0	100.0	241
20-24	30.0	36.0	33.4	0.6	100.0	784
25-29	29.0	33.0	37.7	0.3	100.0	1044
30-34	35.0	31.2	33.1	0.7	100.0	779
35-39	31.5	32.5	35.6	0.4	100.0	731
40-44	41.4	24.9	33.4	0.2	100.0	508
45-49	44.1	22.4	33.2	0.3	100.0	318
Total	33.9	31.4	34.3	0.4	100.0	4405

5 FERTILITY PREFERENCES

In the KDHS, women were interviewed about their fertility preferences. The aim of this part of the interview was to establish the extent of unmet need for contraception and the number of unwanted or mistimed births. This information can be used to assist family planning programmes to carry out their services more effectively.

The KDHS questionnaire included a number of questions about fertility preferences. All currently married women were asked if they wanted to have another child (after the current pregnancy if the woman was pregnant) and if so, they were asked how long they wanted to wait before having their next child. All women regardless of marital status were asked how many children they would like to have altogether, assuming they could go back to the time when they did not have any children ("ideal" number of children). Also, women with a birth in the five years before the survey were asked if, at the time they got pregnant, they wanted to have that child then, wait till later, or not have the child at all.

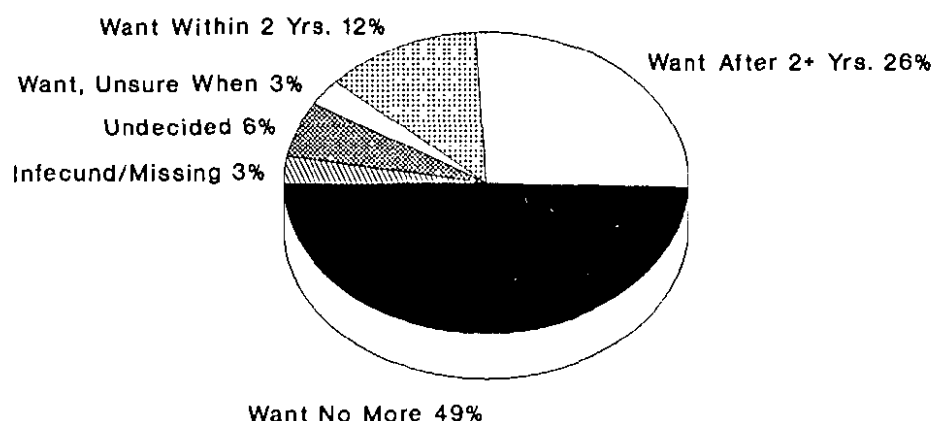
5.1 Desire for More Children

Table 5.1 shows the desire for children among currently married women by the number of living children. Almost 50 percent of married women want no more children and 26 percent want another child, but only after two or more years (Figure 5.1). Thus, three-quarters of married women can be considered potential users of contraception for the purpose of either limiting their family size or spacing births.

Table 5.1 Percent distribution of currently married women by desire for children, according to number of living children, Kenya, 1989								
Desire for more children	Number of living children*							Total
	0	1	2	3	4	5	6+	
Want within 2 years	47.8	31.7	16.7	14.3	9.9	7.5	2.4	12.4
Want after 2+ years	14.0	55.6	49.0	42.7	29.8	15.9	6.1	26.4
Want, unsure when	21.5	5.7	3.3	1.7	2.4	0.4	0.9	2.9
Undecided	4.7	2.6	5.5	6.8	6.3	10.2	5.6	6.0
Want no more**	0.9	3.1	23.1	32.6	49.0	63.5	81.7	49.4
Declared infecund	9.3	1.3	2.2	1.1	2.5	1.6	3.3	2.6
Missing	1.8	0.0	0.1	0.8	0.2	0.8	0.1	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	213	468	633	663	648	507	1634	4765
* Includes current pregnancy								
** Includes sterilised women								

The desire to limit childbearing appears to be considerably greater in Kenya than in other sub-Saharan countries where DHS surveys have been conducted. For example, the proportion of married women who want no more children is 33 percent in Botswana and Zimbabwe, 23 percent in Ghana and 19 percent in Uganda, compared to 49 percent in Kenya. This suggests that many women in Kenya may be candidates for more long-term methods of family planning, such as sterilisation or the IUD.

Figure 5.1
Fertility Preferences
Currently Married Women 15-49



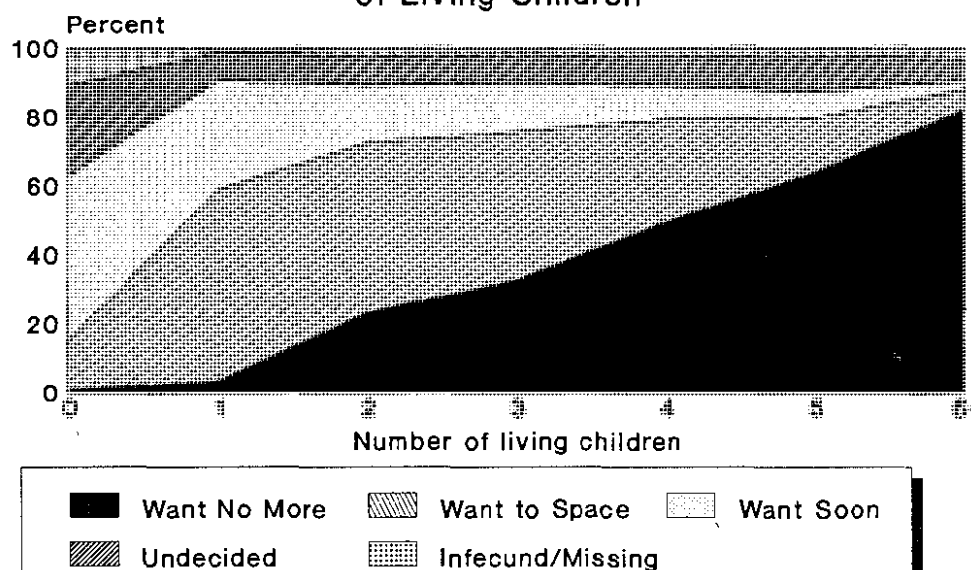
Kenya DHS 1989

The desire for more children declines with the number of living children (see Figure 5.2). While more than 90 percent of married women with one child want another, only 9 percent of women with six or more children want another child. Conversely, the percentage of women who want no more children rises from 3 percent for women with one child to 82 percent for women with six or more children. This indicates substantial interest in limiting fertility among married women. The table also points to a desire among women to space births. For instance, 56 percent and 49 percent of women with one and two children respectively want their next births after two years.

Table 5.2 shows the percent distribution of currently married women by desire for children according to age. The data show that the proportion of women who want no more children increases with age. Nine percent of the women aged 15-19 years want no more children, compared to 81 percent of the women aged 45-49 years. The proportion who want to delay their next birth declines with age, as does the proportion of women who want the next birth within two years.

Table 5.3 shows the percentage of currently married women who want no more children by number of living children and selected background characteristics. In terms of fertility preference measures, the proportion of women who want no more children is the most significant figure. Therefore, it has been selected as an indicator for studying differentials in fertility preference by background characteristics of women. The proportion of women who want no more children is closely correlated with number of living children as well as background characteristics. For instance, overall, a larger proportion of rural than urban women want to stop childbearing, however, when the number of living children is taken into account, the reverse is true, which means that the overall figures result from the fact that a greater percentage of rural women have more children than urban women, since the proportion wanting no more children rises with the number of living children.

Figure 5.2
Fertility Preferences by Number
of Living Children



Kenya DHS 1989

Table 5.2 Percent distribution of currently married women by desire for children, according to age, Kenya, 1989

Desire for more children	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Want within 2 years	25.4	15.3	14.3	12.9	8.6	6.6	6.6	12.4
Want after 2+ years	53.8	55.2	35.9	17.8	11.8	2.0	0.8	26.4
Wants, unsure when	7.9	4.4	2.6	2.5	1.5	2.0	1.6	2.9
Undecided	3.3	6.1	6.8	8.4	6.5	4.7	1.0	6.0
Want no more*	9.3	18.3	39.3	56.0	67.0	78.4	81.4	49.4
Declared infecund	0.2	0.4	0.5	2.2	3.9	6.1	8.5	2.6
Missing	0.0	0.2	0.6	0.2	0.6	0.1	0.1	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	276	827	1104	833	781	576	369	4765

* Includes sterilised women

Central Province has the highest proportion of women who want to stop childbearing; half of the women with three children and 95 percent of the women with six or more children want to have no more. On the other hand, women in Coast Province seem to be the most pronatalist; only 55 percent of those with six or more children say they want to stop. The relationship between education and the desire to stop childbearing is somewhat erratic. The biggest differences are between women with no education and those with some education; the amount of education seems to have little effect on desire to stop childbearing.

Table 5.3 Percentage of currently married women who want no more children (including those sterilised) by number of living children and background characteristics, Kenya, 1989

Background characteristic	Number of living children*							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	2.5	5.4	31.1	47.1	62.9	67.4	85.3	39.6
Rural	0.0	2.1	20.7	29.0	46.3	62.9	81.5	51.2
Province								
Nairobi	6.1	6.1	34.2	55.8	63.5	79.5	89.3	43.7
Central	0.0	7.2	25.8	49.7	72.2	81.2	94.6	67.3
Coast	0.0	1.8	12.8	28.5	29.7	26.4	55.3	28.0
Eastern	(0.0)	4.0	24.6	44.6	54.6	81.8	86.9	59.7
Nyanza	0.0	1.1	15.3	18.4	45.1	55.8	77.5	41.7
Rift Valley	0.0	1.2	28.5	24.5	42.2	56.8	81.5	49.7
Western	0.0	3.2	19.9	18.6	32.0	50.7	76.8	43.2
Education								
No education	1.2	0.9	26.0	25.8	41.4	52.5	77.3	54.4
Some primary	1.1	3.4	21.9	30.1	46.5	70.6	85.1	53.4
Primary complete	0.0	3.7	20.3	41.6	52.2	68.4	86.5	46.2
Secondary +	1.6	3.4	25.2	35.0	58.1	65.2	84.6	36.5
Total	0.9	3.1	23.1	32.6	49.0	63.5	81.7	49.4

Note: Numbers in parentheses are based on fewer than 20 unweighted cases.

* Includes current pregnancy

Table 5.4 examines the need for family planning among currently married women. Women are considered to be in need if they are not contracepting and either want no more births or want to postpone their next birth.

Overall, 60 percent of currently married Kenyan women are in need of family planning. Of these, 32 percent are in need because they do not want another child, while 28 percent are in need because they want to postpone their next birth. The proportion in need is slightly higher for rural women and women in Western Province. Need is also higher among women with less education.

5.2 Ideal Number of Children

In order to assess fertility preferences in Kenya, all KDHS respondents regardless of marital status were asked: "(If you could go back to the time when you did not have any children) and if you could choose the number of children to have in your whole life, how many would that be?" Women with children were asked the entire question while those with no children were asked the part excluding the phrase in parentheses. This question aimed at two things--first, among women who have just started childbearing, the data will give an idea of the total number of children these women will have in the future (to the extent that women are able to realise their fertility desires); secondly, among older, higher parity women, the data provide an idea of the level of unwanted fertility.

It is important to note that some women have difficulty answering a hypothetical question of this type, especially women for whom control over fertility is not culturally acceptable. There

is also a possibility that some women report their actual number of children as their ideal since they find it difficult to admit that they would not want some of their children if they could choose again.

Table 5.4 Percentage of currently married women who are in need of family planning by background characteristics, Kenya, 1989

Background characteristics	In need* and:		Total	Number of women
	Want no more	Want to postpone**		
Residence				
Urban	22.4	31.8	54.2	748
Rural	33.7	27.7	61.4	4018
Province				
Nairobi	22.9	30.3	53.2	335
Central	37.9	16.5	54.3	648
Coast	18.4	36.8	55.2	350
Eastern	33.5	15.7	49.2	804
Nyanza	34.6	31.5	66.0	872
Rift Valley	31.0	30.5	61.5	1047
Western	33.8	41.4	75.1	711
Education				
No education	40.4	25.5	65.9	1506
Some primary	35.9	26.1	62.0	1462
Primary complete	25.5	32.4	57.9	987
Secondary +	16.9	32.9	49.8	804
Total	31.9	28.3	60.3	4765

* Includes women who are not using contraception and who either want no more children or want to postpone their next birth for 2 or more years

** Want next birth after two or more years

Table 5.5 shows the percent distribution of all women by ideal number of children and mean ideal number of children for all women and currently married women according to the number of living children. Four children is the most commonly reported ideal family size among all women; overall, 40 percent of women state four as their ideal number. This percentage is high, considering that another 30 percent consider five or more children as ideal. However, it is encouraging that while women with more living children are likely to state five or more as their ideal number of children, women with fewer children are more likely to state two or three children as ideal. Thus, the mean ideal number of children increases with the number of living children. This may be due to the fact that women who want more children actually end up having them, or to the fact that women rationalise their family size by reporting their actual number of children as their ideal number.

The KDHS data show a large decline in ideal family size from the 1984 KCPS results. The mean ideal number of children for all women was 5.8 in 1984, compared to 4.4 in 1989; for currently married women, the figures are 6.3 in 1984 and 4.8 in 1989 (Central Bureau of Statistics, 1984, p.61).

Table 5.6 shows the mean ideal number of children for all women interviewed in the KDHS by age and selected background characteristics. The mean ideal number of children increases with age from 3.7 among women aged 15-19 to 5.5 among women aged 40-44, implying that if younger women succeed in having only those children they want, then fertility rates may fall in future.

Table 5.5 Percent distribution of all women by ideal number of children and mean ideal number of children for all women and currently married women, according to number of living children, Kenya, 1989								
Ideal number of children	Number of living children*							Total
	0	1	2	3	4	5	6+	
0	0.3	0.3	0.0	0.2	0.2	0.0	0.0	0.1
1	1.3	2.1	1.0	0.9	0.5	0.5	0.3	0.9
2	20.3	13.0	15.7	4.7	9.1	7.0	3.2	10.7
3	17.0	20.8	11.4	20.7	5.2	6.8	5.8	12.4
4	40.6	42.7	52.2	38.6	45.1	28.0	36.3	40.3
5	9.4	9.2	8.0	12.5	12.0	21.7	8.2	10.5
6+	8.1	8.4	9.5	19.0	24.4	31.8	40.3	21.1
Non-numeric response	3.1	3.5	2.2	3.2	3.6	4.2	6.0	3.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1566	890	813	773	724	601	1783	7150
Mean (all women)	3.7	3.8	3.9	4.4	4.6	5.1	5.4	4.4
Mean (currently married)	4.4	4.1	4.1	4.5	4.6	5.2	5.5	4.8
Base (all women)	1516	858	796	749	698	576	1677	6870
Base (currently married)	197	443	616	641	624	488	1532	4540

* Includes current pregnancy

Table 5.6 Mean ideal number of children for all women by age and background characteristics, Kenya, 1989								
Background characteristics	Age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	3.5	3.6	3.8	3.8	4.5	4.2	4.4	3.8
Rural	3.8	4.1	4.6	5.0	5.0	5.6	5.3	4.6
Province								
Nairobi	3.3	3.5	3.6	3.7	4.1	3.9	4.2	3.6
Central	3.2	3.2	3.8	4.0	4.4	4.7	4.2	3.8
Coast	4.4	4.7	5.6	6.2	6.3	6.4	8.0	5.6
Eastern	3.5	3.7	4.0	4.4	4.7	5.3	4.7	4.2
Nyanza	3.9	4.3	4.6	5.0	4.9	5.5	4.8	4.6
Rift Valley	4.1	4.1	4.9	4.8	5.0	6.0	5.2	4.7
Western	4.0	4.4	4.6	5.2	5.2	5.9	7.5	4.9
Education								
No education	5.6	5.4	5.4	5.4	5.3	5.8	5.2	5.4
Some primary	3.9	4.1	4.6	4.7	4.9	5.2	5.5	4.6
Primary complete	3.7	4.0	4.2	4.3	4.6	5.2	5.4	4.1
Secondary +	3.3	3.4	3.8	3.9	4.0	4.0	3.2	3.6
Total	3.7	3.9	4.4	4.8	4.9	5.5	5.3	4.4

The mean ideal number of children is higher for rural women than for urban women regardless of age. Coast Province has the highest average ideal family size (5.6), while Nairobi has the lowest (3.6). Also, women with no education have a higher mean ideal family size (5.4) than women with primary (4.1) or secondary or higher education (3.6).

5.3 Unwanted Fertility

Table 5.7 shows the percent distribution of women who had a birth in the last twelve months by fertility planning status and birth order. Over 50 percent of the births in the last 12 months were either mistimed or unwanted. Forty-two percent of births were wanted at a later time (mistimed), while 11 percent were not wanted (unwanted). This indicates that a substantial proportion of women need family planning services, especially for spacing births.

Table 5.7 Percent distribution of women who had a birth in the last 12 months by fertility planning status, according to birth order, Kenya, 1989

Planning status of birth	Birth order		Total
	1-2	3+	
Wanted then	52.6	43.5	46.3
Wanted later	43.1	41.7	42.1
Not wanted	3.9	14.2	11.0
Not classifiable	0.4	0.6	0.5
Total	100.0	100.0	100.0
Number	477	1062	1539

6 MORTALITY AND HEALTH

6.1 Childhood Mortality

The government of Kenya has long been concerned about the high rates of infant and childhood mortality in the country and has made considerable efforts to reduce them. The infant mortality rate, especially, is often cited as a basic indicator of general health and welfare.

In the KDHS, data on mortality were collected for the purpose of estimating infant and childhood mortality rates. This focus is a result of the fact that data appropriate for adult mortality estimation require very large samples and are difficult to collect by the retrospective household survey approach. In this section mortality rates are presented for three age intervals:

- Infant mortality--the probability of dying between birth and exact age one (${}_1q_0$),
- Childhood mortality--the probability of dying between age one and age five (${}_5q_1$),
- Under 5 mortality--the probability of dying between birth and exact age five (${}_5q_0$).

Mortality rates are calculated on a period basis (i.e., utilising information on deaths and exposure to mortality by age during a specific time period) rather than on a birth cohort basis. The period approach is preferred for two reasons: first, period-specific rates are more appropriate for programme evaluation and second, the data necessary for the calculation of cohort-based childhood mortality rates are only partially available for the five-year period immediately preceding the survey. For a complete description of the methodology for computing period-specific mortality probabilities, see Rutstein, 1984.

Birth History Survivorship Data

The data for the estimation of mortality rates were collected in the reproduction section of the individual woman questionnaire. The section began with questions about the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live in the household, who live elsewhere, and who died). Those questions were followed by a retrospective birth history in which data were obtained on sex, date of birth, survivorship status and current age or age at death of each of the respondents' live births. The data obtained from these questions are used to calculate infant and childhood mortality rates.

A retrospective birth history, in which data are collected from respondents aged 15-49 as of the survey date is susceptible to truncation bias and other data collection errors. Truncation bias refers to the fact that for any time period prior to the year of survey, data are not available for women at the oldest ages of childbearing (e.g., for the period 10-15 years prior to the survey, there is no information about births to women aged 40-49). Other data collection errors involve underreporting of events, misreporting of age at death, and misreporting of date of birth. In general, all these data problems are less serious for time periods close to the survey date.

Mortality Levels and Trends 1974-1989

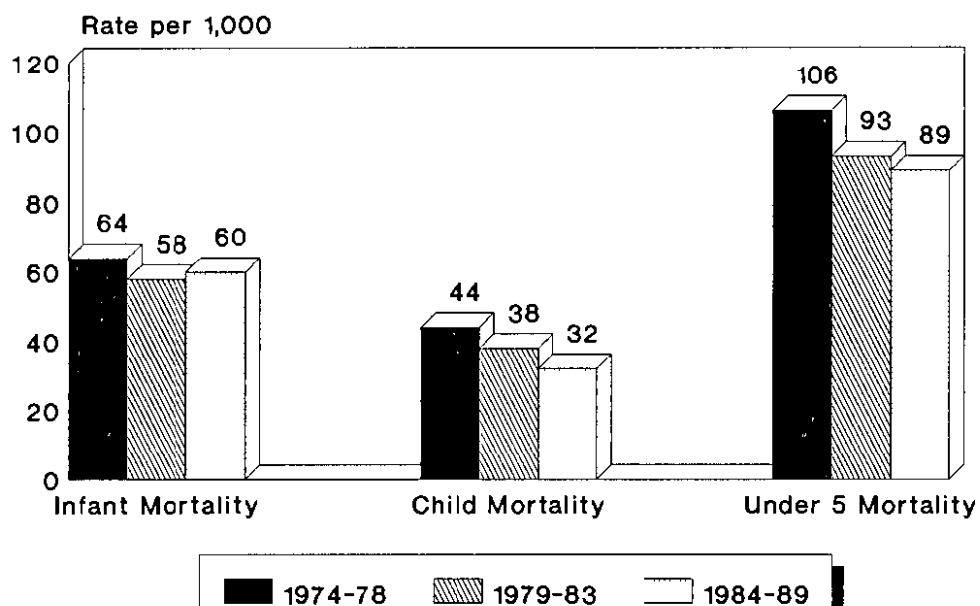
Table 6.1 and Figure 6.1 display infant and childhood mortality rates for the five-year period preceding the survey (1984-89) and for two previous five-year time periods (1974-78 and 1979-83).

Table 6.1 Infant and childhood mortality rates by five-year calendar periods, Kenya, 1989

Period	Infant mortality rate (1q0)	Childhood mortality rate (4q1)	Under 5 mortality rate (5q0)
1984-1989*	59.6	31.5	89.2
1979-1983	57.6	37.8	93.1
1974-1978	64.1	44.2	105.5
Percent decline 1974-78 to 1984-89	7.0	28.7	15.4

* Includes calendar year 1989 up to the month preceding date of interview.

Figure 6.1
Trends in Infant and Child Mortality



Kenya DHS 1989

The infant mortality rate for Kenya for the period 1984-89 is 60 per thousand live births and the childhood mortality rate is 32 per thousand. The overall probability of dying between birth and exact age five is 89 per thousand. While the KDHS rates indicate a decline in mortality, it is important to note that the decline is small. During the ten-year interval between 1974-78 and 1984-89, infant mortality declined by only 7 percent, childhood mortality by 29 percent and the overall probability of dying between birth and age five, by 15 percent.

When KDHS rates are compared to data from previous sources, they imply a substantial decline in infant and childhood mortality. For example, the infant mortality rate reported in the 1977/78 KFS was 96 per thousand births (Central Bureau of Statistics, 1980, p.105) and the rate estimated from 1979 census data was 104 per thousand (Central Bureau of Statistics, no date, p.103). This magnitude of decline is large but certainly possible. However, the fact that the infant mortality rate from the KDHS for the period 1974-78 (64) is also much lower than the rate in either the 1979 census or the 1977/78 KFS, suggests that children who died might have been underreported in the KDHS. An investigation of this possibility is beyond the scope of this report.

Mortality Differentials 1979-89

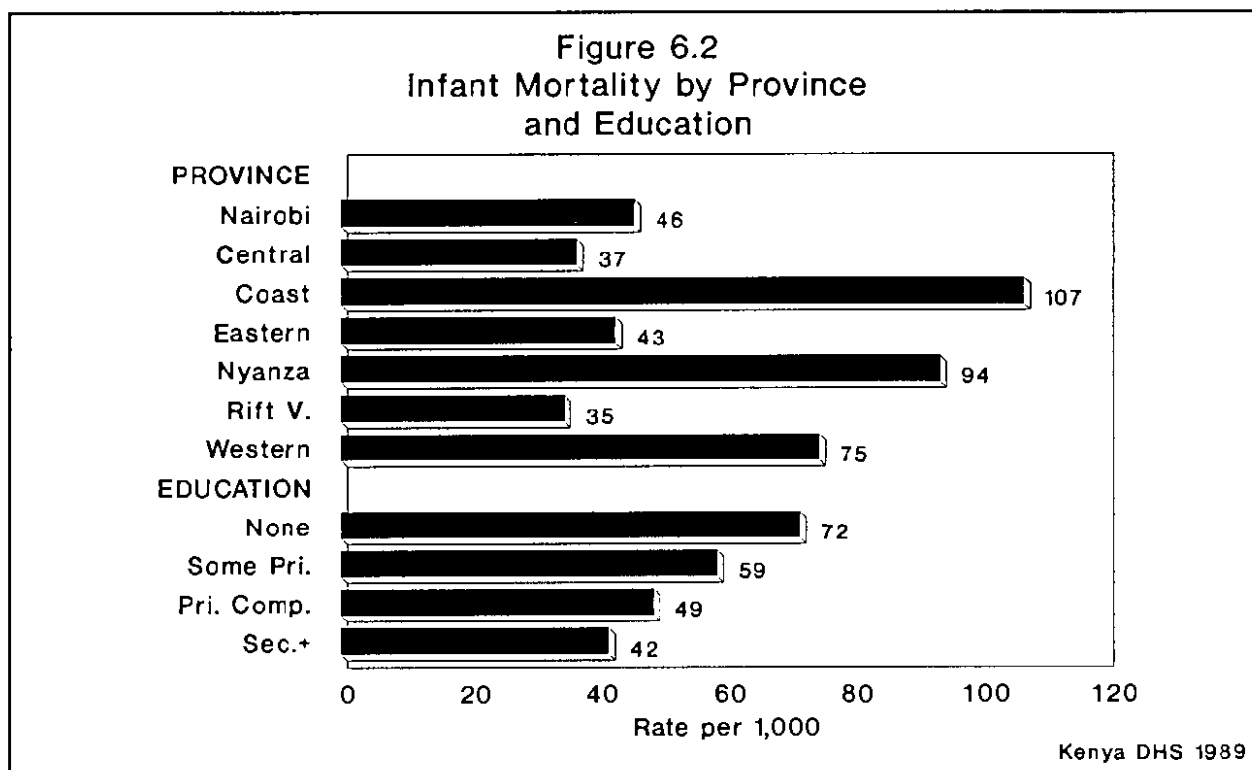
Mortality differentials by province, mothers' level of education and urban-rural residence are presented in Table 6.2. In order to have a sufficient number of births to calculate reliable rates for the study of mortality differentials across population sub-groups, period-specific rates are presented for the ten-year period 1979-1989.

Table 6.2 Infant and childhood mortality rates by background characteristics of the mother for the ten-year period preceding the survey, Kenya, 1989

Background characteristics	Infant mortality rate (1q0) 1979-89	Childhood mortality rate (4q1) 1979-89	Under 5 mortality rate (5q0) 1979-89
Residence			
Urban	56.8	34.2	89.0
Rural	58.9	34.3	91.2
Region			
Nairobi	46.3	35.7	80.4
Central	37.4	10.0	47.0
Coast	107.3	54.5	156.0
Eastern	43.1	22.2	64.3
Nyanza	94.2	60.0	148.5
Rift Valley	34.6	16.9	50.9
Western	74.6	62.9	132.8
Education			
None	71.7	39.9	108.7
Some primary	59.1	38.3	95.2
Primary complete	49.3	24.4	72.5
Secondary +	41.8	23.4	64.2
Total	58.6	34.3	90.9

Note: Rates include calendar year 1989 up to the month preceding date of interview.

Curiously, mortality is only slightly higher in rural areas than in urban areas. The provincial rates display marked differentials. The infant mortality rate is highest for Coast Province (107 per thousand live births), followed by Nyanza (94), Western (75), Nairobi (46), Eastern (43) and Central (37) (Figure 6.2). Rift Valley has the lowest infant mortality rate (35). Childhood mortality differentials are even larger, with the rates in Western and Nyanza Provinces (63 and 60, respectively) being six times the rate in Central Province (10).



Mortality differentials by mother's level of formal education display expected differentials. Mortality is highest for children whose mothers have no education, declines for children whose mothers have some primary education and is lowest for children whose mothers have attained secondary education and above.

Mortality differentials by sex, mother's age at birth, birth order, and length of the previous birth interval are shown in Table 6.3. As expected, mortality rates are lower for females than for males. Infant mortality differentials by age of mother are moderate, but show higher levels for children born to mothers under age 20. Childhood mortality declines steeply as age of the mother increases.

Infant mortality estimates by birth order also display the expected differentials. Infant mortality is higher for first births (65 per thousand), declines for second and third births (55) and births 4-6 (50), then rises sharply for births 7 and above (72).

The length of birth intervals also has a strong effect on infant and child mortality levels. The infant mortality rate estimates are 76 per thousand for births occurring after intervals of less than 2 years, 48 per thousand for births after intervals of 2-3 years and 36 per thousand for births

Table 6.3 Infant and childhood mortality rates by selected demographic characteristics, for the ten-year period preceding the survey, Kenya, 1989

Demographic characteristics	Infant mortality rate (1q0) 1979-89	Childhood mortality rate (4q1) 1979-89	Under 5 mortality rate (5q0) 1979-89
Sex of child			
Male	63.0	35.4	96.1
Female	54.3	33.2	85.7
Age of mother at birth			
Less than 20	67.5	43.8	108.3
20-29	54.8	35.8	88.6
30-39	60.2	26.4	85.0
40-49	58.3	15.0	72.5
Birth order			
First	65.3	37.5	100.3
2-3	54.8	32.5	85.5
4-6	49.7	33.4	81.5
7+	71.9	36.4	105.6
Previous birth interval			
<2 years	75.6	41.1	113.6
2-3 years	47.7	32.6	78.7
4 years or more	35.9	17.9	53.2

Note: Rates include calendar year 1988 up to the month preceding date of interview.

after intervals of 4 years or more. There are also substantial differentials in childhood mortality by length of the preceding birth interval, in the same direction as the infant mortality differentials. These differentials suggest that a change in birth spacing practices would by itself, have a favourable impact on mortality levels.

Additional evidence regarding childhood mortality levels in Kenya can be obtained from the proportion of children ever born who have died, tabulated by age of woman (Table 6.4). Just over 10 percent of all children born to women 15-49 have died. The proportion dead by age of mother shows an unusual pattern; it is very high for women 15-19 and falls for women 20-24 and 25-29, before showing the expected increase with age of mother.

6.2 Maternity Care

The health care that a mother receives during pregnancy and at the time of delivery is important to the survival and well-being of the child as well as the mother. To obtain data on the type of maternity care that Kenyan women receive, KDHS respondents who had given birth in the five years preceding the interview were asked if they had seen anyone for an ante-natal checkup before the birth and if anyone had assisted with delivery of that child. If they had had an ante-natal checkup or received assistance at delivery, they were asked who provided the care. In cases where the maternity care was received from more than one provider, the most qualified provider was recorded by the interviewer.

Table 6.4 Mean number of children ever born, surviving, and dead, and proportion of children dead among those born, by age of woman, Kenya, 1989

Age	Mean number of children:			Proportion dead	Wtd. number of women
	Ever born	Surviving	Dead		
15-19	0.28	0.25	0.03	0.117	1497
20-24	1.58	1.44	0.14	0.088	1321
25-29	3.47	3.19	0.28	0.082	1334
30-34	5.01	4.49	0.52	0.104	981
35-39	6.48	5.80	0.67	0.104	898
40-44	7.36	6.53	0.84	0.114	674
45-49	7.63	6.55	1.08	0.142	445
Total	3.67	3.28	0.39	0.106	7150

Since neonatal tetanus has been shown to be a major cause of infant deaths in developing countries like Kenya, mothers were also asked if they had received an injection before the birth to keep the baby from getting tetanus. The responses to this question are affected by the mother's recall of events during pregnancy and, particularly by her ability to distinguish the tetanus toxoid vaccination from other injections she may have received. Moreover, the failure of a respondent to be immunised against tetanus during any particular pregnancy does not necessarily mean that the mother and child were exposed to the risk of tetanus, since protection may have been provided by tetanus toxoid vaccinations before that pregnancy. Despite these drawbacks, the proportion of women receiving a tetanus toxoid vaccination during pregnancy provides an indicator of the success of maternal and child health efforts.

Table 6.5 presents data on the type of ante-natal care obtained for births that occurred in the five years before the survey. The results suggest that the majority of mothers in Kenya receive at least some maternity care. For 77 percent of births, mothers had seen a doctor or trained nurse/midwife to check the pregnancy and for 89 percent of births, mothers had had a tetanus toxoid injection. Tetanus toxoid coverage may be overreported, since it seems doubtful that in 12 percent of cases, mothers received a tetanus injection without obtaining any other ante-natal care, however, the level of 89 percent is close to the rate of 83 percent of women reported in the 1987 national coverage survey for the Kenya Expanded Programme on Immunisation (KEPI) as having a tetanus injection during either of their last two pregnancies (Ministry of Health, 1987). The authors of the KEPI study believed that respondents in their survey had confused other injections for tetanus toxoid.

There are few differences in ante-natal care by age or residence of mother. By province, ante-natal care from either a doctor, trained nurse, or midwife is most prevalent for births to women interviewed in Nyanza Province and Nairobi and least prevalent among births to women interviewed in Central and Coast Provinces (69 percent). The rates for Nairobi and Coast Province are in the expected direction, however, that the rate for Nyanza is higher than the rate for Central Province is unusual. About one-quarter of births to women in Coast, Central and Western Provinces do not receive ante-natal care. Better educated women are slightly more likely than less educated women to obtain ante-natal care from trained professionals.

Table 6.5 Percent distribution of births in the last 5 years by type of ante-natal care for the mother and percentage of births whose mother received a tetanus toxoid injection, according to background characteristics, Kenya, 1989

Background characteristics	Type of ante-natal care						Total	Percentage receiving tetanus toxoid injection	Number of births
	Doc-tor	Trained nurse/midwife	Trad'l birth attend.	Other	None	Missing			
Age of mother									
<30	28.8	49.4	1.7	0.7	18.4	0.9	100.0	89.3	4081
30+	27.9	47.8	2.2	0.2	21.0	0.8	100.0	88.0	2969
Residence									
Urban	28.5	53.1	0.9	0.8	16.1	0.6	100.0	92.2	979
Rural	28.4	48.1	2.1	0.5	20.0	0.9	100.0	88.2	6072
Province									
Nairobi	27.5	55.8	0.6	1.5	13.9	0.6	100.0	90.3	417
Central	52.7	16.2	0.4	1.0	28.8	0.8	100.0	89.9	969
Coast	35.6	33.7	0.4	0.1	29.9	0.3	100.0	89.1	423
Eastern	31.5	48.9	0.9	0.7	17.6	0.4	100.0	88.4	1233
Nyanza	22.9	60.6	1.2	0.3	13.4	1.5	100.0	90.7	1283
Rift Valley	25.7	53.6	4.6	0.0	15.6	0.5	100.0	86.4	1593
Western	12.2	59.4	2.4	0.5	24.1	1.4	100.0	88.5	1133
Education									
No education	24.3	48.0	4.4	0.2	22.3	0.9	100.0	84.8	1888
Some primary	26.2	49.9	1.3	0.3	21.4	0.9	100.0	88.9	2234
Primary complete	33.3	46.6	0.8	0.9	17.5	1.0	100.0	90.0	1655
Secondary +	32.3	50.6	0.7	0.9	14.8	0.7	100.0	92.7	1268
Total	28.4	48.8	1.9	0.5	19.5	0.9	100.0	88.7	7050

Table 6.6 presents data on the type of assistance mothers received at delivery for all births in the five years before the survey. Half of the births in the last five years were assisted at delivery by a doctor or trained nurse/midwife and 14 percent by a traditional birth attendant. A substantial proportion of births were assisted by relatives and friends of the mother (21 percent) or by no one (12 percent).

Births to older women, rural women, and women with no education are less likely to benefit from assistance at delivery by trained medical personnel. The results also show that Nairobi leads in maternity care, with over 80 percent of births being assisted by a doctor or trained nurse/midwife, followed by Central Province, where 73 percent of births are assisted by professionals. Presumably, this is because Nairobi is an urban area where medical facilities are more available. Also notable are the higher proportion of births in Central Province that are assisted by doctors (35 percent), the higher proportion of births in Coast Province that are assisted by relatives and friends (44 percent), and the higher proportion of births in Western Province that do not benefit from any assistance at delivery (31 percent). It is also important to note that traditional birth attendants play a more significant role in delivering babies in Rift Valley, Eastern, and Nyanza Provinces.

An important indicator of maternal and child health is the proportion of women and recent births that fall into certain high risk categories. It has been shown that the risk of serious illness and/or death for both mother and child is related to the age and parity of the mother, as well as

Table 6.6 Percent distribution of births in the last 5 years by type of assistance during delivery, according to background characteristics, Kenya, 1989

Background characteristics	Type of assistance at delivery						Miss- ing	Total	Number of births
	Doc- tor	Trained nurse/ midwife	Trad'l birth attend.	Rela- tive/ friend	Other	None			
Age of mother									
<30	17.9	37.5	14.2	20.2	1.7	7.5	0.9	100.0	4081
30+	14.4	28.3	14.4	22.8	1.9	17.5	0.7	100.0	2969
Residence									
Urban	23.1	54.4	5.0	9.9	1.0	6.0	0.6	100.0	979
Rural	15.4	30.3	15.8	23.1	1.9	12.7	0.9	100.0	6072
Province									
Nairobi	19.8	63.4	2.5	8.8	1.1	4.2	0.3	100.0	417
Central	34.9	38.4	5.9	12.0	2.3	5.6	0.9	100.0	969
Coast	13.7	27.2	4.7	44.1	1.2	8.4	0.6	100.0	423
Eastern	12.8	28.0	19.6	29.1	1.8	8.3	0.4	100.0	1233
Nyanza	14.4	39.4	17.4	14.9	1.8	10.6	1.5	100.0	1283
Rift Valley	16.8	27.9	20.8	23.4	2.3	8.0	0.7	100.0	1593
Western	6.2	28.6	10.8	21.1	0.9	31.3	1.1	100.0	1133
Education									
No education	9.5	24.0	17.2	27.6	1.6	19.1	1.0	100.0	1888
Some primary	14.5	30.5	15.2	24.5	1.9	12.7	0.7	100.0	2234
Primary complete	19.5	34.9	15.9	18.6	2.4	7.8	0.9	100.0	1655
Secondary +	26.3	51.9	6.2	9.7	0.9	4.2	0.8	100.0	1268
Total	16.4	33.6	14.3	21.3	1.8	11.7	0.8	100.0	7050

to the interval between births. Risk is higher for births to younger (under age 18) and older (age 35 or over) mothers, those who have had a prior birth recently (within the previous 24 months), and those of higher parity (four or more births).

Table 6.7 indicates that 85 percent of currently married women fall into at least one of the high health risk categories and over half fall into two or more categories. Most married women have had 4 or more births, and almost half have had a birth in the past 24 months. With regard to recent births, two-thirds fall into one category and 28 percent fall into two or more categories. Over half (56 percent) of Kenyan births occur to high parity mothers, while one-fifth are born less than 24 months after a previous sibling.

6.3 Child Health Indicators

The KDHS included a series of questions intended to provide information on immunisation coverage and on the occurrence and treatment of diarrhoea, fever and respiratory illness among children under age five. Strictly speaking, these data do not represent all children under five in Kenya, but only those children of women who were interviewed in the KDHS. Thus, no information was obtained for children of women who had died, who were institutionalised, or who, for some other reason were not interviewed in the survey. Although the immunisation status and the morbidity experience of the latter children are likely to differ from that of children whose mothers were interviewed, their numbers are not large, so the results presented below can be considered as generally describing the health status of children under five years of age in Kenya.

Table 6.7 Percentage of currently married women and births in the 12 months prior to the survey to women who fall in various categories of high health risk, Kenya, 1989

Health risk category	Currently married women	Births in past 12 months
Under age 18	1.4	2.9
Age 35 or older	36.2	18.2
Last birth occurred within past 24 months	48.3	20.5
Four births or more	61.5	55.8
In at least one category	85.2	66.4
In 2 or more categories	52.1	28.1
Weighted number	4765	1484

Immunisation of Children

In the KDHS, women who had children under the age of five were asked if the children had health cards. If the health card was available, the interviewers copied from the card the dates on which the child had received immunisations against the following diseases: tuberculosis (BCG); diphtheria, whooping cough (pertussis) and tetanus (DPT); polio; and measles. If the child had no card or the interviewer was not able to examine the card, the mother was asked if the child had ever received a vaccination. However, no information was obtained on specific vaccinations for these children because of doubts about the reliability of the mother's recall.

In examining these data, it should be borne in mind that as of January 1986, the Kenya Expanded Programme of Immunisation (KEPI) recommended that children be immunised according to the following schedule (Ministry of Health, 1987, p.20):

<u>Age</u>	<u>Immunisation</u>
Birth	BCG, polio
6 weeks	DPT, polio
10 weeks	DPT, polio
14 weeks	DPT, polio
9 months	measles

The data in Table 6.8 indicate that immunisation cards were seen for 50 percent of all the children under age five. The proportion of children with health cards seen is highest for children 6-11 months of age. Of children with cards, almost all had received at least one immunisation. This is not surprising since one of the major reasons for issuing a health card is to record immunisations. Forty-three percent of children did not have a health card available, but were reported by their mothers to have been immunised.

The information on specific immunisations collected for children with health cards is also presented in Table 6.8. In interpreting the data in the table, it is important to bear in mind that the figures are based on children whose health cards were seen by the interviewers. Thus, the

Table 6.8 Among all children under 5 years of age, the percentage with health cards seen by interviewer, the percentage who are immunised as recorded on a health card or as reported by the mother and, among children with health cards, the percentage for whom BCG, DPT, polio and measles immunisations are recorded on the health card, by age, Kenya, 1989

Age in months	Among children under 5 the percentage with:			Among children under 5 with health cards seen, the percentage who have received:									Number of children
	With health cards seen	Some immunisation on card	Immun. reported by mother	BCG	DPT 1	DPT 2	DPT 3+	Polio 1	Polio 2	Polio 3+	Meas-les	All*	
<6	52.7	51.7	28.4	93.3	82.1	55.5	28.9	89.5	67.2	41.5	4.0	1.8	601
6-11	67.5	67.3	26.2	96.7	98.6	91.5	82.6	99.0	94.0	85.8	25.7	23.1	710
12-17	60.3	59.9	35.2	95.5	98.4	94.3	88.6	99.4	94.3	91.3	77.0	71.0	703
18-23	61.9	61.8	34.9	98.1	99.4	98.1	93.0	99.2	97.4	93.5	79.1	74.8	612
24-59	43.7	43.4	51.5	96.4	98.0	93.0	86.6	97.4	92.8	86.3	81.0	72.9	3889
Total	50.6	50.3	43.3	96.2	96.8	90.0	81.5	97.3	91.2	83.4	64.8	58.8	6514

* BCG, at least 3 doses of DPT and polio, and measles

results cannot be interpreted as coverage rates for the entire population of children of that age, but rather, should be viewed as providing measures of drop-out rates, since virtually all children with cards received at least one immunisation.

The KDHS found that among children aged 1-5 years for whom health cards were available, more than 95 percent had received a BCG vaccination and at least one dose of DPT and polio. Almost all of those who have the first dose of DPT and polio receive the second and third doses, however, only about 80 percent of children aged 1-5 with health cards have been immunised against measles.

Since it is customary to report immunisation coverage based on one-year olds, Table 6.9 presents data on the proportion of children 12-23 months with cards who have received specific immunisations, according to selected background characteristics. The data show that there is a slight difference in immunisation coverage for boys and girls--76 percent of girls whose cards were available had received all immunisations, compared to 70 percent of boys. This differential is due almost entirely to the differential in measles coverage. Rural and urban differentials on immunisation coverage are modest, with the urban children having higher coverage than their rural counterparts. Rural children are also more likely to have health cards available to show the interviewer.

There seem to be some marked variations in coverage by province, with Central Province having the highest proportion fully immunised (88 percent), and Western Province the lowest (57 percent). There is also a much steeper drop-out rate between the three doses of DPT and polio among children in Western Province than for children in other provinces. Considering differentials by educational status of the child's mother, full immunisation coverage is much higher among children whose mothers have attained secondary education (86 percent) than for those whose mothers have no education (55 percent).

Estimates of coverage for all children, including those whose health cards were not seen, can be derived by multiplying the proportion of children with particular immunisations recorded on health cards by the proportion of children whose health cards were seen. For example,

Table 6.9 Among all children aged 12-23 months, the percentage with health cards seen by interviewer, the percentage who are immunised as recorded on a health card or as reported by the mother and, among children with health cards, the percentage for whom BCG, DPT, polio and measles immunisations are recorded on the health card, by background characteristics, Kenya, 1989

	Among children 12-23 months, percent with:			Among children 12-23 months with health cards seen, the percent who have received:										No. of children
Back-ground characteristics	With health card seen	Some immun. on card	Immun. reported by mother	BCG	DPT 1	DPT 2	DPT 3+	Polio 1	Polio 2	Polio 3+	Meas-les	All*		
Sex														
Male	63.4	63.2	32.7	96.9	98.7	96.6	90.3	99.4	96.2	92.6	75.8	70.0	653	
Female	58.7	58.4	37.5	96.5	99.1	95.4	91.0	99.2	95.3	92.1	80.3	75.9	662	
Residence														
Urban	49.5	48.9	46.9	96.7	98.7	98.7	94.7	98.7	98.0	94.7	86.1	82.1	197	
Rural	63.1	62.9	33.0	96.7	98.9	95.7	90.1	99.4	95.5	92.0	76.8	71.5	1118	
Province														
Nairobi	47.9	46.5	47.9	92.8	97.1	97.1	94.2	97.1	95.7	94.2	85.5	79.7	93	
Central	61.0	61.0	36.7	95.6	100.0	99.4	98.2	100.0	100.0	97.9	93.6	87.7	203	
Coast	66.2	65.7	32.0	96.4	99.3	97.1	85.6	99.3	97.1	93.6	71.6	68.7	73	
Eastern	73.1	73.1	24.1	97.4	100.0	98.6	92.4	100.0	98.6	96.8	82.0	79.4	241	
Nyanza	55.0	55.0	39.7	97.8	98.6	95.2	91.7	99.3	96.6	93.3	67.4	64.8	226	
Rift V.	62.3	62.3	33.9	97.8	97.8	94.4	89.5	99.8	94.6	90.8	77.2	70.7	290	
Western	55.5	54.6	38.4	95.5	98.3	90.8	80.6	97.4	86.5	78.7	66.2	56.5	189	
Education														
None	53.0	52.9	38.1	96.3	98.8	91.6	77.8	98.7	92.7	86.9	58.4	55.1	306	
Some prim.	65.3	64.7	30.8	94.7	98.8	96.3	91.2	99.4	95.5	91.8	76.8	70.5	392	
Prim. comp.	66.5	66.5	32.5	98.0	100.0	98.8	96.0	99.8	97.8	95.0	84.7	79.4	355	
Second.+	56.7	56.5	41.2	98.6	97.4	96.3	95.4	99.0	96.3	95.2	90.7	85.8	259	
Total	61.0	60.8	35.1	96.7	98.9	96.1	90.7	99.3	95.8	92.4	78.0	72.8	1315	

* BCG, at least 3 doses of DPT and polio, and measles

multiplying the 73 percent of children 12-23 months who are fully immunised according to their health cards by the 61 percent who produced health cards for the interviewer gives an estimate of 44 percent of all children 12-23 months who are fully immunised. This compares closely with the estimate of 41 percent fully immunised according to cards from the Kenya Expanded Programme of Immunisation (KEPI) survey (Ministry of Health, 1987). These are minimum estimates of coverage, since they assume that all children without cards have not received any immunisations. If one assumes that all children without cards whose mothers say they have received some immunisation(s) have received the same immunisations as those with cards, the estimate in the KDHS increases to 70 percent fully immunised among children 12-23 months. This is probably on the high side and the true coverage is most likely between 44 and 70 percent. In the KEPI survey, information on specific immunisations received was asked of the mothers of children without cards; using this information, the proportion of children 12-23 months fully immunised was 51 percent.

Child Morbidity and Treatment

In addition to the immunisation data, information was collected for all children under age five on the occurrence of diarrhoea, fever and respiratory illness in the weeks preceding the interview and treatment provided for children experiencing these illnesses. The data on diarrhoea,

fever and respiratory illness cannot be used to measure incidence of these ailments. However, they provide a basis for a period prevalence estimate for each illness, i.e., the percentage of children under 5 years whose mothers report that they had the illness in question during the weeks preceding the survey. In considering the morbidity information, it is important to remember that the measures are influenced by the mother's subjective evaluation of whether the child experienced the illness in question. For example, the question on diarrhoea simply asked the mother if the child had diarrhoea during the last 24 hours or two weeks. The responses to the question are clearly dependent on what the mother understood by the term diarrhoea and thus there may be considerable variation in the length and severity of the diarrhoea episodes reported in response to the question.

The morbidity measures are also affected by the reliability of the mother's recall as to when the episode of the illness in question occurred. Both the failure to report illness occurring within the reference period (two weeks for diarrhoea and four weeks for fever and cough) and the reporting of episodes that occurred prior to the period affect the accuracy of the prevalence estimate. In interpreting the morbidity data, it should be kept in mind that the majority of interviews took place during the dry season, when the number of cases of illness in question--diarrhoea, fever and respiratory problems--would be expected to be somewhat lower than at other times of the year.

Diarrhoea

Table 6.10 shows the percentage of children under age five reported as having had diarrhoea in the two weeks preceding the survey, whereas Table 6.11 shows the kind of treatment they received. Seven percent of children under five were reported to have had diarrhoea in the 24 hours before the survey and 13 percent were reported to have had diarrhoea in the two weeks before the survey. Diarrhoea prevalence varies with the age of the child; the rates are greatest for children aged between 6 and 17 months (when weaning usually takes place), whereas it is lowest for children 24 months or older. The sex differential is insignificant--13 percent of both boys and girls are reported as having had diarrhoea in the previous two weeks. Diarrhoea prevalence is slightly higher for rural than urban children. By province, diarrhoea prevalence is

Table 6.10 Among children under 5 years of age, the percentage reported by the mother to have had diarrhoea in the past 24 hours and the past two weeks, by background characteristics, Kenya, 1989

Background characteristics	Percent of children under 5 with diarrhoea in:		No. of children under 5
	Past 24 hours	Past two weeks	
Age in months			
<6	11.0	18.0	601
6-11	12.9	25.3	710
12-17	13.6	25.6	703
18-23	9.2	18.3	612
24-59	3.2	6.4	3889
Sex			
Male	6.8	12.9	3210
Female	6.5	12.6	3305
Residence			
Urban	5.4	10.8	899
Rural	6.9	13.1	5615
Province			
Nairobi	7.3	13.0	386
Central	4.7	10.0	927
Coast	4.3	10.1	378
Eastern	7.8	15.1	1174
Nyanza	7.0	15.5	1106
Rift Valley	4.6	7.4	1533
Western	10.5	18.6	1011
Education			
No education	7.5	13.2	1725
Some primary	6.9	12.9	2043
Primary comp.	6.7	12.7	1546
Secondary +	5.0	11.9	1194
Total	6.7	12.7	6514

highest for Western Province, followed by Nyanza and Eastern Provinces, in that order; it is lowest for Rift Valley Province. There are no substantial differences in prevalence of diarrhoea by education of mother.

For the children who had an episode of diarrhoea in the two weeks preceding the survey, Table 6.11 indicates what, if anything, mothers did to treat the diarrhoea. About 47 percent consulted medical personnel, 21 percent used ORS packets, 49 percent used a homemade rehydration solution, and 84 percent used other treatment. It is important to note that only 10 percent did nothing to control the diarrhoea.

Table 6.11 Among children under 5 years of age who had diarrhoea in the past two weeks, the percentage consulting a medical facility, the percentage receiving different treatments as reported by the mother, and the percentage not consulting a medical facility and not receiving treatment, according to background characteristics, Kenya, 1989

Background characteristics	Percent consulting a medical facility	Percent of children with diarrhoea treated with*:			Not consulting facility and no treatment	No. of children with diarrhoea
		ORS packets	Home solution	Other treatment		
Age in months						
<6	55.1	9.4	55.8	85.7	6.7	108
6-11	49.0	26.1	40.9	84.0	10.2	180
12-17	53.2	24.6	61.3	92.3	3.2	180
18-23	44.6	21.8	44.5	84.3	14.2	112
24-59	38.0	19.6	44.7	76.3	14.8	250
Sex						
Male	47.0	16.6	46.8	85.5	9.1	413
Female	46.6	25.4	50.9	82.0	11.2	417
Residence						
Urban	58.7	20.7	52.0	84.0	12.0	97
Rural	45.2	21.1	48.5	83.7	9.9	733
Province						
Nairobi	66.7	23.1	57.7	87.2	5.1	50
Central	31.9	19.6	71.4	94.7	3.7	92
Coast	58.2	38.0	35.1	86.6	10.6	38
Eastern	48.4	13.8	54.1	87.2	10.2	177
Nyanza	49.8	24.6	41.0	77.1	13.9	171
Rift Valley	35.8	29.0	27.5	69.3	18.6	113
Western	48.9	16.6	53.5	88.4	6.0	188
Education						
No education	42.3	18.6	42.6	77.2	16.3	228
Some primary	49.2	21.3	51.7	86.0	7.6	264
Primary comp.	49.2	21.2	55.1	86.9	8.0	196
Secondary +	46.3	24.3	45.4	85.6	8.1	142
Total	46.8	21.1	48.9	83.7	10.2	830

* Percents may add to more than 100, since children may receive more than one treatment.

The type of treatment given varies somewhat according to background characteristics. For example, small infants are less likely than older children to receive oral rehydration solution made from packets as treatment for diarrhoea, while older children are more likely than younger children not to receive any treatment at all. Urban children are more likely than rural children to consult a medical facility. Children in Nairobi are more likely to be taken for medical consultation than children in other provinces and children in Central Province are more likely to be given home solution when they have diarrhoea, while those in Coast Province are more likely to be given solutions made from ORS packets. Differences in treatment by education of the mother are small, except that children of mothers with no education are more likely to receive no treatment.

Fever

In Table 6.12, information is presented on the percentage of children under age five reported to have had fever during the four weeks prior to the KDHS interview. Fever is a specific symptom of many infectious diseases, but increased prevalence of fever may indicate a higher prevalence of malaria. Forty-two percent of children under age five had fever during the month before the survey.

The age of the child is related to the reported episode of fever, with prevalence peaking at 55 percent among children aged 6-11 months, whereas it is lowest for children aged 24-59 months (37 percent). There is no evidence of strong differentials in fever prevalence by sex, urban-rural residence, province, or education of the mother, except that prevalence is lowest in Rift Valley Province.

Table 6.12 further shows that of the reported children with fever, 56 percent consulted a medical facility, which is higher than the percentage of children with diarrhoea who consulted a medical facility. The percentage of children with fever who receive medical consultation varies little by age or sex of child, or mother's education. Children of urban women are more likely to receive medical consultation (72 percent) than children of rural women (53 percent) and children in Nairobi and Coast Province are more likely to be taken to a medical facility for consultation than children in other provinces.

Table 6.12 Among children under 5 years of age, the percentage who are reported by the mother as having had fever in the past four weeks, and, among children under 5 who had fever in the past four weeks, the percentage consulting a medical facility, according to background characteristics, Kenya, 1989

Background characteristics	Percentage with fever in past four weeks	Percentage consulting medical facility	Number of children under 5
Age in months			
<6	45.5	63.6	601
6-11	55.2	56.8	710
12-17	47.7	60.6	703
18-23	50.5	59.6	612
24-59	36.8	51.5	3889
Sex			
Male	41.4	55.8	3210
Female	42.8	55.3	3305
Residence			
Urban	41.5	71.5	899
Rural	42.2	53.0	5615
Province			
Nairobi	45.9	69.8	386
Central	50.2	52.7	927
Coast	44.1	76.9	378
Eastern	43.7	55.9	1174
Nyanza	50.0	56.4	1106
Rift Valley	29.0	49.9	1533
Western	41.6	48.5	1011
Education			
No education	38.6	54.2	1725
Some primary	44.2	52.0	2043
Primary comp.	42.2	56.1	1546
Secondary +	43.3	62.7	1194
Total	42.1	55.5	6514

Table 6.13 Among children under 5 years of age, the percentage who are reported by the mother as having suffered from severe cough or difficult or rapid breathing in the past four weeks, and, among children under 5 who suffered from severe cough or difficult breathing, the percentage consulting a medical facility, the percentage receiving various treatments, and the percentage not consulting a medical facility and not receiving treatment, according to background characteristics, Kenya, 1989

Background characteristics	Percent- age with cough in past 4 weeks	Percent- age with cough consulting medical facility	Percentage with cough treated by*: Cough syrup Other		Percent not con- sulting facility and no treatment	Number of chil- dren under 5
Age in months						
<6	24.1	64.9	53.5	63.9	10.6	601
6-11	24.7	72.8	57.9	50.1	9.3	710
12-17	18.3	72.1	49.6	44.6	9.6	703
18-23	19.3	65.9	60.1	68.5	4.2	612
24-59	16.0	61.5	49.8	61.5	7.9	3889
Sex						
Male	18.0	61.8	51.8	57.4	9.9	3210
Female	18.5	68.4	53.1	60.4	6.6	3305
Residence						
Urban	14.8	78.7	66.2	56.0	4.8	899
Rural	18.8	63.4	50.7	59.3	8.7	5615
Province						
Nairobi	13.7	76.8	67.1	56.1	9.8	386
Central	16.3	73.1	63.9	52.7	5.0	927
Coast	18.0	72.5	31.9	44.1	2.6	378
Eastern	18.7	56.9	40.5	66.5	2.5	1174
Nyanza	21.7	72.1	59.3	70.6	8.0	1106
Rift Valley	20.3	59.9	50.0	45.1	14.3	1533
Western	14.5	61.6	56.7	72.3	9.6	1011
Education						
No education	18.1	65.7	53.2	59.2	7.5	1725
Some primary	20.6	61.7	48.1	57.2	12.8	2043
Primary complete	18.8	65.2	50.8	61.3	4.9	1546
Secondary +	13.6	73.3	65.4	58.4	3.9	1194
Total	18.2	65.2	52.4	59.0	8.2	6514

* Percents may add to more than 100, since children may receive more than one treatment.

Cough/Difficult Breathing

An attempt was made in the survey to obtain information on the prevalence of respiratory illness by asking for each child under age five whether the child had had cough or difficulty breathing in the four weeks before the survey. The combination of cough and rapid breathing is considered an indication of lower respiratory tract infection, particularly pneumonia. Data from these questions are presented in Table 6.13. The data indicate that of all children under five, 18 percent had had cough or difficulty breathing in the four weeks before the survey. There exists

little difference in the percentage who had a cough by sex, urban-rural residence, or province. Younger children and those whose mothers are less educated are more likely to have had respiratory problems.

Of the children experiencing cough or difficulty breathing, 65 percent consulted a medical facility, 52 percent used cough syrup, 59 percent used other medicine, and 8 percent did nothing to treat the cough. Table 6.13 also shows how treatment regimes varied with sex of child, age of child, province, residence and mother's education. Children in urban areas are more likely to be taken to a medical facility than children in rural areas.

6.4 Household Sanitation

Table 6.14 presents information about the source of water used by female respondents in the KDHS. The most common source of water for drinking, washing, and cooking is rivers (37 percent of women). Almost one-third (31 percent) of women have access to piped water, either inside their house (19 percent) or from a public tap (11 percent), while 16 percent of women rely on wells for water. There is considerable difference in water sources by urban-rural and provincial residence. As expected, urban women are much more likely to have piped water than rural women. Women in Western, Rift Valley, Central and Eastern Provinces tend to obtain water from rivers, while those in Nairobi and Coast Province are likely to have piped water, mainly because of the large urban population in these two areas.

Residence/ province	Source of water									Total	No. of women
	Piped into house	Public tap	Well with pump	Well without pump	Lake	River	Pond	Rain- water	Other		
Residence											
Urban	56.1	34.7	2.1	2.3	0.2	3.0	1.0	0.2	0.4	100.0	1236
Rural	11.6	6.6	5.9	12.5	1.9	43.9	7.4	1.6	8.6	100.0	5914
Province											
Nairobi	57.7	38.1	0.8	1.3	0.0	1.7	0.0	0.2	0.1	100.0	554
Central	34.0	3.9	6.3	7.6	0.0	38.8	2.7	4.9	1.8	100.0	1120
Coast	24.4	32.7	4.0	6.1	0.1	15.7	15.7	0.0	1.2	100.0	498
Eastern	15.6	8.8	3.9	22.5	0.1	38.0	3.6	1.0	6.5	100.0	1269
Nyanza	7.6	9.2	6.5	12.1	8.8	27.1	3.4	0.4	25.0	100.0	1218
Rift Valley	9.0	5.9	7.0	10.2	0.2	51.9	9.2	1.1	5.6	100.0	1519
Western	13.7	8.8	4.9	5.8	0.2	52.5	11.5	1.0	1.5	100.0	971
Total	19.3	11.4	5.3	10.7	1.6	36.8	6.3	1.4	7.2	100.0	7150

Table 6.15 shows data on the types of toilet facilities for KDHS respondents. Three-quarters of the women have pit latrines, 9 percent have flush toilets, and 15 percent have no facilities. Urban women and women in Nairobi are much more likely to have flush toilets than rural women or women in other provinces. Despite the fact that Coast Province has the second largest city in Kenya (Mombasa), over one-third of the respondents report that they have no toilet facilities.

Table 6.15 Percent distribution of women by type of toilet facility in the household, according to urban-rural residence and province, Kenya, 1989

Residence/ province	Type of toilet				Total	No. of women
	Flush toilet	Pit latrine	Other	No fac- ilities		
Residence						
Urban	44.3	50.1	2.5	3.1	100.0	1236
Rural	1.5	80.5	1.3	16.8	100.0	5914
Province						
Nairobi	46.6	47.1	4.0	2.2	100.0	554
Central	7.7	90.0	1.9	0.4	100.0	1120
Coast	14.5	48.6	0.5	36.4	100.0	498
Eastern	0.8	83.8	0.2	15.2	100.0	1269
Nyanza	4.9	77.6	0.5	17.0	100.0	1218
Rift Valley	5.0	70.4	1.2	23.4	100.0	1519
Western	7.4	81.1	3.2	8.3	100.0	971
Total	8.9	75.2	1.4	14.5	100.0	7150

7 HUSBAND'S SURVEY

The Kenya Demographic and Health Survey also interviewed husbands of some of the female respondents. The husband questionnaire was designed to provide information on the husbands' background, fertility, fertility preferences, and contraceptive knowledge, use and attitudes. The information obtained from the husband's questionnaire will assist in planning and managing population and family planning programmes. In some tables in this chapter, husbands are matched with their wives to provide information on a sample of married couples.

7.1 Characteristics of the Sample

The KDHS was designed to interview 1000 husbands. Respondents were husbands who spent the night before the interview in the household in which his wife or wives were interviewed. In order to produce the required number of husbands, every other household selected in the KDHS was considered eligible for the husband's interview. During the data collection, 1,116 husbands were successfully interviewed.

Table 7.1 presents the percent distribution of husbands in the sample by age, number of children, region, level of education, and occupation. All data have been weighted to produce a representative sample.

About 13 percent of the husbands are less than 30 years of age, one out of three is 30 to 39, and more than 50 percent are 40 years or older. Husbands are older than currently married women in general, since 46 percent of married women are less than 30 years of age and only 20 percent are 40 or older. The distribution of husbands by province is similar to that of married women.

At least 50 percent of the husbands have completed primary or higher education, whereas 17 percent have no education. Husbands are better educated than currently married women, only 38 percent of whom have completed primary education and 32 percent of whom have no education (Table 1.1). The majority of the husbands are employed in agriculture (52 percent), compared to 13 percent employed in professional and technical occupations.

Table 7.1 Percent distribution of husbands by background characteristics, Kenya, 1989

Background characteristic	Weighted percent	Weighted no. of husbands	Unwtd. no. of husbands
Age			
Less than 30	12.8	150	160
30-39	32.7	383	379
40-49	28.6	335	311
50 or over	25.8	302	266
Residence			
Urban	13.4	157	244
Rural	86.6	1013	872
Province			
Nairobi	5.5	65	100
Central	14.1	165	214
Coast	5.9	69	99
Eastern	21.6	253	177
Nyanza	16.3	190	188
Rift Valley	25.2	295	207
Western	11.4	134	131
Education			
No education	17.2	201	185
Some primary	32.5	381	352
Primary complete	23.3	273	247
Secondary +	27.0	316	332
Occupation			
Never worked	0.2	2	3
Prof/Tech/Manag	12.6	148	123
Clerical	6.6	77	83
Sales	6.6	78	83
Agric-self employed	44.2	517	456
Agric-employee	8.2	96	90
Household/domestic	8.7	102	120
Skilled manual	9.2	108	125
Unskilled manual	3.6	42	31
Total	100.0	1170	1116

Table 7.2 presents the distribution of husbands by level of education and background characteristics. Younger husbands and those who live in urban areas have higher levels of education than older husbands and their rural counterparts. The education distribution by province shows that the husbands living in Nairobi are the most highly educated while those in the Coast Province are the least educated. This could be partly due to the rural-urban migration of educated husbands into Nairobi. Husbands working in professional, technical, and clerical occupations are the most educated, while those in agricultural occupations are the least educated.

Background characteristic	Level of education				Total	Wtd. no. of husbands
	None	Some primary	Primary complete	Secondary +		
Age						
Less than 30	5.9	16.7	29.8	47.6	100.0	150
30-39	12.9	28.4	24.0	34.6	100.0	383
40-49	12.7	31.3	29.3	26.7	100.0	335
50 or over	33.0	47.0	12.7	7.4	100.0	302
Residence						
Urban	9.4	11.9	22.5	56.1	100.0	157
Rural	18.4	35.7	23.5	22.4	100.0	1013
Province						
Nairobi	7.0	10.0	22.0	61.0	100.0	65
Central	6.7	33.7	24.9	34.7	100.0	165
Coast	52.5	16.4	12.1	19.0	100.0	69
Eastern	17.2	42.8	23.4	16.6	100.0	253
Nyanza	11.0	26.3	32.0	30.7	100.0	190
Rift Valley	20.1	37.5	18.8	23.6	100.0	295
Western	18.6	29.0	25.4	26.9	100.0	134
Occupation						
Never worked	0.0	66.7	0.0	33.3	100.0	2
Prof/Tech/Manag.	3.4	8.6	18.3	69.7	100.0	148
Clerical	2.5	6.5	21.2	69.8	100.0	77
Sales	17.2	23.9	29.2	29.7	100.0	78
Agric-self employed	24.1	41.9	22.2	11.9	100.0	517
Agric-employee	32.6	41.0	19.1	7.4	100.0	96
Household/domestic	9.1	29.5	31.3	30.1	100.0	102
Skilled manual	10.1	26.5	33.9	29.5	100.0	108
Unskilled manual	10.9	68.9	10.4	9.8	100.0	42
Total	17.2	32.5	23.3	27.0	100.0	1170

7.2 Marriage and Fertility

The KDHS husband questionnaire included a question about the number of wives a husband had. Table 7.3 displays responses to this question.

About 20 percent of husbands have more than one wife. Polygyny increases with age; only 3 percent of husbands under 30 years were in a polygynous union, compared with 45 percent of

those 50 or over. The proportion of rural husbands who are polygynous is higher than for urban husbands.

Table 7.3 Percentage of husbands in a polygynous union, according to background characteristics, Kenya, 1989

Background characteristic	Percent	Weighted no. of husbands
Age		
Less than 30	3.3	150
30-39	10.3	383
40-49	17.7	335
50 or over	44.9	302
Residence		
Urban	17.6	157
Rural	20.9	1013
Province		
Nairobi	17.0	65
Central	7.6	165
Coast	41.4	69
Eastern	14.2	253
Nyanza	29.4	190
Rift Valley	17.3	295
Western	33.4	134
Education		
No education	37.9	201
Some primary	19.5	381
Primary complete	17.4	273
Secondary +	13.2	316
Total	20.5	1170

Provincial differentials show that Coast Province has the highest proportion of husbands in polygynous unions (41 percent). This is followed by Western Province (33 percent), and Nyanza Province (29 percent), with Central Province having the smallest proportion of such unions (8 percent). Polygyny decreases with increasing level of education.

Table 7.4 Percent distribution of husbands by number of current wives, according to age, Kenya, 1989

Age	Number of current wives			Total	Wtd. no. of husb.
	1	2	3+		
Less than 30	96.7	3.3	0.0	100.0	150
30-39	89.7	10.1	0.2	100.0	383
40-49	82.3	15.1	2.5	100.0	335
50 or over	55.1	30.5	14.5	100.0	302
Total	79.6	15.9	4.5	100.0	1170

Table 7.4 shows the percent distribution of husbands by number of wives according to age of the husband. The data show that about three-quarters of the polygynous husbands have 2 wives, while one-quarter have three or more wives. The proportion with three or more wives increases with age of the husband.

Table 7.5 shows the mean age difference between spouses. As expected, wives tend to be younger than their husbands. The mean age difference is about 10 years. The difference increases to 18 years between husbands and second wives.

Age of interviewed wife	Husband's age - wife's age						Mean no. of years older	Wtd. number of couples
	Negative	0-4 yrs	5-9 yrs	10-14 yrs	15+ yrs	Total		
15-19	0.0	19.9	40.5	31.2	8.5	100.0	9.7	36
20-24	0.4	23.4	46.5	12.3	17.4	100.0	9.3	178
25-29	2.4	27.8	38.2	14.2	17.5	100.0	9.8	262
30-34	3.2	25.9	37.4	13.1	20.4	100.0	10.2	213
35-39	5.1	22.5	31.8	22.2	18.4	100.0	10.3	228
40-44	8.0	19.7	27.0	25.2	20.1	100.0	10.8	171
45-49	10.1	32.9	22.3	22.3	12.4	100.0	8.2	102
Total	4.1	24.8	35.2	18.0	17.8	100.0	9.9	1189

Note: The number of married couples is greater than the number of husbands because several husbands had more than one wife interviewed.

Table 7.6 presents the mean number of living children, by age of husband. The number increases dramatically with age, from 2.1 children for husbands under age 30, to 9.6 children for husbands age 50 or over. Forty-nine percent of husbands have six or more children and 42 percent of husbands age 50 or over have 10 or more children.

Age	Number of living children											Total	Wtd. no. of husb.	Mean no. alive
	0	1	2	3	4	5	6	7	8	9	10+			
< 30	6.9	26.1	32.1	25.2	6.6	2.0	0.7	0.4	0.0	0.0	0.0	100.0	150	2.1
30-39	1.5	6.5	12.1	17.8	21.5	14.8	15.6	4.0	2.9	2.3	1.0	100.0	383	4.2
40-49	0.9	0.6	4.8	6.1	10.1	12.4	14.3	14.1	11.5	7.5	17.6	100.0	335	6.9
50 +	0.3	0.9	1.1	4.7	4.8	5.1	10.3	10.3	9.5	10.9	42.1	100.0	302	9.6
Total	1.7	5.9	9.8	12.1	12.0	9.9	11.9	8.1	6.7	5.7	16.3	100.0	1170	6.1

7.3 Knowledge and Use of Family Planning

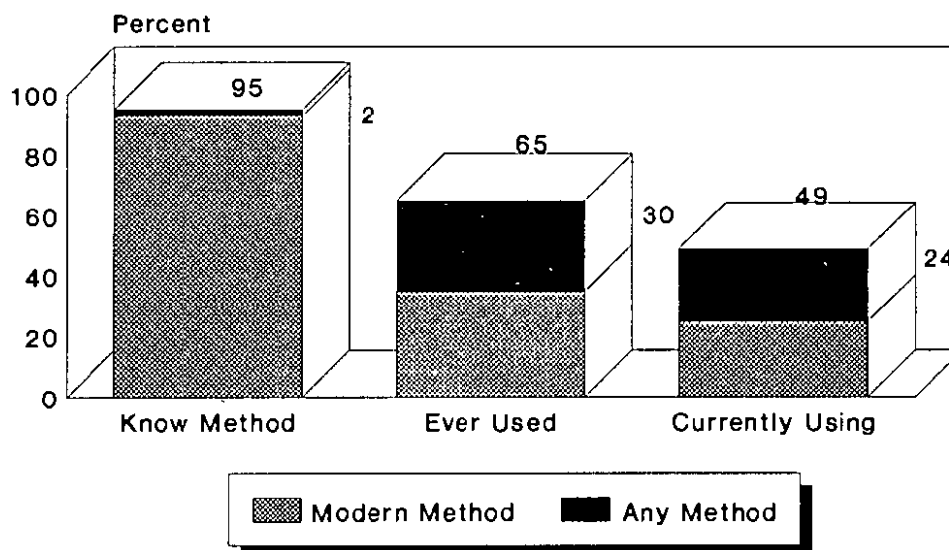
Table 7.7 and Figure 7.1 show the percentage of husbands who know a family planning method, know a source for a method, who have ever used a method, and who are currently using a method.

Table 7.7 Percentage of husbands who know contraceptive methods, who know a source for methods, who have ever used and who are currently using, by method, Kenya, 1989

Method	Knows method	Knows source	Ever used	Currently using
Any method	94.7	92.7	65.0	49.3
Any modern method	93.1	91.6	35.1	24.6
Pill	87.5	83.7	16.9	7.8
IUD	67.4	64.1	8.8	5.3
Injection	79.8	77.0	6.3	3.5
Diaphragm/foam/jelly	29.2	28.0	2.4	0.7
Condom	81.5	74.3	16.7	3.2
Female sterilisation	83.0	79.8	7.1	6.3
Male sterilisation	35.0	32.2	1.0	0.3
Any traditional method	82.6	53.9	54.4	29.0
Periodic abstinence	76.5	53.9	48.1	25.8
Withdrawal	47.4	0.0	15.3	2.5
Other methods	18.1	0.0	8.2	2.8

Note: Husbands may report current use of more than one method.

Figure 7.1
Family Planning Knowledge and Use
Among Husbands



Kenya DHS 1989

As the table shows, knowledge of contraceptives by Kenyan husbands is high. While 95 percent know of at least one method, 93 percent know a source, 65 percent have used a method at some time, and 49 percent are currently using a method. Over 93 percent of the husbands have heard of at least one modern method of contraception. While 92 percent know a source for modern methods, only 35 percent have ever used a modern method and 25 percent are currently using one.

Knowledge of specific methods is greatest for the pill, followed by female sterilisation, condom, injection, periodic abstinence and the IUD in that order. The table further shows that traditional methods, specifically, periodic abstinence, (26 percent) are the most widely used by husbands. Eight percent of husbands say they rely on the pill, while 6 percent rely on female sterilisation. There are sharp differences between ever-use and current use of contraceptive methods, especially for modern methods. For example, of the 17 percent of husbands who have ever used the condom, only 3 percent are currently using the method.

Table 7.8 shows that husbands are more knowledgeable about contraceptive methods than their wives. For almost all methods, the proportion of husbands who know the method when the wife does not is higher than the proportion of wives who know the method when the husband does not.

Table 7.8 Percent distribution of married couples by knowledge of contraception, according to method, Kenya, 1989

Method	Both know method	Only husband knows	Only wife knows	Neither knows	Total
Pill	78.7	9.0	8.8	3.4	100.0
IUD	52.3	15.1	14.2	18.3	100.0
Injections	68.6	11.4	14.2	5.8	100.0
Diaphragm/foam/jelly	11.6	17.9	17.3	53.3	100.0
Condom	49.7	32.1	6.7	11.5	100.0
Female sterilisation	65.6	17.7	9.6	7.1	100.0
Male sterilisation	11.5	23.3	12.7	52.5	100.0
Periodic abstinence	40.7	35.6	10.8	12.9	100.0
Withdrawal	11.6	35.7	6.8	45.8	100.0
Other	1.8	16.6	5.1	76.5	100.0

Note: Table is based on 1187 married couples.

Table 7.9 below shows the differentials in current contraceptive use. The table shows that use of any method and modern methods is higher among husbands in their 30s and 40s than among older and younger husbands. Use is also highest among husbands with 3-4 living children and lower among husbands with less than three or more than four children.

Rural-urban differentials exist, especially for use of modern methods. Forty percent of urban husbands are currently using a modern method, almost twice the proportion among rural husbands (22 percent). As expected, variation by province shows that Nairobi has the highest level of current use, followed by Central, Eastern, and Rift Valley Provinces.

Table 7.9 Percentage of husbands who are currently using any method and any modern method of contraception, by background characteristics, Kenya, 1989

Background characteristic	Any method	Any modern method	Wtd. no. of husb.
Age			
Less than 30	44.2	20.5	150
30-39	53.0	28.7	383
40-49	57.2	29.1	335
50 or over	39.0	16.3	302
Residence			
Urban	55.7	39.8	157
Rural	48.5	22.2	1013
Province			
Nairobi	66.0	46.0	65
Central	64.3	39.5	165
Coast	37.0	18.8	69
Eastern	60.7	22.3	253
Nyanza	43.7	19.4	190
Rift Valley	46.8	21.8	295
Western	22.7	16.7	134
Education			
No education	38.5	16.9	201
Some primary	45.0	18.6	381
Primary complete	47.7	18.3	273
Secondary +	63.3	42.1	316
No. of living children			
0-2	43.6	23.6	203
3-4	52.3	28.7	281
5 or more	50.1	23.2	686
Total	49.5	24.6	1170

Current use increases with educational attainment. It varies from 39 percent for any method for the husbands with no education to 63 percent for those with secondary and higher education. The same pattern is seen among husbands who are currently using a modern method.

As with female respondents, husbands were also asked about problems they perceived in using contraceptive methods. However, husbands were asked only about problems perceived for male-oriented methods: condom, male sterilisation and withdrawal. The results are shown in Table 7.10.

The table shows that the most common response regarding problems in using the condom was "no problem" or "don't know", which together constitute almost 70 percent of the responses. Substantial proportions say that the condom is not effective or that it is inconvenient to use. Regarding male sterilisation, the most common answer was "don't know" and "other" (much of which refers to the permanency of the method). Health concerns and community disapproval were also mentioned by a number of husbands. Husbands were most likely to say there were no problems with withdrawal, however, almost 20 percent said the main problem with the method was that it was ineffective. Inconvenience was also mentioned.

Table 7.10 Percent distribution of husbands who have ever heard of condom, male sterilisation, or withdrawal, by main problem perceived in using the method, according to specific method, Kenya, 1989

Main problem perceived	Contraceptive method		
	Condom	Male sterilisation	Withdrawal
None	43.7	10.1	45.7
Not effective	8.8	0.1	18.8
Partner disapproves	2.4	2.3	1.5
Community disapproves	0.7	10.9	2.6
Religion disapproves	1.9	7.3	1.5
Health concerns	4.0	18.5	4.6
Access/Availability	1.7	0.1	0.0
Costs too much	0.0	0.2	0.0
Inconvenient to use	8.2	5.0	12.7
Other	3.1	22.6	3.6
Don't know, not stated	25.6	23.0	8.9
Total	100.0	100.0	100.0
Weighted number	954	410	554

7.4 Sources for Methods

Table 7.11 shows that for all methods except periodic abstinence, the majority of husbands (generally over 70 percent) would use government sources--especially hospitals--to obtain family planning methods if they wanted to use them. After government sources, the next most commonly cited source is the Family Planning Association of Kenya, followed by mission hospitals and dispensaries. For periodic abstinence, husbands are most likely to say they would not go anywhere for information; a smaller proportion would go to friends or relatives, or to government hospitals for information.

Table 7.12 shows that younger husbands start using contraception when they have fewer children than older husbands. For example, while only 3 percent of husbands aged 50 started using contraception before they had any children, 14 percent of husbands less than 30 years of age started before having their first child.

7.5 Intention to Use Family Planning in the Future

As with female respondents, all husbands who were not current users of family planning were asked whether they intended to use a method at any time in the future. As Table 7.13 shows, of husbands who are not currently using contraception, 48 percent say they intend to use, 42 percent do not intend to use, and 10 percent are unsure.

As shown in Table 7.14, the most preferred method husbands say they intend to use is injection, followed by pill and female sterilisation. From the table, it is evident that the husbands interviewed intended to use female-oriented contraceptives.

Table 7.11 Percent distribution of husbands knowing a contraceptive method by supply source they say they would use, according to specific method, Kenya, 1989

Supply source that would be used	Contraceptive method							
	Pill	IUD	Injection	Diaphragm/foam jelly	Condom	Female sterilisation	Male sterilisation	Periodic abstinence
Nowhere	0.5	0.6	0.7	0.2	1.7	0.6	2.3	23.8
Govt. hospital	53.8	58.6	56.9	57.1	42.6	75.3	71.7	14.9
Govt. health center	22.0	17.1	20.5	17.1	18.1	5.9	2.9	7.3
FPAK*	9.0	10.2	9.4	11.7	11.0	5.9	4.8	8.4
Mobile clinic	1.6	1.2	2.2	2.0	2.5	0.1	0.2	4.3
Field educator	1.3	0.2	0.1	0.5	1.8	0.1	0.2	2.7
Pharmacy/Shop	0.6	0.1	0.0	0.7	7.1	0.0	0.0	0.1
Private hospital	1.7	1.4	1.3	3.0	1.4	1.8	2.2	0.5
Mission hospital/dispens.	3.4	4.8	4.6	2.0	3.2	5.2	5.6	1.0
Employer's clinic	0.2	0.6	0.5	0.9	0.7	0.3	0.4	0.1
Private doctor	1.0	0.7	0.4	0.7	0.2	0.1	0.5	0.6
Traditional healer	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Partner would get	0.1	0.0	0.0	0.3	0.3	0.1	0.0	8.6
Friends/Relatives	0.4	0.2	0.2	0.0	1.8	0.7	0.8	18.8
Other	0.6	0.1	0.3	0.0	0.4	0.5	1.1	3.0
Don't know/not stated	3.9	4.5	2.9	3.9	7.1	3.2	5.7	5.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Weighted no. of husbands	1024	789	934	342	954	971	410	895

* Family Planning Association of Kenya

Table 7.12 Percent distribution of husbands by number of living children at time of first use of contraception, according to current age, Kenya, 1989

Age	Never used	Number of living children at time first used							Wtd. no. of husb.
		None	1	2	3	4+	Missing	Total	
Less than 30	38.5	14.3	30.6	10.2	4.8	1.6	0.0	100.0	150
30-39	31.7	5.7	25.6	15.8	8.6	11.6	1.1	100.0	383
40-49	30.5	4.0	11.9	10.2	12.5	28.2	2.8	100.0	335
50 or over	42.7	3.2	12.4	9.5	9.5	21.7	1.1	100.0	302
Total	35.0	5.6	18.9	11.8	9.5	17.7	1.4	100.0	1170

7.6 Attitudes Toward Family Planning

The KDHS asked husbands if they thought it acceptable to have family planning messages on the radio. Table 7.15 shows that 92 percent of husbands believe it is acceptable to have family planning messages on the radio. With radios becoming universal in Kenyan households, this augurs well for family planning education on radio.

Differentials in acceptability of radio messages by age and urban-rural residence are small. The greatest differentials occur by educational group, where 77 percent of those with no education find it acceptable to have family planning messages on radio, compared to 97 percent of those with

Table 7.13 Percent distribution of husbands who are not currently using any contraceptive method, by intention to use in the future, according to number of living children, Kenya, 1989

Intention to use in future	Number of living children					Total
	None	1	2	3	4+	
Intends to use	46.7	73.1	47.9	46.8	45.3	47.5
Unsure about using	18.9	18.8	8.5	20.1	6.9	9.7
Does not intend to use	34.5	8.1	42.6	31.4	46.7	41.9
Missing	0.0	0.0	1.1	1.8	1.1	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Wtd. no. of husbands	20	37	58	64	413	593

secondary and higher education. Variation by province shows that Central Province is highest with 99 percent and Coast lowest with 81 percent. Perhaps the lack of acceptability of family planning messages on radio in Western and Coast Provinces is influenced by cultural conservatism. In certain ethnic groups in Kenya, sexual matters are relegated to certain age groups and are not to be discussed publicly, let alone be broadcast on radio.

Table 7.14 Percent distribution of husbands who are not using a contraceptive method but who intend to use in the future, by preferred method, Kenya, 1989

Preferred method	Percent
Pill	20.2
IUD	3.1
Injections	23.1
Diaphragm/Foam/Jelly	0.6
Condom	6.1
Female sterilisation	20.2
Male sterilisation	0.2
Periodic abstinence	11.6
Withdrawal	0.2
Other	6.2
Unsure/not stated	8.5
Total	100.0
Number	281

Table 7.15 also shows the percentage of husbands knowing a method who approve of family planning according to background characteristics. The table shows that 91 percent of Kenyan husbands who know a method approve of family planning. Approval decreases with age, with those husbands aged above 50 years approving least (86 percent). Urban-rural differentials in approval are small.

Table 7.15 Percentage of all husbands who believe it acceptable to have messages about family planning on the radio and percentage of husbands knowing a contraceptive method who approve of family planning, by background characteristics, Kenya, 1989

Background characteristics	Of all husbands, percent who find FP messages on radio acceptable		Of husbands who know a method, percent who approve of FP	
	Percent	Number	Percent	Number
Age				
Less than 30	95.5	150	97.0	140
30-39	93.4	383	92.8	377
40-49	94.1	335	91.6	322
50 or over	87.1	302	85.9	269
Residence				
Urban	94.7	157	93.2	152
Rural	91.9	1013	91.0	957
Province				
Nairobi	94.0	65	91.8	63
Central	98.9	165	98.5	164
Coast	81.0	69	73.5	65
Eastern	95.2	253	95.1	252
Nyanza	92.3	190	89.8	190
Rift Valley	91.7	295	92.0	262
Western	84.5	134	83.3	113
Education				
No education	76.6	201	77.9	173
Some primary	93.2	381	90.7	361
Primary complete	96.3	273	96.5	263
Secondary +	97.4	316	95.1	312
Total	92.2	1170	91.3	1108

Less educated husbands are less likely to approve of family planning than their more educated counterparts, although even among husbands with no education, over three-quarters approve of family planning. As with acceptability of radio messages, approval of family planning is lower among husbands in Coast and Western Provinces.

Discussion of family planning between husbands and wives is instrumental in the decision to control fertility. As shown in Table 7.16, 36 percent of the Kenyan husbands in KDHS who know at least one contraceptive method say they have not talked with their wives about family planning in the past year, about 14 percent say they have talked about it once or twice in the past year and 51 percent say they have discussed family planning three or more times. Except for husbands aged 50 and over, there are few differences by age of the husband.

Table 7.17 shows the level of communication about family planning among married couples. This table compares the husband's own report of his attitude toward family planning with his wife's perception of his attitude. Among husbands who reported that they approve of family planning, 14 percent of their wives believe that their husbands disapprove and 20 percent do not know. Of

husbands who disapprove of family planning, 27 percent of their wives believe they approve, 37 percent of wives believe that their husbands disapprove and 36 percent do not know.

Table 7.16 Percent distribution of husbands knowing a contraceptive method by number of times discussed family planning with wife, according to current age, Kenya, 1989

Age	Number of times discussed			Total	Wtd. number of husbands
	Never	Once or twice	More often		
<30	30.6	17.8	51.7	100.0	140
30-39	27.1	16.3	56.6	100.0	377
40-49	33.9	10.7	55.4	100.0	322
50 +	51.7	11.3	37.0	100.0	269
Total	35.5	13.6	51.0	100.0	1108

Table 7.17 Percent distribution of married couples by wife's perception of husband's attitude toward family planning, according to husband's actual attitude, Kenya, 1989

Wife's perception of husband's attitude	Of husbands who:	
	Approve of FP	Disapprove of FP
Wife thinks husband approves	65.8	27.3
Wife thinks husband disapproves	13.9	37.2
Wife doesn't know	20.3	35.5
Total	100.0	100.0
Weighted number	1065	116

Note: Excludes 8 couples where husband's attitude toward family planning is missing.

7.7 Desire for More Children

Husbands interviewed in this survey were asked whether they wanted more children. Table 7.18 shows their answers.

The table shows that almost half of husbands want no more children and one-quarter want to space their next child. The proportion who want no more rises with the number of living children, while the proportion who want their next child within two years decreases with number of living children. The table further shows that irrespective of the number of living children, a large proportion of husbands want to have their next child after two years, indicative of consciousness of childspacing.

Table 7.18 Percent distribution of husbands by desire for children, according to number of living children, Kenya, 1989

Desire for more children	Number of living children							Total
	0	1	2	3	4	5	6+	
Wants within 2 years	40.0	31.4	20.9	18.5	9.2	5.5	6.8	11.9
Wants after 2+ years	10.3	52.2	49.4	38.8	36.4	15.9	11.7	24.3
Wants, unsure timing	41.5	9.5	5.6	3.9	3.7	3.6	4.6	5.3
Undecided	5.0	0.9	4.0	16.0	7.9	10.4	11.2	9.9
Wants no more	3.2	5.9	20.2	22.8	42.8	64.6	65.7	48.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wtd. number of husbands	20	69	114	140	140	116	569	1170

Note: Excludes 2 husbands with number of living children missing

Table 7.19 shows that the desire to stop childbearing is higher among rural than urban husbands which is probably due to the fact that they have more children than urban husbands. There is no clear relationship between level of education and the desire to have no more children.

Table 7.19 Percentage of husbands who want no more children by background characteristics, Kenya, 1989

Background characteristics	Percent	No. of husbands
Residence		
Urban	35.7	157
Rural	50.6	1013
Education		
No education	45.0	201
Some primary	56.8	381
Primary complete	40.9	273
Secondary +	47.5	316
No. of living children		
None	3.2	20
1	5.9	69
2	20.2	114
3	22.8	140
4	42.8	140
5	64.6	116
6+	65.7	569
Total	48.6	1170

Table 7.20 compares husbands' and wife's views regarding future childbearing. In general, there is a fairly high degree of correlation between husband and wife on this matter. In 38 percent of couples, neither spouse wants more children, while in 27 percent, both spouses want another child. The proportion of couples in which the husband wants another child and the wife does not (11 percent) only slightly exceeds the proportion in which the wife wants another child and the husband does not (7 percent).

Number of living children	Both want more	Husband wants, wife infecund	Husband wants, wife doesn't	Wife wants, husband doesn't	Both want no more	One or both undecided	Total	Wtd. no. of married couples
Husband								
None	82.1	6.5	0.0	3.2	0.0	8.2	100.0	20
1-3	54.9	0.9	12.5	5.1	12.1	14.4	100.0	324
4-6	21.2	0.9	7.4	9.6	42.8	18.0	100.0	404
7 or more	8.8	2.7	13.5	5.5	54.9	14.5	100.0	440
Wife								
None	59.0	8.2	0.0	7.2	1.9	23.8	100.0	35
1-3	52.3	1.1	10.5	8.3	14.2	13.6	100.0	422
4-6	17.4	0.3	11.9	8.0	41.8	20.6	100.0	424
7 or more	1.6	3.6	11.2	2.8	70.2	10.6	100.0	307
Total	26.9	1.7	10.9	6.8	38.1	15.6	100.0	1189

7.8 Ideal Number of Children

Husbands were asked the same question as female respondents about the number of children they would want if they could choose exactly (ideal family size). The results are shown in Table 7.21.

It is clear from the tables that regardless of the number of living children, the modal response among husbands was 4. Even among husbands with six or more children, 41 percent choose 4 children as the ideal number. This is possibly due to a preference for equity by sex--two boys and two girls. The mean ideal number of children among husbands in this survey was 4.8, which is identical to the mean for currently married women (see Chapter 5). Table 7.22 shows that the mean ideal number of children increases with the actual number of living children.

Table 7.22 shows the comparison of ideal number of children according to husband and wife. The data indicate that exact agreement regarding ideal number of children is not common among married couples.

Table 7.23 and Figure 7.2 show the mean ideal number of children among husbands according to selected background characteristics. The mean ideal number of children increases with age, from 3.9 for the husbands less than 30 to 6 children for husbands who are 50 years old and above. The table shows that the mean ideal number of children for urban husbands is 4.0, while it is 4.9 children for the rural husbands. The mean ideal number of children decreases with

increasing education of husband. Regional differentials also exist. The Coast region recorded a mean ideal number of 12 children with Nairobi recording the lowest mean of 3.8 children. Nyanza and the Rift Valley recorded intermediate values of 5.1 and 4.6, respectively.

Table 7.21 Percent distribution of husbands by ideal number of children and mean ideal number of children, according to number of living children, Kenya, 1989

Ideal number of children	Number of living children							Total
	0	1	2	3	4	5	6+	
1	0.0	1.8	0.0	0.0	1.4	0.0	0.5	0.5
2	20.7	4.7	17.6	8.7	6.5	8.9	4.8	7.4
3	9.7	15.7	24.4	15.4	8.0	9.1	11.6	12.8
4	28.2	51.2	40.8	50.5	45.7	38.0	41.4	42.9
5	12.4	4.5	7.6	6.0	15.3	19.5	5.7	8.5
6	9.7	8.0	4.9	13.2	15.7	6.4	11.0	10.5
7	0.0	0.9	0.7	0.5	1.0	0.4	1.7	1.2
8 or more	1.8	5.6	1.0	1.8	2.2	9.8	9.2	6.5
Non-numeric response	17.6	5.7	2.5	3.0	4.2	6.1	10.4	7.4
Missing	0.0	1.9	0.6	1.0	0.0	1.8	3.6	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean ideal number	3.9	4.2	3.6	4.1	4.4	4.8	5.4	4.8
Wtd. no. of husbands	20	69	114	140	140	116	569	1170
Base for mean*	17	64	111	135	134	107	489	1056

* Means are based on numeric answers only.

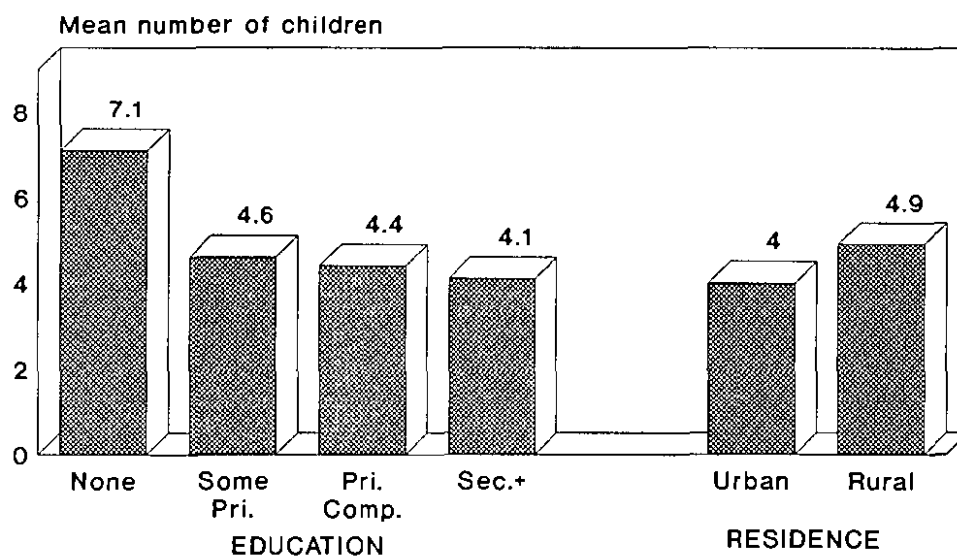
Table 7.22 Percent distribution of married couples by whether husband's ideal number of children is less than, the same as, or higher than the wife's, according to wife's ideal number, Kenya, 1989

Wife's ideal number of children	Husband's ideal number of children				Total	Wtd. no. of married couples
	Less than wife's	Same as wife's	More than wife's	Non-numeric		
1	0.0	0.0	93.3	6.7	100.0	5
2	2.3	36.2	56.8	4.7	100.0	90
3	12.8	28.0	53.0	6.1	100.0	122
4	22.0	47.4	23.8	6.8	100.0	563
5	56.5	13.2	23.8	6.5	100.0	186
6 or more	57.4	25.7	3.3	13.5	100.0	390
Total	34.7	33.8	23.0	8.5	100.0	1357

Table 7.23 Mean ideal number of children of husbands by background characteristics, Kenya, 1989

Background characteristics	Mean ideal	No. of husbands
Age		
<30	3.9	141
30-39	4.5	361
40-49	4.5	306
50 +	6.0	248
Residence		
Urban	4.0	139
Rural	4.9	917
Province		
Nairobi	3.8	57
Central	4.0	162
Coast	12.4	47
Eastern	4.2	240
Nyanza	5.1	163
Rift Valley	4.6	281
Western	4.3	106
Education		
No education	7.1	154
Some primary	4.6	348
Primary complete	4.4	250
Secondary +	4.1	304
No. of living children		
None	3.9	17
1	4.2	64
2	3.6	111
3	4.1	135
4	4.4	134
5	4.8	107
6+	5.4	489
Total	4.8	1056

Figure 7.2
Mean Ideal Number of Children
Among Husbands



Kenya DHS 1989

REFERENCES

- Central Bureau of Statistics. n.d. *1979 Population Census. Vol. 2, Analytical Report*. Nairobi: Ministry of Finance and Planning.
- Central Bureau of Statistics. 1986. *Kenya Contraceptive Prevalence Survey 1984: Provincial Report*. Nairobi: Ministry of Planning and National Development.
- Central Bureau of Statistics. 1984. *Kenya Contraceptive Prevalence Survey 1984: First Report*. Nairobi: Ministry of Planning and National Development.
- Central Bureau of Statistics. 1983. *Population Projections for Kenya 1980-2000*. Nairobi: Ministry of Economic Planning and Development (courtesy of UNICEF).
- Central Bureau of Statistics. 1980. *Kenya Fertility Survey 1977-1978: First Report*. 2 Vols. Nairobi: Ministry of Economic Planning and Development.
- Central Bureau of Statistics. 1977. *Demographic Surveys 1973-1976: Methodological Report*. Nairobi: Ministry of Finance and Planning.
- Central Bureau of Statistics. 1975. *Demographic Baseline Survey Report 1973*. Nairobi: Ministry of Finance and Planning.
- Chogoria Hospital and Centers for Disease Control (CDC). 1987. *1985 Chogoria Community Health Survey: Report of Principal Findings*. Chogoria, Kenya: Community Health Department, P.C.E.A. Chogoria Hospital and Division of Reproductive Health, CDC.
- Ministry of Health. 1987. *Immunization Coverage in Kenya 1987*. Kenya Expanded Programme on Immunization. Nairobi: Ministry of Health.
- National Council for Population and Development. 1984. *Population Policy Guidelines*. Sessional Paper No. 4 of 1984. Nairobi: Office of the Vice-President, Ministry of Home Affairs and National Heritage.
- Rutstein, Shea O. 1984. *Infant and Child Mortality: Levels, Trends, and Demographic Differentials*. World Fertility Survey Comparative Study Number 43. Voorburg, Netherlands: International Statistical Institute.
- Republic of Kenya. 1989. *Development Plan 1989-1993*. Nairobi: Ministry of Planning and National Development.

APPENDIX A

SURVEY DESIGN

APPENDIX A. SURVEY DESIGN

A.1 Questionnaire Design and Training

The KDHS utilised three questionnaires: a household questionnaire, a woman's questionnaire, and a husband's questionnaire. The first two were based on the DHS Programme's Model "B" Questionnaire that was designed for low contraceptive prevalence countries, while the husband's questionnaire was based on similar questionnaires used in the DHS surveys in Ghana and Burundi. A two-day seminar was held in Nyeri in November 1987 to develop the questionnaire design. Participants included representatives from the Central Bureau of Statistics (CBS), the Population Studies Research Institute at the University of Nairobi, the Community Health Department of Kenyatta Hospital, and USAID. The decision to include a survey of husbands was based on the recommendation of the seminar participants. The questionnaires were subsequently translated into eight local languages (Kalenjin, Kamba, Kikuyu, Kisii, Luhya, Luo, Meru and Mijikenda), in addition to Kiswahili.

In order to test the quality of the translations, as well as to check other aspects of survey design, a pretest was conducted in July and August 1988. Sixteen female and 8 male interviewers were recruited and trained for two weeks in July 1988 by NCPD, CBS and IRD/DHS staff. They were then grouped into teams, one for each of the eight local languages, and travelled to selected areas in various parts of the country where those languages are spoken. Officers from NCPD and CBS accompanied the teams as supervisors. The interviewers carried out about 200 pretest interviews with women and somewhat fewer with husbands. After the pretest, the questionnaires were modified slightly based on the pretest comments.

Training for the main survey was held in Machakos from October 26 to November 17. Participants included 26 people who had conducted the pretest and 55 new recruits, for a total of 81. Most of the trainees had "O" level education, while a few had "A" level. Training consisted of a combination of classroom lectures, demonstration interviews in front of the whole group, mock interviews in smaller groups, practice in interviewing in the local languages, a written examination, and, during the final three days, field practice interviews in households outside the town center. Training was conducted by 5 officers from the NCPD and one from the CBS.

Towards the end of the course, the trainers met and determined who would be the supervisors, field editors, interviewers and data processing staff. For the most part, the former pretest interviewers were selected as supervisors and field editors. They received special training in how to scrutinise questionnaires for accuracy, completeness, and consistency, while supervisors were taught how to read maps and use the household listing form to find the selected households.

A.2 Fieldwork

KDHS field staff were divided into 9 full-sized teams (one for each of the eight vernaculars and two for the Kikuyu language), each with a supervisor, a field editor, 4 or 5 female interviewers, and one male interviewer. Although the questionnaires were not translated into Maasai, a special small team, consisting of a supervisor and two Maasai-speaking interviewers was formed to cover the few clusters selected in Narok and Kajiado Districts.

The first three teams began data collection in December 1988. The delay in sending out the other teams was due to the lack of vehicles. By mid-February 1989, all the teams had been launched. Field work was co-ordinated by NCPD Headquarters and most teams were accompanied at least initially by NCPD officers, who also made periodic supervisory field trips. The CBS full-time enumerators and supervisors were also utilized to help locate the selected sample points and households and in some areas, the District Statistical Officers assisted in supervising the teams and providing communication and logistical support.'

Due to attrition in field staff during the first few months of the survey, NCPD recruited some eight replacements in early February 1989. After a one-week training at NCPD Headquarters, the new recruits were sent to their respective teams to observe their colleagues and conduct some practice interviews before being fully integrated into the team.

Tables A.1 and A.2 provide a summary of the outcome of the field work. Fourteen percent of the 9836 selected households were either vacant, destroyed or not found in the field. Of the households that existed, 98 percent were interviewed. The response rate of 96 percent among eligible women was also high, however, the response rate for eligible husbands was somewhat lower (81 percent), due to the fact that husbands were often away from the house during the day. Response rates were higher in rural than in urban areas, especially for husbands. There was little difference in response rates by province, except that the rates for husbands were higher in Eastern and Western Provinces than in Nairobi, Coast and Central Provinces.

Table A.1 Sampling results for the whole country, Kenya, 1989

Results	Number	Percent
HOUSEHOLDS SELECTED	9836	100.0
Occupied	8343	84.8
Vacant/Destroyed/Not found	1408	14.3
Household absent	85	0.9
HOUSEHOLDS OCCUPIED	8343	100.0
Interviewed	8173	98.0
Not interviewed	170	2.0
ELIGIBLE WOMEN IDENTIFIED	7424	100.0
Interviewed	7150	96.3
Not interviewed	274	3.7
ELIGIBLE HUSBANDS IDENTIFIED	1397	100.0
Interviewed	1129	80.8
Not interviewed	268	19.2

A.3 Data Processing

Data processing staff for the KDHS consisted of five data entry clerks, two data entry supervisors and a control clerk who logged in questionnaires when they arrived at the office. The staff was supervised by two NCPD officers with periodic assistance from IRD staff. All the data processing staff completed the interviewer training course in November 1988 and received further instruction in data processing from the IRD staff.

Three IBM-compatible desktop microcomputers were installed in a temporary office on the Kenyatta National Hospital compound and were used to process the data. The Integrated System for Survey Analysis (ISSA) program was used for data entry, editing and tabulations. The supervisors and the NCPD officers were responsible for supervising data entry, and for resolving inconsistencies in questionnaires detected during secondary machine editing.

Data processing started in February 1989, once a sufficient number of questionnaires had been returned to Nairobi. Data entry was completed in early June and tabulations for the preliminary report were run in mid-June, two weeks after the last interview took place. The preliminary report was printed in July, tabulations for the final report were also produced in July, and this report was drafted in August and September.

Table A.2 Response rates for households, eligible women and eligible husbands, by urban-rural residence and province, Kenya, 1989

Residence/ region	Households		Eligible Women		Eligible Husbands	
	Number occupied	Percent completed	Number identified	Percent completed	Number identified	Percent completed
Residence						
Urban	2755	96.6	2008	95.5	347	70.6
Rural	5588	98.6	5416	96.6	1050	84.2
Province						
Nairobi	1195	97.7	908	94.6	143	70.6
Central	1639	98.1	1352	94.7	299	71.6
Coast	882	94.2	734	98.1	136	73.5
Eastern	813	99.1	911	98.6	186	95.7
Nyanza	1502	98.9	1351	93.6	250	77.2
Rift Valley	1375	97.5	1124	97.9	244	85.2
Western	937	99.7	1044	98.4	139	97.1
Total	8343	98.0	7424	96.3	1397	80.8

APPENDIX B

ESTIMATES OF SAMPLING ERROR

APPENDIX B. ESTIMATES OF SAMPLING ERROR

The results from sample surveys are affected by two types of errors: (1) nonsampling error and (2) sampling error. Nonsampling error is due to mistakes made in carrying out field activities, such as failure to locate and interview the correct household, errors in the way questions are asked, misunderstanding of the questions on the part of either the interviewer or the respondent, data entry errors, etc. Although efforts were made during the design and implementation of the KDHS to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate analytically.

The sample of women selected in the KDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each one would have yielded results that differed somewhat from the actual sample selected. The sampling error is a measure of the variability between all possible samples; although it is not known exactly, it can be estimated from the survey results. Sampling error is usually measured in terms of the "standard error" of a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which one can be reasonably assured that, apart from non-sampling errors, the true value of the variable for the whole population falls. For example, for any given statistic calculated from a sample survey, the value of that same statistic as measured in 95 percent of all possible samples with the same design (and expected size) will fall within a range of plus or minus two times the standard error of that statistic.

If the sample of women had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the KDHS sample design depended on stratification, stages, and clusters; consequently, it was necessary to utilize more complex formulas. The computer package CLUSTERS was used to assist in computing the sampling errors with the proper statistical methodology.

The CLUSTERS program treats any percentage or average as a ratio estimate, $r=y/x$, where both x and y are considered to be random variables. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$\text{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^H \left[\frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which, $z_{hi} = y_{hi} - r x_{hi}$, and $z_h = y_h - r x_h$,

where h represents the stratum and varies from 1 to H ,

m_h is the total number of EAs selected in the h -th stratum,

y_{hi} is the sum of the values of variable y in cluster i in the h -th stratum,

x_{hi} is the sum of the number of cases (women) in cluster i in the h -th stratum, and

f is the overall sampling fraction, which is so small that the CLUSTERS program ignores it.

In addition to the standard errors, CLUSTERS computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample; a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design.

Sampling errors are presented in Table B.2 through B.4 for 45 variables considered to be of major interest. Results are presented for the whole country and for urban and rural areas. In Tables B.5 through B.11, results are presented by province for 30 variables. Finally, Table B.12 contains sampling errors for current contraceptive use for the 13 targetted districts. For each variable, the type of statistic (mean, proportion) and the base population are given in Table B.1. For each variable, Tables B.2 through B.12 present the value of the statistic, its standard error, the number of unweighted and weighted cases, the design effect, the relative standard error, and the 95 percent confidence limits.

The confidence interval has the following interpretation. For current use of family planning (CURUSE), the overall proportion of married women using is 0.269 or 26.9 percent and its standard error is 0.010. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., $0.269 \pm (2 \times 0.010)$, which means that there is a high probability (95 percent) that the true contraceptive prevalence rate falls within the interval of 0.250 to 0.288 (25 to 29 percent).

The relative standard error for most estimates for the country as a whole is not large, except for estimates of very small proportions. The magnitude of the error increases as estimates for subpopulations such as particular provinces or districts are considered. For contraceptive prevalence, for example, the relative standard error (as a percentage of the estimated proportion) for the whole country, urban areas, Nairobi and Kilifi District is, respectively, 3.6 percent, 6.2 percent, 7.6 percent, and 23.3 percent. By district, this means that the prevalence rate of 31.3 for Murang'a District cannot be said with certainty to differ from the rate of 20.2 for Kisii District, since the confidence intervals overlap. Similarly, the difference between the rates for Kirinyaga (52.2 percent) and Machakos Districts (40.4 percent) might be explained by sampling error.

Table B.1 List of selected variables with sampling errors, Kenya, 1989

Variable	Type	Description	Population
NOEDUC	Proportion	With no education	All women 15-49
SECONDARY	Proportion	With secondary or more	All women 15-49
MARRIED	Proportion	Currently married	All women 15-49
MBEF18	Proportion	Married before age 18	All women 15-49
BBEF18	Proportion	Had a birth before age 18	All women 15-49
CEB	Mean	Number of children ever born	All women 15-49
CEB40	Mean	Number of children ever born	Women 40-49
CSUR	Mean	Number of children surviving	All women 15-49
PREGNANT	Proportion	Currently pregnant	All women 15-49
KNOW	Proportion	Knowing any contraceptive method	Currently married women 15-49
KNOWMOD	Proportion	Knowing any modern method	Currently married women 15-49
KNWSRC	Proportion	Knowing source of family planning	Currently married women 15-49
KNOWOV	Proportion	Knowing fertile period in cycle	All women 15-49
EVERUSE	Proportion	Ever using any method	Currently married women 15-49
CURUSE	Proportion	Currently using any method	Currently married women 15-49
MODUSE	Proportion	Currently using a modern method	Currently married women 15-49
APPRFP	Proportion	Approving of family planning	Currently married women 15-49 who know a method
WANTNM	Proportion	Who want no more children	Currently married women 15-49
WANT2	Proportion	Who want next child after 2+ yrs.	Currently married women 15-49
IDEAL	Mean	Ideal number of children	All women 15-49
BREASTF	Mean	Months of breastfeeding	Births in last 3 years
AMEN	Mean	Months of amenorrhoea	Births in last 3 years
ABSTAIN	Mean	Months of postpartum abstinence	Births in last 3 years
TETANU	Proportion	Whose mothers received tetanus immunisation during pregnancy	Births in last 5 years
ATTE	Proportion	Attended by doctor/nurse/midwife	Births in last 5 years
WCARD	Proportion	With health cards available	Children 12-23 months
BCG	Proportion	With BCG immunisation on card	Children 12-23 months with cards
DPT	Proportion	With 3+ doses of DPT on card	Children 12-23 months with cards
POL	Proportion	With 3+ doses of polio on card	Children 12-23 months with cards
MEASL	Proportion	With measles immunisation on card	Children 12-23 months with cards
FULLIM	Proportion	Fully immunised on card	Children 12-23 months with cards
DIAR	Proportion	With diarrhoea in last 2 weeks	Children under 5
PACKET	Proportion	Treated with ORS packet	Children under 5 with diarrhoea
HOMSOL	Proportion	Treated with home solution	Children under 5 with diarrhoea
DIARF	Proportion	Consulted a medical facility	Children under 5 with diarrhoea
FEVER	Proportion	With fever in past 2 weeks	Children under 5
FEVERF	Proportion	Consulted a medical facility	Children under 5 with fever
COUGH	Proportion	With cough in past 2 weeks	Children under 5
COUGHF	Proportion	Consulted a medical facility	Children under 5 with cough
POLYG	Proportion	In polygynous unions	All husbands
CHILDREN	Mean	Number of living children	All husbands
USINGFP	Proportion	Currently using contraception	All husbands
NOMORE	Proportion	Who want no more children	All husbands
HIDEAL	Mean	Ideal number of children	All husbands
HUSAPR	Proportion	Approving of family planning	Husbands who know a method

Table B.2 Sampling errors for the total population, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.252	.010	7140	7140.8	1.978	.040	.231	.272
SECONDARY	.204	.011	7140	7140.8	2.328	.054	.182	.226
MARRIED	.666	.009	7150	7150.0	1.590	.013	.649	.684
MBEF18	.385	.010	7150	7150.0	1.730	.026	.366	.405
BBEF18	.344	.008	7150	7150.0	1.339	.022	.329	.359
CEB	3.669	.058	7150	7150.0	1.505	.016	3.553	3.785
CEB40	7.470	.123	1073	1118.7	1.335	.017	7.223	7.717
CSUR	3.281	.051	7150	7150.0	1.475	.016	3.179	3.382
PREGNANT	.089	.005	7150	7150.0	1.544	.058	.079	.100
KNOW	.924	.009	4778	4765.4	2.368	.010	.906	.942
KNOWMOD	.913	.011	4778	4765.4	2.664	.012	.891	.934
KNOWSRC	.899	.011	4778	4765.4	2.513	.012	.877	.921
KNOWOV	.223	.009	4778	4765.4	1.535	.041	.205	.242
EVERUSE	.450	.012	4778	4765.4	1.703	.027	.425	.474
CURUSE	.269	.010	4778	4765.4	1.491	.036	.250	.288
MOOUSE	.179	.007	4778	4765.4	1.289	.040	.164	.193
APPRFP	.882	.006	4466	4404.9	1.194	.007	.870	.894
WANTNM	.494	.010	4778	4765.4	1.349	.020	.474	.513
WANT2	.264	.008	4778	4765.4	1.303	.032	.247	.280
IDEAL	4.432	.051	6836	6870.0	2.105	.012	4.330	4.534
BREASTF	19.428	.272	4361	4448.7	1.122	.014	18.884	19.973
AMEN	10.910	.314	4361	4448.7	1.366	.029	10.282	11.537
ABSTAIN	5.855	.284	4361	4448.7	1.417	.048	5.288	6.423
TETANU	.887	.006	6912	7050.2	1.417	.007	.875	.900
ATTE	.501	.016	6912	7050.2	2.099	.031	.470	.532
WCARD	.610	.014	1302	1314.6	1.013	.023	.583	.638
BCG	.967	.008	781	802.3	1.229	.008	.952	.983
DPT	.907	.016	781	802.3	1.523	.017	.875	.938
POL	.924	.012	781	802.3	1.255	.013	.900	.947
MEASL	.780	.020	781	802.3	1.325	.025	.740	.819
FULLIM	.728	.020	781	802.3	1.240	.027	.689	.768
DIAR	.127	.005	6341	6514.1	1.065	.036	.118	.136
PACKET	.211	.015	829	829.7	1.002	.070	.181	.240
HOMSOL	.489	.022	829	829.7	1.188	.044	.446	.532
DIARF	.468	.020	829	829.7	1.072	.042	.429	.507
FEVER	.421	.009	6341	6514.1	1.231	.021	.403	.438
FEVERF	.555	.016	2739	2740.8	1.471	.029	.523	.587
COUGH	.182	.008	6341	6514.1	1.389	.042	.167	.198
COUGHF	.652	.025	1169	1188.6	1.542	.038	.602	.701
POLYG	.205	.016	1116	1170.1	1.307	.077	.173	.236
CHILDREN	6.108	.190	1113	1167.9	1.528	.031	5.729	6.487
USINGFP	.495	.016	1116	1170.1	1.087	.033	.462	.527
NOMORE	.486	.018	1116	1170.1	1.195	.037	.450	.521
HIDEAL	4.763	.089	999	1056.1	.672	.019	4.584	4.942
HUSAPR	.913	.009	1069	1108.3	1.094	.010	.894	.932

Table B.3 Sampling errors for the urban population, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.123	.014	1915	1234.6	1.906	.117	.094	.151
SECONDARY	.414	.022	1915	1234.6	1.974	.054	.370	.459
MARRIED	.605	.016	1917	1235.9	1.433	.026	.573	.637
MBEF18	.307	.016	1917	1235.9	1.559	.053	.274	.340
BBEF18	.279	.013	1917	1235.9	1.251	.046	.253	.304
CEB	2.322	.069	1917	1235.9	1.259	.030	2.184	2.459
CEB40	5.065	.271	153	98.6	1.166	.053	4.524	5.607
CSUR	2.108	.059	1917	1235.9	1.189	.028	1.990	2.225
PREGNANT	.091	.006	1917	1235.9	.983	.071	.078	.104
KNOW	.957	.006	1160	747.8	.942	.006	.946	.968
KNOWMOD	.952	.006	1160	747.8	.913	.006	.940	.963
KNOWSRC	.941	.007	1160	747.8	.999	.007	.927	.954
KNOWOV	.247	.022	1160	747.8	1.706	.087	.204	.291
EVERUSE	.515	.020	1160	747.8	1.362	.039	.475	.555
CURUSE	.305	.019	1160	747.8	1.391	.062	.268	.343
MODUSE	.255	.018	1160	747.8	1.438	.072	.218	.292
APPRFP	.906	.010	1110	715.6	1.138	.011	.886	.926
WANTNM	.396	.016	1160	747.8	1.093	.040	.364	.427
WANT2	.317	.016	1160	747.8	1.155	.050	.286	.349
IDEAL	3.753	.049	1847	1190.7	1.345	.013	3.656	3.851
BREASTF	18.778	.602	949	611.8	1.097	.032	17.573	19.983
AMEN	9.104	.575	949	611.8	1.182	.063	7.955	10.253
ABSTAIN	5.159	.458	949	611.8	1.104	.089	4.243	6.076
TETANU	.922	.009	1518	978.6	1.102	.009	.905	.940
ATTE	.775	.026	1518	978.6	2.035	.034	.723	.828
WCARD	.495	.031	305	196.6	1.077	.064	.432	.558
BCG	.967	.012	151	97.3	.803	.012	.943	.990
DPT	.947	.021	151	97.3	1.167	.023	.904	.990
POL	.947	.019	151	97.3	1.022	.020	.910	.984
MEASL	.861	.027	151	97.3	.950	.031	.807	.915
FULLIM	.821	.029	151	97.3	.927	.035	.763	.879
DIAR	.108	.009	1395	899.3	.969	.080	.090	.125
PACKET	.207	.049	150	96.7	1.411	.238	.108	.305
HOMSOL	.520	.038	150	96.7	.884	.074	.443	.597
DIARF	.587	.042	150	96.7	.958	.071	.503	.670
FEVER	.415	.019	1395	899.3	1.263	.045	.378	.452
FEVERF	.715	.021	579	373.3	.967	.029	.674	.756
COUGH	.148	.013	1395	899.3	1.181	.086	.123	.174
COUGHF	.787	.031	207	133.5	.968	.039	.725	.850
POLYG	.176	.029	244	157.3	1.191	.165	.118	.234
CHILDREN	3.889	.247	243	156.7	1.174	.063	3.396	4.382
USINGFP	.557	.039	244	157.3	1.213	.069	.480	.635
NOMORE	.357	.040	244	157.3	1.288	.111	.277	.436
HIDEAL	4.046	.124	216	139.3	.979	.031	3.798	4.294
HUSAPR	.932	.017	235	151.5	1.015	.018	.898	.965

Table B.4 Sampling errors for the rural population, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.279	.012	5225	5906.2	1.986	.044	.254	.303
SECONDARY	.160	.012	5225	5906.2	2.389	.076	.136	.184
MARRIED	.679	.010	5233	5914.1	1.603	.015	.659	.700
MBEF18	.402	.012	5233	5914.1	1.717	.029	.378	.425
BBEF18	.358	.009	5233	5914.1	1.340	.025	.340	.376
CEB	3.950	.069	5233	5914.1	1.497	.018	3.812	4.088
CEB40	7.703	.130	920	1020.1	1.344	.017	7.442	7.963
CSUR	3.526	.059	5233	5914.1	1.432	.017	3.407	3.644
PREGNANT	.089	.006	5233	5914.1	1.563	.069	.077	.101
KNOW	.918	.011	3618	4017.5	2.361	.012	.897	.940
KNOWMOD	.905	.013	3618	4017.5	2.659	.014	.879	.931
KNOWSRC	.891	.013	3618	4017.5	2.509	.015	.865	.917
KNOWOV	.219	.010	3618	4017.5	1.496	.047	.198	.239
EVERUSE	.438	.014	3618	4017.5	1.707	.032	.410	.466
CURUSE	.262	.011	3618	4017.5	1.484	.041	.241	.284
MODUSE	.164	.008	3618	4017.5	1.261	.047	.149	.180
APPRFP	.877	.007	3356	3689.3	1.158	.008	.864	.890
WANTNM	.512	.011	3618	4017.5	1.329	.022	.490	.534
WANT2	.254	.009	3618	4017.5	1.301	.037	.235	.273
IDEAL	4.574	.063	4989	5679.3	2.153	.014	4.449	4.700
BREASTF	19.532	.302	3412	3836.9	1.097	.015	18.927	20.137
AMEN	11.198	.356	3412	3836.9	1.352	.032	10.485	11.910
ABSTAIN	5.966	.320	3412	3836.9	1.388	.054	5.326	6.607
TETANU	.882	.007	5394	6071.6	1.366	.008	.867	.896
ATTE	.457	.017	5394	6071.6	1.999	.037	.423	.490
WCARD	.631	.015	997	1117.9	.976	.024	.600	.661
BCG	.967	.009	630	705.0	1.213	.009	.950	.984
DPT	.901	.018	630	705.0	1.472	.020	.866	.937
POL	.920	.013	630	705.0	1.215	.015	.894	.947
MEASL	.768	.022	630	705.0	1.291	.029	.724	.813
FULLIM	.715	.022	630	705.0	1.216	.031	.671	.760
DIAR	.131	.005	4946	5614.7	1.036	.039	.120	.141
PACKET	.211	.015	679	733.0	.925	.072	.181	.242
HOMSOL	.485	.024	679	733.0	1.173	.050	.437	.533
DIARF	.452	.022	679	733.0	1.049	.048	.409	.495
FEVER	.422	.010	4946	5614.7	1.185	.023	.402	.441
FEVERF	.530	.018	2160	2367.6	1.414	.033	.495	.565
COUGH	.188	.009	4946	5614.7	1.337	.046	.171	.205
COUGHF	.634	.027	962	1055.1	1.467	.043	.580	.689
POLYG	.209	.018	872	1012.8	1.285	.085	.174	.244
CHILDREN	6.452	.211	870	1011.3	1.496	.033	6.031	6.873
USINGFP	.485	.018	872	1012.8	1.048	.037	.450	.521
NOMORE	.506	.020	872	1012.8	1.172	.039	.466	.545
HIOEAL	4.872	.101	783	916.9	.636	.021	4.670	5.074
HUSAPR	.910	.011	834	956.8	1.069	.012	.889	.931

Table B.5 Sampling errors for women in Nairobi, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.085	.009	857	552.5	.969	.109	.067	.104
SECONDARY	.431	.023	857	552.5	1.369	.054	.384	.477
MARRIED	.604	.021	859	553.8	1.265	.035	.562	.646
CEB40	4.861	.300	72	46.4	1.023	.062	4.261	5.462
KNOWMOD	.948	.009	519	334.6	.884	.009	.931	.965
KNOWSRC	.938	.012	519	334.6	1.095	.012	.915	.961
CURUSE	.335	.025	519	334.6	1.222	.076	.285	.386
MODUSE	.279	.027	519	334.6	1.346	.095	.226	.332
APPRFP	.921	.015	495	319.1	1.218	.016	.892	.951
WANTNM	.437	.025	519	334.6	1.137	.057	.388	.487
IDEAL	3.586	.051	842	542.8	.982	.014	3.483	3.689
BREASTF	19.932	.968	410	264.3	1.126	.049	17.996	21.867
AMEN	9.132	.983	410	264.3	1.302	.108	7.166	11.097
ABSTAIN	6.322	.660	410	264.3	.951	.104	5.003	7.641
TETANU	.903	.016	647	417.1	1.198	.018	.870	.936
ATTE	.832	.031	647	417.1	1.827	.038	.769	.894
WCARD	.479	.038	144	92.8	.907	.079	.403	.555
BCG	.928	.027	69	44.5	.855	.029	.874	.981
DPT	.942	.034	69	44.5	1.212	.036	.874	1.010
POL	.942	.033	69	44.5	1.187	.035	.875	1.009
MEASL	.855	.037	69	44.5	.876	.044	.781	.930
FULLIM	.797	.041	69	44.5	.833	.051	.716	.878
DIAR	.130	.014	599	386.2	.926	.107	.102	.158
PACKET	.231	.079	78	50.3	1.538	.344	.072	.389
HOMSOL	.577	.061	78	50.3	1.020	.107	.454	.700
DIARF	.667	.046	78	50.3	.778	.068	.575	.758
FEVER	.459	.032	599	386.2	1.394	.070	.395	.523
FEVERF	.698	.028	275	177.3	.885	.041	.641	.755
COUGH	.137	.018	599	386.2	1.171	.135	.100	.174
COUGHF	.768	.066	82	52.9	1.219	.086	.636	.900

Table B.6 Sampling errors for women in Central Province, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.129	.019	1277	1115.3	2.055	.150	.090	.167
SECONDARY	.268	.050	1277	1115.3	4.014	.186	.168	.367
MARRIED	.578	.022	1281	1120.4	1.564	.037	.535	.622
CEB40	7.308	.207	224	182.9	1.110	.028	6.893	7.722
KNOWMOD	.958	.008	787	648.1	1.060	.008	.942	.973
KNOWSRC	.952	.008	787	648.1	1.062	.008	.936	.969
CURUSE	.395	.022	787	648.1	1.284	.057	.351	.440
MODUSE	.308	.020	787	648.1	1.217	.065	.268	.348
APPRFP	.920	.015	770	628.4	1.501	.016	.890	.949
WANTNM	.673	.030	787	648.1	1.800	.045	.613	.734
IDEAL	3.756	.074	1250	1095.4	1.900	.020	3.607	3.904
BREASTF	18.358	.733	702	619.2	1.216	.040	16.891	19.825
AMEN	10.670	.731	702	619.2	1.311	.068	9.209	12.132
ABSTAIN	7.730	.619	702	619.2	1.108	.080	6.491	8.969
TETANU	.899	.010	1129	968.8	1.010	.011	.878	.920
ATTE	.733	.029	1129	968.8	1.903	.039	.676	.790
WCARD	.610	.039	225	203.3	1.185	.063	.533	.687
BCG	.956	.030	133	124.0	1.711	.031	.897	1.015
DPT	.982	.010	133	124.0	.928	.011	.961	1.003
POL	.979	.011	133	124.0	.893	.011	.957	1.000
MEASL	.936	.018	133	124.0	.862	.019	.901	.972
FULLIM	.877	.037	133	124.0	1.332	.042	.803	.951
DIAR	.100	.015	1076	926.5	1.706	.155	.069	.131
PACKET	.196	.051	107	92.4	1.315	.259	.094	.298
HOMSOL	.714	.036	107	92.4	.801	.050	.642	.786
DIARF	.319	.042	107	92.4	.923	.132	.235	.403
FEVER	.502	.019	1076	926.5	1.073	.038	.464	.540
FEVERF	.527	.033	508	465.2	1.334	.063	.461	.593
COUGH	.163	.016	1076	926.5	1.229	.098	.131	.195
COUGHF	.731	.042	184	150.7	1.129	.057	.647	.814

Table B.7 Sampling errors for women in Coast Province, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.475	.045	720	498.4	2.436	.096	.384	.565
SECONDARY	.155	.018	720	498.4	1.298	.113	.120	.190
MARRIED	.702	.021	720	498.4	1.233	.030	.660	.744
CEB40	7.296	.577	112	64.9	1.716	.079	6.142	8.449
KNOWMOD	.923	.018	529	350.0	1.574	.020	.886	.959
KNOWSRC	.892	.026	529	350.0	1.926	.029	.840	.944
CURUSE	.181	.016	529	350.0	.963	.089	.149	.214
MODUSE	.148	.016	529	350.0	1.056	.110	.115	.181
APPRFP	.777	.015	476	323.3	.811	.020	.746	.807
WANTNM	.280	.025	529	350.0	1.299	.091	.229	.331
IDEAL	5.602	.288	624	443.5	2.327	.051	5.026	6.179
BREASTF	17.667	1.263	391	254.6	1.413	.071	15.141	20.192
AMEN	9.440	.599	391	254.6	.759	.063	8.242	10.638
ABSTAIN	2.606	.547	391	254.6	1.124	.210	1.513	3.699
TETANU	.891	.013	631	423.1	.883	.015	.865	.918
ATTE	.410	.031	631	423.1	1.276	.076	.348	.472
WCARD	.662	.034	115	73.4	.737	.052	.593	.731
BCG	.964	.024	77	48.6	1.088	.025	.915	1.012
DPT	.856	.089	77	48.6	2.126	.104	.677	1.035
POL	.936	.025	77	48.6	.865	.027	.885	.987
MEASL	.716	.059	77	48.6	1.080	.082	.598	.833
FULLIM	.687	.062	77	48.6	1.114	.091	.562	.811
DIAR	.101	.018	556	377.8	1.299	.177	.065	.136
PACKET	.380	.044	53	38.0	.646	.117	.291	.468
HOMSOL	.351	.045	53	38.0	.760	.129	.260	.441
DIARF	.582	.079	53	38.0	1.084	.136	.424	.740
FEVER	.441	.033	556	377.8	1.459	.076	.374	.508
FEVERF	.769	.033	261	166.7	1.161	.042	.704	.834
COUGH	.180	.036	556	377.8	1.979	.199	.109	.252
COUGHF	.725	.036	112	68.1	.797	.049	.654	.796

Table B.8 Sampling errors for women in Eastern Province, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.237	.012	897	1268.4	.862	.052	.212	.261
SECONDARY	.153	.016	897	1268.4	1.339	.105	.121	.185
MARRIED	.633	.026	898	1269.4	1.595	.041	.582	.684
CEB40	7.425	.297	159	227.3	1.240	.040	6.831	8.018
KNOWMOD	.927	.023	561	803.7	2.127	.025	.880	.974
KNOWSRC	.901	.020	561	803.7	1.581	.022	.861	.941
CURUSE	.402	.030	561	803.7	1.427	.073	.343	.461
MODUSE	.195	.024	561	803.7	1.405	.121	.148	.242
APPRFP	.910	.014	532	762.8	1.121	.015	.882	.938
WANTNM	.597	.021	561	803.7	1.024	.036	.555	.640
IDEAL	4.172	.081	890	1260.4	1.393	.019	4.010	4.334
BREASTF	20.898	.832	553	794.0	1.209	.040	19.234	22.562
AMEN	9.303	.739	553	794.0	1.167	.079	7.825	10.781
ABSTAIN	6.404	.650	553	794.0	1.092	.102	5.103	7.704
TETANU	.884	.012	858	1232.9	.956	.014	.860	.908
ATTE	.408	.023	858	1232.9	1.119	.055	.363	.453
WCARD	.731	.035	175	240.5	1.032	.048	.660	.801
BCG	.974	.009	127	175.7	.623	.009	.957	.992
DPT	.924	.026	127	175.7	1.102	.028	.871	.976
POL	.968	.015	127	175.7	.961	.016	.937	.998
MEASL	.820	.045	127	175.7	1.293	.055	.731	.910
FULLIM	.794	.043	127	175.7	1.187	.055	.707	.881
DIAR	.151	.010	813	1174.1	.781	.064	.131	.170
PACKET	.138	.024	126	176.8	.757	.176	.089	.187
HOMSOL	.541	.057	126	176.8	1.226	.105	.427	.655
DIARF	.484	.051	126	176.8	1.099	.105	.382	.586
FEVER	.437	.029	813	1174.1	1.496	.067	.378	.495
FEVERF	.559	.042	368	512.6	1.481	.076	.475	.644
COUGH	.187	.022	813	1174.1	1.338	.117	.143	.231
COUGHF	.569	.084	144	219.7	1.735	.148	.400	.738

Table B.9 Sampling errors for women in Nyanza Province, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.274	.015	1264	1216.8	1.192	.055	.245	.304
SECONDARY	.169	.012	1264	1216.8	1.132	.071	.145	.193
MARRIED	.716	.013	1265	1217.7	.998	.018	.691	.741
CEB40	7.903	.198	194	188.1	.930	.025	7.507	8.298
KNOWMOD	.933	.008	895	872.0	1.016	.009	.916	.950
KNOWSRC	.916	.008	895	872.0	.890	.009	.899	.932
CURUSE	.138	.009	895	872.0	.747	.063	.120	.155
MODUSE	.102	.013	895	872.0	1.269	.126	.077	.128
APPRFP	.938	.009	831	813.6	1.127	.010	.919	.956
WANTNM	.417	.016	895	872.0	.955	.038	.386	.449
IDEAL	4.578	.067	1196	1148.3	1.301	.015	4.445	4.711
BREASTF	19.292	.426	803	788.9	.763	.022	18.440	20.145
AMEN	11.483	.608	803	788.9	1.135	.053	10.267	12.699
ABSTAIN	3.926	.373	803	788.9	.943	.095	3.180	4.673
TETANU	.907	.013	1284	1283.3	1.280	.014	.881	.933
ATTE	.538	.040	1284	1283.3	2.419	.075	.457	.619
WCARD	.550	.029	221	226.3	.885	.054	.491	.608
BCG	.978	.013	128	124.4	.995	.013	.952	1.004
DPT	.917	.024	128	124.4	.966	.026	.870	.964
POL	.933	.021	128	124.4	.938	.022	.892	.974
MEASL	.674	.043	128	124.4	.993	.063	.589	.759
FULLIM	.648	.044	128	124.4	1.002	.068	.560	.735
DIAR	.155	.010	1107	1105.8	.943	.067	.134	.175
PACKET	.246	.029	173	170.9	.871	.118	.188	.305
HOMSOL	.410	.032	173	170.9	.837	.079	.345	.474
DIARF	.498	.032	173	170.9	.800	.064	.434	.561
FEVER	.500	.018	1107	1105.8	1.008	.035	.465	.535
FEVERF	.564	.047	557	553.1	1.960	.084	.469	.658
COUGH	.217	.027	1107	1105.8	1.923	.125	.162	.271
COUGHF	.721	.036	247	239.5	1.150	.050	.649	.794

Table B.10 Sampling errors for women in Rift Valley Province, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.321	.040	1099	1518.5	2.840	.124	.241	.402
SECONDARY	.162	.021	1099	1518.5	1.892	.130	.120	.204
MARRIED	.689	.027	1100	1518.9	1.929	.039	.635	.743
CEB40	7.354	.333	144	239.4	1.382	.045	6.688	8.020
KNOWMOD	.846	.044	742	1046.5	3.354	.053	.757	.935
KNOWSRC	.840	.046	742	1046.5	3.389	.054	.749	.931
CURUSE	.296	.031	742	1046.5	1.857	.105	.234	.358
MODUSE	.181	.016	742	1046.5	1.116	.087	.150	.213
APPRFP	.811	.015	678	910.0	.995	.019	.780	.841
WANTNM	.497	.030	742	1046.5	1.660	.061	.436	.558
IDEAL	4.731	.159	1086	1486.6	2.442	.034	4.414	5.049
BREASTF	19.130	.733	728	1006.6	1.198	.038	17.665	20.596
AMEN	12.179	.860	728	1006.6	1.451	.071	10.460	13.899
ABSTAIN	8.217	.880	728	1006.6	1.583	.107	6.457	9.976
TETANU	.864	.021	1168	1592.5	1.734	.025	.821	.906
ATTE	.448	.039	1168	1592.5	2.063	.086	.371	.525
WCARD	.623	.034	225	289.5	1.020	.055	.554	.691
BCG	.978	.019	140	180.3	1.461	.019	.941	1.016
DPT	.895	.047	140	180.3	1.710	.053	.800	.990
POL	.908	.043	140	180.3	1.629	.047	.822	.994
MEASL	.772	.043	140	180.3	1.155	.056	.686	.858
FULLIM	.707	.049	140	180.3	1.219	.069	.609	.805
DIAR	.074	.006	1128	1532.8	.729	.079	.062	.086
PACKET	.290	.057	98	113.4	1.119	.197	.176	.404
HOMSOL	.275	.049	98	113.4	.965	.179	.177	.373
DIARF	.358	.047	98	113.4	.857	.131	.264	.451
FEVER	.290	.017	1128	1532.8	1.047	.059	.256	.325
FEVERF	.499	.037	320	445.2	1.110	.074	.425	.572
COUGH	.203	.012	1128	1532.8	.858	.058	.179	.227
COUGHF	.599	.034	257	311.1	.912	.057	.530	.668

Table B.11 Sampling errors for women in Western Province, Kenya, 1989

Variable	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
NOEDUC	.255	.015	1026	970.8	1.119	.060	.225	.286
SECONDARY	.202	.026	1026	970.8	2.035	.126	.151	.253
MARRIED	.732	.017	1027	971.3	1.256	.024	.697	.766
CEB40	8.171	.318	168	169.6	1.335	.039	7.536	8.807
KNOWMOD	.906	.011	745	710.6	1.061	.013	.883	.928
KNOWSRC	.897	.011	745	710.6	.989	.012	.875	.919
CURUSE	.137	.022	745	710.6	1.732	.159	.093	.181
MODUSE	.100	.016	745	710.6	1.455	.160	.068	.132
APPRFP	.877	.017	684	647.6	1.374	.020	.842	.911
WANTNM	.432	.015	745	710.6	.811	.034	.402	.461
IDEAL	4.877	.098	948	892.9	1.449	.020	4.680	5.074
BREASTF	19.731	.521	774	721.1	.963	.026	18.688	20.774
AMEN	11.656	.493	774	721.1	.913	.042	10.669	12.642
ABSTAIN	3.433	.471	774	721.1	1.239	.137	2.492	4.375
TETANU	.885	.011	1195	1132.5	.934	.012	.864	.907
ATTE	.348	.031	1195	1132.5	1.788	.089	.286	.409
WCARD	.555	.041	197	188.7	1.154	.074	.473	.638
BCG	.955	.023	107	104.8	1.172	.024	.908	1.001
DPT	.806	.052	107	104.8	1.367	.064	.702	.909
POL	.787	.031	107	104.8	.779	.039	.726	.848
MEASL	.662	.079	107	104.8	1.739	.120	.503	.821
FULLIM	.565	.052	107	104.8	1.078	.092	.461	.669
DIAR	.186	.012	1062	1010.9	.981	.064	.162	.210
PACKET	.166	.027	194	187.8	.978	.163	.112	.220
HOMSOL	.535	.046	194	187.8	1.179	.086	.443	.627
DIARF	.489	.046	194	187.8	1.205	.095	.396	.582
FEVER	.416	.015	1062	1010.9	.871	.036	.386	.446
FEVERF	.485	.026	450	420.8	.966	.054	.433	.538
COUGH	.145	.018	1062	1010.9	1.337	.122	.110	.180
COUGHF	.616	.063	143	146.6	1.276	.103	.489	.742

Table B.12 Sampling errors for current contraceptive use among rural women by district, Kenya, 1989

District	Value	Standard error	Unweighted number	Weighted number	Design effect	Relative error	Confidence limits	
							R-2SE	R+2SE
KILIFI	.097	.023	300	105.5	1.319	.233	.052	.142
MACHAKOS	.404	.032	282	337.3	1.093	.079	.340	.468
MERU	.363	.042	193	201.9	1.210	.116	.279	.447
NYERI	.412	.042	204	155.9	1.203	.101	.329	.495
MURANG'A	.313	.054	211	158.4	1.701	.174	.204	.422
KIRINYAGA	.522	.037	226	81.7	1.099	.070	.449	.595
KERICHO	.232	.026	263	195.5	1.016	.114	.179	.285
U. GISHU	.149	.035	148	59.1	1.182	.233	.079	.218
S. NYANZA	.059	.010	272	253.6	.706	.172	.039	.079
KISII	.202	.022	233	210.3	.823	.107	.158	.245
SIAYA	.087	.020	160	129.8	.886	.227	.048	.127
KAKAMEGA	.143	.020	315	393.7	.994	.137	.104	.182
BUNGOMA	.085	.015	317	157.4	.945	.174	.056	.115

APPENDIX C

NOTE ON AGE REPORTING

APPENDIX C. NOTE ON AGE REPORTING

The KDHS household questionnaire contains information on the *de facto* population, that is, those who slept in the household the previous night. The *de facto* population enumerated in the household questionnaire was 42,615 persons.

Table C.1 presents the percent distribution of the *de facto* population by age and sex from the KDHS, along with comparable information for the 1977/78 KFS, the 1979 census, and the 1984 KCPS. The proportion of the population age 0-4 in the KDHS is lower than the percent age 5-9. It is also lower than the proportion age 0-4 from the other sources. This might be due in part to the decline in fertility discussed in Chapter 3, but it could also be partly attributed to displacement of younger children into the 5-9 age group in order to reduce interviewers' workload. It is interesting that all three surveys show evidence that women age 15-19 were displaced to age group 10-14, also presumably to reduce interviewers' workload. The 1979 census shows a much more even decline in proportions of women at these two age groups. The two later surveys also show some displacement of women from age group 45-49 to 50-54 relative to the census.

Table C.1 Percent distribution of the *de facto* population enumerated in various censuses and surveys by age group, according to sex, Kenya

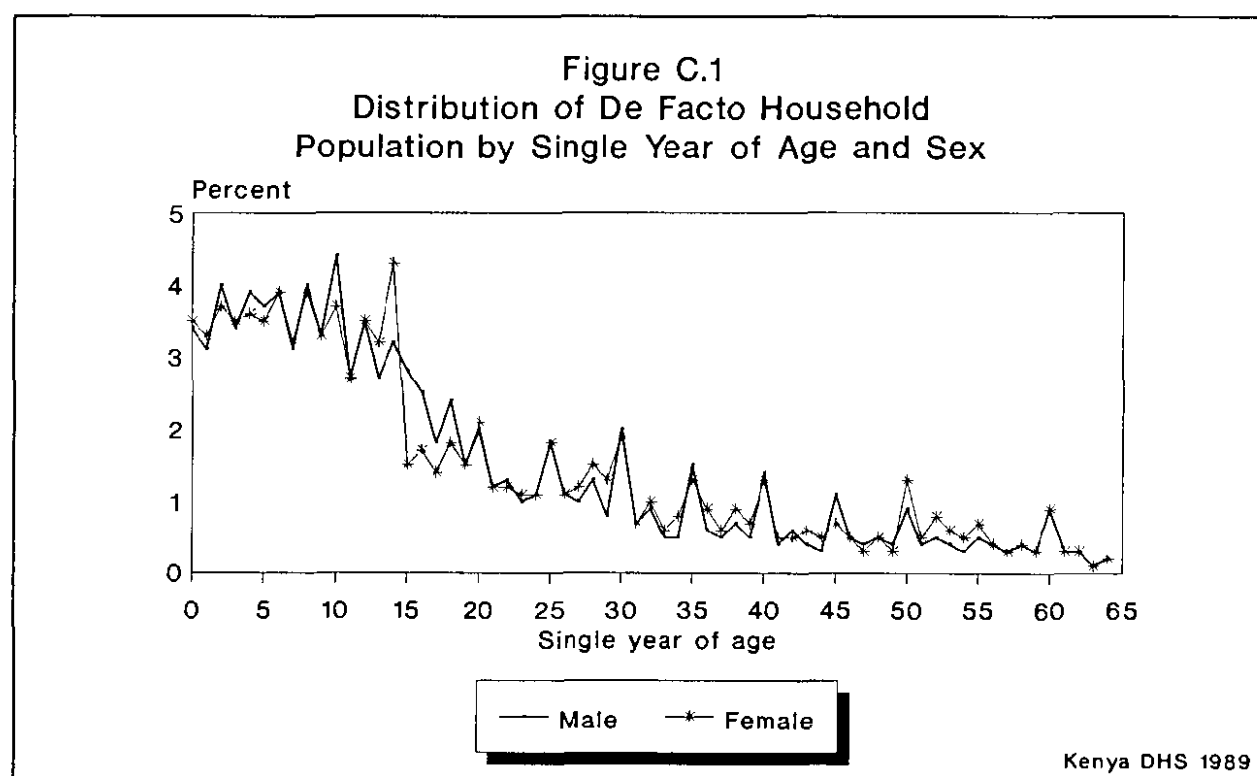
Age group	1977/78 KFS			1979 Census			1984 KCPS			1989 KDHS		
	Male	Fe-male	Both sexes	Male	Fe-male	Both sexes	Male	Fe-male	Both sexes	Male	Fe-male	Both sexes
0-4	20.1	19.7	19.9	18.7	18.4	18.6	20.3	19.5	19.9	17.6	17.6	17.6
5-9	17.8	17.3	17.5	16.4	16.1	16.3	17.2	17.2	17.2	18.1	17.7	18.0
10-14	14.7	15.4	15.1	13.8	13.3	13.5	14.6	15.1	14.9	16.4	17.4	16.9
15-19	9.7	9.0	9.4	11.2	11.5	11.4	9.6	8.2	8.9	11.0	7.8	9.4
20-24	5.9	6.7	6.3	8.4	8.9	8.7	7.0	8.4	7.7	6.6	6.7	6.6
25-29	6.3	7.0	6.6	6.8	7.0	6.9	5.6	6.6	6.1	5.9	6.8	6.4
30-34	4.4	4.7	4.6	5.3	5.4	5.3	4.9	5.4	5.2	4.5	5.0	4.8
35-39	4.0	4.3	4.2	3.8	4.2	4.0	4.2	4.0	4.1	3.9	4.4	4.1
40-44	3.5	2.9	3.2	3.4	3.6	3.5	3.4	3.1	3.3	3.1	3.4	3.2
45-49	3.1	3.0	3.0	2.9	2.9	2.9	3.0	2.2	2.6	2.9	2.2	2.6
50-54	2.6	2.9	2.7	2.4	2.5	2.4	2.8	3.7	3.2	2.4	3.8	3.1
55-59	1.9	2.4	2.1	1.9	1.7	1.8	2.0	2.1	2.1	1.9	2.1	2.0
60-64	1.9	1.7	1.8	1.4	1.4	1.4	1.8	1.6	1.7	1.9	1.8	1.8
65-69	1.3	1.2	1.3	1.3	1.1	1.2	1.1	0.9	1.0	1.3	1.1	1.2
70-74	1.2	0.9	1.0	0.9	0.8	0.8	1.1	0.7	0.9	1.0	0.9	1.0
75+	1.4	1.0	1.2	1.2	1.1	1.1	1.0	0.9	0.9	1.5	1.1	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In Kenya, as in most societies, there is a tendency to report ages that end in preferred digits, usually 0 and 5. This tendency is known as age "heaping". In an effort to measure the extent of age heaping in the KDHS, an indicator known as Whipple's index was calculated and compared with similar data from the 1962, 1969 and 1979 censuses, and the 1984 KCPS. The index generally varies between 100, representing no preference for the digits 0 and 5, to 500, indicating that all ages were reported as ending in 0 or 5. As shown in Table C.2, the indices for the KDHS are 134 for males and 121 for females, which are slightly higher (indicating more

age heaping) than in the 1984 KCPS. Indices from both surveys, however, are considerably lower than those from the censuses, which is probably due to the fact that they are much smaller and more controllable operations. Also, the fact that the indices for females in both surveys are lower than those for males, while the opposite is true for the censuses, is most likely due to the fact that the two surveys focused on interviewing women, many of whom may have had to estimate the ages of the men in the household.

Sex	1962 Census	1969 Census	1979 Census	1984 KCPS	1989 KDHS
Male	203.4	157.5	146.2	128.5	134.0
Female	294.9	158.5	162.9	112.9	121.0

Figure C.1 shows the distribution of the KDHS de facto household population by single year of age according to sex. The preference for ages ending in 0 and 5 and, to a lesser extent, 2 and 8 is apparent for both males and females. The precipitous decline in the proportion of women age 14 to age 15 that was mentioned above, is also obvious; the figure shows that it is not limited to these two ages alone, but also affects the number of girls age 16, 17 and 18, relative to boys.



APPENDIX D

PERSONS INVOLVED IN THE KDHS

APPENDIX D. PERSONS INVOLVED IN THE KDHS

A. ADMINISTRATIVE STAFF

Mr. Leonard Arap Sawe, Permanent Secretary, Ministry of Home Affairs and National Heritage
Mr. Johnson Hungu, Permanent Secretary, Ministry of Planning and National Development
Mr. Simon Ndirangu, Director, National Council for Population and Development
Mr. Jotham A. Mwaniki, Director, Central Bureau of Statistics
Mr. G. H. Olum, Deputy Director, Central Bureau of Statistics
Mr. Peter Ondieki, Senior Assistant Director, National Council for Population and Development

B. TECHNICAL STAFF

Mr. Walter Obungu, Demographer, NCPD
Mr. Paul M. Kizito, Demographer, NCPD
Mr. Michael K. M. Mbayah, Demographer, NCPD
Mr. Kennedy Ondimu, Demographer, NCPD
Mrs. Jenipher Liku, Sociologist, NCPD
Mr. David Ojaka, Demographer, NCPD (formerly)
Mr. John Wakajumah, Demographer, NCPD (formerly)
Mr. Zakary E. Gichohi, Senior Economist-Statistician, Central Bureau of Statistics
Ms. Anne R. Cross, Regional Coordinator for Anglophone Africa, DHS/IRD
Dr. Ann Blanc, Country Monitor, DHS/IRD
Ms. Jeanne Cushing, Data Processing Coordinator, DHS/IRD

C. FIELD COORDINATORS

Mr. Njagi Nyaga, Planning Officer, NCPD
Mr. George Kahuthia, Demographer, NCPD
Mr. Charles Erigori, Demographer, NCPD
Mr. Charles Oisebe, Planning Officer, NCPD
Mrs. Maria Musomi, Demographer, NCPD
Mr. P. V. L. Omokule, Provincial Statistical Officer, Nairobi
Mr. Ogola-Soti, Provincial Statistical Officer, Mombasa
Mr. Peter Reriani, District Population Officer, Kericho
Mr. G. Gichamu, District Population Officer, Kakamega
Mr. A. Adiengo, District Population Officer, Kisii
Mr. Mbatha, District Population Officer, Mombasa
Mr. Achoki, District Statistical Officer, Kisii
Mr. Mutoro, District Statistical Officer, Kakamega
Mr. Bulemi/Mr. Gondi, District Statistical Officer, Bungoma
Mr. J. A. Were, District Statistical Officer, Siaya
Mr. S. M. Kamau, District Statistical Officer, Nyeri
Mr. F. K. Ndungu, District Statistical Officer, Meru
Mr. A. V. Mulewa, District Statistical Officer, Machakos
Mr. E. O. Okute, District Statistical Officer, Kisumu
Mr. M. M. Masegwa, District Statistical Officer, Kilifi

Mr. J. K. Bii, District Statistical Officer, Uasin Gishu
 Miss R. N. Ngara, District Statistical Officer, Kiambu
 Mr. P. R. Mureithi, District Statistical Officer, Kirinyaga
 Mr. A. O. Sunga, District Statistical Officer, South Nyanza/Migori
 Mr. R. K. Tanui, District Statistical Officer, Kericho
 Mr. P. M. Muturi, District Statistical Officer, Nakuru
 Mr. S. N. Ndhenge, District Statistical Officer, Kitui
 Mr. J. Odero, District Statistical Officer, Homa Bay
 Mr. J. W. Githinji, District Statistical Officer, Embu
 Mr. Mark Otieno, District Statistical Officer, Nandi
 Mr. C. N. Omolo, District Statistical Officer, Taita-Taveta

D. FIELD STAFF

Kalenjin

Dinah Jeruto Kirwa
 Elizabeth Kiplagat
 Lilian Terer
 Jane Chelangat
 Jane Lagat
 Grace Cheruiyot
 Rita Ngeno
 Philip Rono

Kamba

Jane Ndabuki
 Jane Francis Kitale
 Tabitha Nguli
 Elizabeth Mwikali
 Nzeli Nzoka
 Florence Mwei
 Rachel Mukulu Kimuyu
 Michael Mutisya

Kisii

Rose Nyamoita
 Grace K. Nyakeruma
 Agnes Onwonga
 Janet N. Nyangwono
 Jannes Nyarinda
 Sarah Rioba
 Jane Ondieki
 Patrick Osoro

Kikuyu

Faith Wairimu Nderitu
 Teresia W. Kariuki
 Cecilia W. Gachira
 Phylis Wangui Gitonga
 Muiruri P. Muthoni
 Jane Wangui
 Simon Wamae
 Mary Kanyingi
 Eunice Gitari
 Gladys Njeri Mwangi
 Esther Ndirangu
 Margaret W. Mureu
 Rosemary Wanjiku
 Ephantus Wambugu

Luhya

Roseline Mutenyo
 Faustine Nabwire
 Doris Omunga
 Judith Wanjala
 Gladys Odanga
 Jaqueline Kesenwa
 Mary Manyasa
 John Lusinde

Luo

Anne Akinyi
 Thabita Odingo

Bentah B. Aoko
 Benita A. Omondi
 Susan Achiro
 Roseline Oyare
 Rose Abondo
 Mathew Oyolo

Meru

Lucy Karimi
 Japheth Njiru
 Mary Mati
 Lucy Silas
 Beatrice Ivara
 Purity Munenc
 Isabella G. Muthamia
 Kaburu Nyaga

Mijikenda

Olive Shume
 Edith Mbeyu Japhet
 Julitha Sharif
 Jane Lumwe
 Joyce Kalenga
 Mercy Kahaso Kenga
 Fatuma Mwasuiche
 Chimbeja Emwasambu

E. DATA PROCESSING STAFF

Joseph Owiti
 Lucy Nganga
 Charles Momanyi
 Julius Majale

Salma Musa
 Mildred Agwanda
 Monica Kananu
 Ronald Kilele

Eunice Wanjiru
 Claire Mokeira

APPENDIX E
SURVEY QUESTIONNAIRES

NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
MINISTRY OF HOME AFFAIRS AND NATIONAL HERITAGE
KENYA DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD SCHEDULE

CONFIDENTIAL
Data used
for research
purposes only

IDENTIFICATION

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

CLUSTER NUMBER.....

HOUSEHOLD NUMBER.....

STRUCTURE NUMBER.....

URBAN/RURAL (urban=1, rural=2).....

NAME OF HOUSEHOLD HEAD _____

INTERVIEWER VISITS	1	2	3	FINAL VISIT
DATE				MONTH YEAR
INTERVIEWER'S NAME				INTERVIEWER NO.
RESULT*				FINAL RESULT
NEXT VISIT: DATE TIME				TOTAL NUMBER OF VISITS
*RESULT CODES: 1 COMPLETED 2 HOUSEHOLD PRESENT BUT NO COMPETENT RESP. AT HOME 3 HOUSEHOLD ABSENT NIGHT BEFORE INTERVIEW 4 POSTPONED 5 REFUSED 6 DWELLING VACANT OR ADDRESS NOT A DWELLING 7 DWELLING DESTROYED 8 DWELLING NOT FOUND 9 OTHER _____ (SPECIFY)				TOTAL IN HOUSEHOLD TOTAL ELIGIBLE WOMEN TOTAL ELIGIBLE HUSBANDS
LANGUAGE OF QUESTIONNAIRE: ENGLISH				1 0
NAME DATE	FIELD EDITED BY _____	OFFICE EDITED BY _____	KEYED BY _____	KEYED BY

HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP	RESIDENCE		SEX	AGE	FOSTERING	ELIGIBILITY
LINE NO.	Please give me the names of the persons who usually live in your household or are staying with you now, starting with the head of the household.	1 Head 2 Spouse 3 Son/daugh. 4 Broth/sis. 5 Grandchild 6 Parent 7 Other rel. 8 Unrelated	Does (NAME) usually live here?	Did (NAME) sleep here last night?	Is (NAME) male or female?	How old is he/she?	ONLY FOR CHILDREN UNDER 15 YEARS OLD: Do any of his/her parents usually live in this household?*	CIRCLE LINE NUMBER OF WOMEN AND HUSBANDS ELIGIBLE FOR INDIVIDUAL INTERVIEW
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			YES NO	YES NO	M F	IN YEARS	YES NO	
01		☐	1 2	1 2	1 2		1 2	01
02		☐	1 2	1 2	1 2		1 2	02
03		☐	1 2	1 2	1 2		1 2	03
04		☐	1 2	1 2	1 2		1 2	04
05		☐	1 2	1 2	1 2		1 2	05
06		☐	1 2	1 2	1 2		1 2	06
07		☐	1 2	1 2	1 2		1 2	07
08		☐	1 2	1 2	1 2		1 2	08
09		☐	1 2	1 2	1 2		1 2	09
10		☐	1 2	1 2	1 2		1 2	10
11		☐	1 2	1 2	1 2		1 2	11
12		☐	1 2	1 2	1 2		1 2	12
13		☐	1 2	1 2	1 2		1 2	13
14		☐	1 2	1 2	1 2		1 2	14
15		☐	1 2	1 2	1 2		1 2	15

NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP	RESIDENCE		SEX	AGE	FOSTERING	ELIGIBILITY
LINE NO.	Please give me the names of the persons who usually live in your household or are staying with you now, starting with the head of the household.	1 Head 2 Spouse 3 Son/daugh. 4 Broth/sis. 5 Grandchild 6 Parent 7 Other rel. 8 Unrelated	Does (NAME) usually live here?	Did (NAME) sleep here last night?	Is (NAME) male or female?	How old is he/she?	ONLY FOR CHILDREN UNDER 15 YEARS OLD: Do any of his/her parents usually live in this household?*	CIRCLE LINE NUMBER OF WOMEN AND HUSBANDS ELIGIBLE FOR INDIVIDUAL INTERVIEW
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			YES NO	YES NO	M F	IN YEARS	YES NO	
16		☐	1 2	1 2	1 2		1 2	16
17		☐	1 2	1 2	1 2		1 2	17
18		☐	1 2	1 2	1 2		1 2	18
19		☐	1 2	1 2	1 2		1 2	19
20		☐	1 2	1 2	1 2		1 2	20
21		☐	1 2	1 2	1 2		1 2	21
22		☐	1 2	1 2	1 2		1 2	22
23		☐	1 2	1 2	1 2		1 2	23
24		☐	1 2	1 2	1 2		1 2	24
25		☐	1 2	1 2	1 2		1 2	25

TICK HERE IF CONTINUATION SHEET USED ☐

TOTAL NUMBER OF ELIGIBLE WOMEN

TOTAL NUMBER OF ELIGIBLE HUSBANDS

Just to make sure that I have a complete listing:

1) Are there any other persons such as small children or infants that we have not listed?

YES ☐ → ENTER EACH IN TABLE

NO ☐

2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here?

YES ☐ → ENTER EACH IN TABLE

NO ☐

3) Do you have any guests or temporary visitors staying here, or anyone else who slept here last night?

YES ☐ → ENTER EACH IN TABLE

NO ☐

NATIONAL COUNCIL OF POPULATION AND DEVELOPMENT
MINISTRY OF HOME AFFAIRS AND NATIONAL HERITAGE
KENYA DEMOGRAPHIC AND HEALTH SURVEY
WOMAN'S QUESTIONNAIRE
(For Women Aged 15-49 Who Slept There Last Night)

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IDENTIFICATION

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

CLUSTER NUMBER.....

HOUSEHOLD NUMBER.....

STRUCTURE NUMBER.....

URBAN/RURAL (urban=1, rural=2).....

NAME OF HOUSEHOLD HEAD _____

LINE NUMBER OF WOMAN.....

INTERVIEWER VISITS	1	2	3	FINAL VISIT
DATE				MONTH YEAR
INTERVIEWER'S NAME				INTER- VIEWER NO.
RESULT*				FINAL RESULT
NEXT VISIT: DATE TIME				TOTAL NUMBER OF VISITS

*RESULT CODES: 1 COMPLETED 4 REFUSED
 2 NOT AT HOME 5 PARTLY COMPLETED
 3 POSTPONED 6 OTHER _____

LANGUAGE OF QUESTIONNAIRE** ENGLISH

LANGUAGE USED IN INTERVIEW**.....

RESPONDENT'S LOCAL LANGUAGE**.....

TRANSLATOR USED (1=NOT AT ALL; 2=SOMETIME; 3=ALL THE TIME)...

**LANGUAGE CODES: 01 KALENJIN 05 LUHYA 09 KISWAHILI
 02 KAMBA 06 LUO 10 ENGLISH
 03 KIKUYU 07 MERU/EMBU 11 OTHER
 04 KISII 08 MIJIKENDA

NAME DATE	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
103	RECORD THE TIME.	HOUR..... MINUTES.....	
104	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in the countryside, in Nairobi or Mombasa, or in another town?	COUNTRYSIDE.....1 NAIROBI/MOMBASA.....2 OTHER TOWN.....3	
105	How long have you been living continuously in _____ (NAME OF SUBLOCATION, TOWN, CITY)?	ALWAYS.....95 VISITOR.....96 YEARS.....	>107
106	Just before you moved here, did you live in the countryside, in Nairobi or Mombasa, or in another town?	COUNTRYSIDE.....1 NAIROBI/MOMBASA.....2 OTHER TOWN.....3	
107	It is important to know your exact age. In what month and year were you born?	MONTH..... DK MONTH.....98 YEAR..... DK YEAR.....98	
108	How old were you at your last birthday? INTERVIEWER: COMPARE AND CORRECT 107 AND/OR 108 IF INCONSISTENT.	AGE IN COMPLETED YEARS...	
109	Have you ever attended school?	YES.....1 NO.....2	>112A
110	What was the highest level of school you attended: primary, secondary, higher or university?	PRIMARY.....1 SECONDARY.....2 HIGHER.....3 UNIVERSITY.....4 OTHER _____ 5 (SPECIFY)	
111	What was the highest (standard, form, year) you completed at that level?	STANDARD/FORM/YEAR.....	
112	INTERVIEWER: CHECK 110: PRIMARY ☐ SECONDARY OR ABOVE ☐		>114

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
112A	Have you ever attended an adult literacy class?	YES.....1 NO.....2	
113	Can you read a letter or newspaper in any language easily, with difficulty, or not at all?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	
114	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	
115	Where does your household get most of its water for drinking, handwashing, and cooking most of the year?	PIPED INTO HOUSE/COMPOUND/PLOT.....01 PUBLIC TAP.....02 WELL WITH HANDPUMP.....03 WELL WITHOUT HANDPUMP.....04 LAKE.....05 RIVER.....06 POND.....07 RAINWATER.....08 OTHER.....09 (SPECIFY)	→117 →117
115A	How long does it usually take you to go to that place, get water, and return?	MINUTES.....	
117	What kind of toilet facility does your household have?	FLUSH TOILET.....1 BUCKET.....2 PIT LATRINE.....3 OTHER.....4 (SPECIFY) NO FACILITIES.....5	→119
118	At what age do children in this household start using the same toilet facility as adults?	AGE IN YEARS..... NO CHILDREN.....96	
119	Do you have, right now, bathing soap or washing soap on the premises?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO																											
120	Does your house have: Electricity? A radio? A television? A refrigerator?	<table><tr><th></th><th>YES</th><th>NO</th></tr><tr><td>ELECTRICITY.....</td><td>1</td><td>2</td></tr><tr><td>RADIO.....</td><td>1</td><td>2</td></tr><tr><td>TELEVISION.....</td><td>1</td><td>2</td></tr><tr><td>REFRIGERATOR.....</td><td>1</td><td>2</td></tr></table>		YES	NO	ELECTRICITY.....	1	2	RADIO.....	1	2	TELEVISION.....	1	2	REFRIGERATOR.....	1	2													
	YES	NO																												
ELECTRICITY.....	1	2																												
RADIO.....	1	2																												
TELEVISION.....	1	2																												
REFRIGERATOR.....	1	2																												
121	Does any member of your household own: A bicycle? A motorcycle? A car? A tractor? Land? Cattle, goats or sheep? Cash crops? A permanent house?	<table><tr><th></th><th>YES</th><th>NO</th></tr><tr><td>BICYCLE.....</td><td>1</td><td>2</td></tr><tr><td>MOTORCYCLE.....</td><td>1</td><td>2</td></tr><tr><td>CAR.....</td><td>1</td><td>2</td></tr><tr><td>TRACTOR.....</td><td>1</td><td>2</td></tr><tr><td>LAND.....</td><td>1</td><td>2</td></tr><tr><td>CATTLE, GOATS, SHEEP.....</td><td>1</td><td>2</td></tr><tr><td>CASH CROPS.....</td><td>1</td><td>2</td></tr><tr><td>PERMANENT HOUSE.....</td><td>1</td><td>2</td></tr></table>		YES	NO	BICYCLE.....	1	2	MOTORCYCLE.....	1	2	CAR.....	1	2	TRACTOR.....	1	2	LAND.....	1	2	CATTLE, GOATS, SHEEP.....	1	2	CASH CROPS.....	1	2	PERMANENT HOUSE.....	1	2	
	YES	NO																												
BICYCLE.....	1	2																												
MOTORCYCLE.....	1	2																												
CAR.....	1	2																												
TRACTOR.....	1	2																												
LAND.....	1	2																												
CATTLE, GOATS, SHEEP.....	1	2																												
CASH CROPS.....	1	2																												
PERMANENT HOUSE.....	1	2																												
122	INTERVIEWER: INQUIRE OR OBSERVE MAIN MATERIAL OF THE FLOOR.	<table><tr><td>PARQUET/POLISHED WOOD PIECES....</td><td>1</td></tr><tr><td>VINYL/LINOLEUM/ASPHALT STRIPS...2</td><td></td></tr><tr><td>TILES.....</td><td>3</td></tr><tr><td>WOOD PLANKS.....</td><td>4</td></tr><tr><td>CEMENT.....</td><td>5</td></tr><tr><td>EARTH.....</td><td>6</td></tr><tr><td>OTHER _____</td><td>7</td></tr><tr><td colspan="2">(SPECIFY)</td></tr></table>	PARQUET/POLISHED WOOD PIECES....	1	VINYL/LINOLEUM/ASPHALT STRIPS...2		TILES.....	3	WOOD PLANKS.....	4	CEMENT.....	5	EARTH.....	6	OTHER _____	7	(SPECIFY)													
PARQUET/POLISHED WOOD PIECES....	1																													
VINYL/LINOLEUM/ASPHALT STRIPS...2																														
TILES.....	3																													
WOOD PLANKS.....	4																													
CEMENT.....	5																													
EARTH.....	6																													
OTHER _____	7																													
(SPECIFY)																														
130	What is your religion?	<table><tr><td>CATHOLIC.....</td><td>1</td></tr><tr><td>PROTESTANT/OTHER CHRISTIAN.....2</td><td></td></tr><tr><td>MUSLIM.....</td><td>3</td></tr><tr><td>OTHER (SPECIFY) _____</td><td>4</td></tr><tr><td>NO RELIGION.....</td><td>5</td></tr></table>	CATHOLIC.....	1	PROTESTANT/OTHER CHRISTIAN.....2		MUSLIM.....	3	OTHER (SPECIFY) _____	4	NO RELIGION.....	5																		
CATHOLIC.....	1																													
PROTESTANT/OTHER CHRISTIAN.....2																														
MUSLIM.....	3																													
OTHER (SPECIFY) _____	4																													
NO RELIGION.....	5																													
140	What is your ethnic group/tribe?	<table><tr><td>KALENJIN.....</td><td>01</td></tr><tr><td>KAMBA.....</td><td>02</td></tr><tr><td>KIKUYU.....</td><td>03</td></tr><tr><td>KISII.....</td><td>04</td></tr><tr><td>LUHYA.....</td><td>05</td></tr><tr><td>LUO.....</td><td>06</td></tr><tr><td>MERU/EMBU.....</td><td>07</td></tr><tr><td>MIJIKENDA/SWAHILI.....</td><td>08</td></tr><tr><td>SOMALI.....</td><td>09</td></tr><tr><td>OTHER _____</td><td>10</td></tr><tr><td colspan="2">(SPECIFY)</td></tr></table>	KALENJIN.....	01	KAMBA.....	02	KIKUYU.....	03	KISII.....	04	LUHYA.....	05	LUO.....	06	MERU/EMBU.....	07	MIJIKENDA/SWAHILI.....	08	SOMALI.....	09	OTHER _____	10	(SPECIFY)							
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MIJIKENDA/SWAHILI.....	08																													
SOMALI.....	09																													
OTHER _____	10																													
(SPECIFY)																														
150	To which women's organization or association do you belong? CIRCLE CODES FOR ALL ORGANIZATIONS MENTIONED.	<table><tr><td>MAENDELEO YA WANAWAKE.....</td><td>1</td></tr><tr><td>MOTHERS' UNION OR ANY OTHER RELIGIOUS ASSOCIATION.....</td><td>1</td></tr><tr><td>LOCAL WOMEN'S GROUP/WELFARE ASS.</td><td>1</td></tr><tr><td>OTHER _____</td><td>1</td></tr><tr><td colspan="2">(SPECIFY)</td></tr><tr><td>NONE.....</td><td>1</td></tr></table>	MAENDELEO YA WANAWAKE.....	1	MOTHERS' UNION OR ANY OTHER RELIGIOUS ASSOCIATION.....	1	LOCAL WOMEN'S GROUP/WELFARE ASS.	1	OTHER _____	1	(SPECIFY)		NONE.....	1																
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LOCAL WOMEN'S GROUP/WELFARE ASS.	1																													
OTHER _____	1																													
(SPECIFY)																														
NONE.....	1																													

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES.....1 NO.....2	→206
202	Do you have any sons or daughters you have given birth to who are now living with you?	YES.....1 NO.....2	→204
203	How many sons live with you? And how many daughters live with you? IF NONE ENTER '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	
204	Do you have any sons or daughters you have given birth to who are alive but do not live with you?	YES.....1 NO.....2	→206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE ENTER '00'.	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	
206	Have you ever given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Any (other) boy or girl who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→208
207	How many boys have died? And how many girls have died? IF NONE ENTER '00'.	BOYS DEAD..... GIRLS DEAD.....	
208	SUM ANSWERS TO 203, 205, 207, AND ENTER TOTAL. IF NONE ENTER '00'.	TOTAL.....	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ____ live births during your life. Is that correct? YES ☐ NO ☐ PROBE AND CORRECT 201-209 AS NECESSARY		
210	CHECK 208: ONE OR MORE BIRTHS ☐ NO BIRTHS ☐		→220

211 Now I would like to talk to you about all of your births, whether still alive or not, starting with the first one you had. (RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS ON SEPARATE LINES. CODE TYPE OF BIRTH.)

212 What name was given to your (first, next) baby?	213 Is (NAME) a boy or a girl?	214 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season?	215 Is (NAME) still alive?	216 IF DEAD: How old was (NAME) when he/she died? RECORD DAYS IF LESS THAN ONE MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is he/she living with you?
01 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
02 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
03 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
04 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
05 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
06 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
07 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
08 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 ->(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2

212 What name was given to your next baby?	213 Is (NAME) a boy or a girl?	214 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season?	215 Is (NAME) still alive?	216 IF DEAD: How old was (NAME) when he/she died? RECORD DAYS IF LESS THAN ONE MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.	217 IF ALIVE: How old was (NAME) at his/ her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is he/she living with you?
09 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 →(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
10 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 →(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
11 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 →(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
12 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 →(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
13 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 →(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
14 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 →(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO NEXT BIRTH)	AGE IN YEARS	YES NO 1 2
15 (NAME)	BOY GIRL 1 2	MONTH. YEAR..	YES NO 1 2 →(GO TO 217)	DAYS.....1 MONTHS...2 YEARS....3 (GO TO 219)	AGE IN YEARS	YES NO 1 2

219 COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS
ARE SAME

☐

NUMBERS ARE
DIFFERENT

☐

→ (PROBE AND RECONCILE)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
220	Now I would like to ask you about some current events in your life. Are you pregnant now?	YES.....1 NO.....2 UNSURE.....8	→225
221	For how many months have you been pregnant?	MONTHS.....	
222	Since you have been pregnant, have you been given any injection to prevent the baby from getting tetanus?	YES.....1 NO.....2 DK.....8	→223
222A	How many injections did you receive?	NUMBER..... DK.....8	
222B	Where did you go to get the (last) injection?	HOSPITAL.....1 HEALTH CENTER/CLINIC/ DISPENSARY.....2 MOBILE CLINIC.....3 VILLAGE HEALTH WORKER.....4 PRIVATE DOCTOR.....5 SPECIAL CAMPAIGN.....6 OTHER.....7 (SPECIFY) DK.....8	
223	Did you see anyone for advice on this pregnancy?	YES.....1 NO.....2	→226
224	Whom did you see? PROBE FOR TYPE OF PERSON AND RECORD MOST QUALIFIED.	DOCTOR.....1 TRAINED NURSE/MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 OTHER.....4 (SPECIFY)	→226
225	How long ago did your last menstrual period start?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 BEFORE LAST BIRTH.....995 NEVER MENSTRUATED.....996	
226	From the time a woman gets her period until the time she gets her next period, when do you think she has the greatest chance of becoming pregnant? PROBE: What are the days during the month when a woman has to be careful to avoid becoming pregnant?	DURING HER PERIOD.....1 RIGHT AFTER HER PERIOD HAS ENDED.....2 IN THE MIDDLE OF THE CYCLE.....3 JUST BEFORE HER PERIOD BEGINS.....4 AT ANY TIME.....5 OTHER.....6 (SPECIFY) DK.....8	
227	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10.....1 2 HUSBAND.....1 2 OTHER MALES.....1 2 OTHER FEMALES.....1 2	

SECTION 3. CONTRACEPTION

301 Now I would like to talk about a different topic. There are various ways or methods that a couple can use to delay or avoid a pregnancy. Which of these ways or methods have you heard about? CIRCLE CODE 1 IN 302 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED. THEN FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 302, ASK 302A-305 BEFORE PROCEEDING TO THE NEXT METHOD.

	302 Have you ever heard of (METHOD)? READ DESCRIPTION.	302A Do you know how to use (METHOD)?	303 Have you ever used (METHOD) with any partner?	304 Where would you go to obtain (METHOD) if you wanted to use it? (CODES BELOW)	305 In your opinion, what is the main problem, if any, with using (METHOD)? (CODES BELOW)
01 PILL Women can take a pill every day.	YES/SPONT.....1→YES.....1 YES/PROBED.....2→ NO.....3 v	NO.....2	YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
02 IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
03 INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
04 DIAPHRAGM/FOAM/JELLY Women can place a diaphragm, tampon, sponge, foam tablets, jelly or cream in themselves before sex.	YES/SPONT.....1→YES.....1 YES/PROBED.....2→ NO.....3 v	NO.....2	YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
05 CONDOM Men can use a rubber sheath during sexual intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
06 FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
07 MALE STERILIZATION Men can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
08 PERIODIC ABSTINENCE Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.	YES/SPONT.....1→YES.....1 YES/PROBED.....2→ NO.....3 v	NO.....2	YES.. 1 NO... 2	Where would you go to obtain advice on periodic abstinence? ☐ ☐ OTHER _____	☐ ☐ OTHER _____
09 WITHDRAWAL Men can be careful and pull out before climax.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.. 1 NO... 2	☐ ☐ OTHER _____	☐ ☐ OTHER _____
10 ANY OTHER METHODS? Have you heard of any other ways or methods that women or men can use to avoid pregnancy? (SPECIFY) _____	YES/SPONT.....1→ NO.....3 v	YES.....1 NO.....2	YES.. 1 NO... 2	CODES FOR 304 01 GOVERNMENT HOSPITAL 02 GOVMENT HEALTH CNTR 03 FPAK 04 MOBILE CLINIC 05 FIELD EDUCATOR 06 PHARMACY/SHOP 07 PRIVATE HOSPITAL 08 MISSION HOSP/DISP 09 EMPLOYER'S CLINIC 10 PRIVATE DOCTOR 11 TRADITIONAL HEALER 12 HUSB/PRTNR WOULD GO 13 FRIENDS/RELATIVES 14 OTHER (SPECIFY) 15 NOWHERE 98 OK	CODES FOR 305 01 NONE 02 NOT EFFECTIVE 03 PARTNER DISAPPROVES 04 COMMUNITY DISAPPRVS 05 RELIGION DISAPPRVES 06 HEALTH CONCERN 07 ACCESS/AVAILABILITY 08 COSTS TOO MUCH 09 INCONVENIENT TO USE 10 OTHER (SPECIFY) 98 DK

306 CHECK 303: NOT A SINGLE "YES" (NEVER USED) ☐ AT LEAST ONE "YES" (EVER USED) ☐ → SKIP TO 309

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
307	Just to make sure, have you ever used anything or tried in any way to delay or avoid getting pregnant? MARK APPROPRIATE BOX WITH AN 'X'.	YES..... ☐ NO..... ☐	>315G
308	What have you used or done? CORRECT 302-303 AND OBTAIN INFORMATION FOR 304 TO 306 AS NECESSARY.		
309	CHECK 303: EVER USED PERIODIC ABSTINENCE ☐ NEVER USED PERIODIC ABSTINENCE ☐		>311
310	The last time you used periodic abstinence, how did you determine on which days you had to abstain?	BASED ON CALENDAR.....1 BASED ON BODY TEMPERATURE.....2 BASED ON CERVICAL MUCUS (BILLINGS) METHOD.....3 BASED ON BODY TEMPERATURE AND MUCUS.....4 OTHER.....5 (SPECIFY) NO SPECIFIC SYSTEM.....6	
311	How many living children, if any, did you already have when you first did something or used a method to avoid getting pregnant? IF NONE ENTER '00'.	NUMBER OF CHILDREN.....	
312	CHECK 220: NOT PREGNANT OR NOT SURE ☐ PREGNANT ☐		>315H
313	Are you currently doing something or using any method to avoid getting pregnant?	YES.....1 NO.....2	>315H
314	Which method are you using?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 OTHER.....10 (SPECIFY)	>315A >315B >315H
315	Where did you obtain (METHOD) the last time?	HOSPITAL.....01 HEALTH CENTER/CLINIC.....02 MOBILE CLINIC.....03 FIELD EDUCATOR.....04 PHARMACY/SHOP.....05 PRIVATE DOCTOR.....06 TRADITIONAL HEALER.....07 HUSBAND/PARTNR OBTAINS METHOD.....08 FRIENDS/RELATIVES.....09 OTHER.....10 (SPECIFY)	>315D >315H
315A	Where did the sterilization take place?		
315B	Where did you obtain instructions for this method?		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
315C	What agency or organization operates the service?	GOVERNMENT.....1 FPAK.....2 CHURCH/MISSION.....3 EMPLOYER.....4 OTHER PRIVATE.....5 OTHER.....6 (SPECIFY) DK.....8	
315D	How much time does it take to get from your home to this place? IF TIME EXACTLY 1, 2, 3 ETC. HOURS, ENTER '00' MINUTES.	HOURS..... MINUTES.....	
315E	Do you walk or use some means of transportation to get there?	WALK.....1 USE TRANSPORT.....2 DK.....8	
315F	For how long have you been using (CURRENT METHOD) continuously?	DURATION MONTHS..... YEARS.....	>317A
315G	CHECK 302: HEARD OF AT LEAST ONE METHOD ☐ NEVER HEARD OF ANY METHOD ☐		>316
315H	How much time would it take to get from your home to a place where you could obtain family planning services? IF TIME EXACTLY 1, 2, 3 ETC. HOURS, ENTER '00' MINUTES. IF 'DK', WRITE '98' HOURS.	HOURS..... MINUTES.....	
315I	Would you walk or use some means of transportation to get there?	WALK.....1 USE TRANSPORT.....2 DK.....8	
316	Do you intend to use a method to avoid pregnancy at any time in the future?	YES.....1 NO.....2 DK.....8	>317A
317	Which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/FOAM/JELLY.....04 CONDOM.....05 FEMALE STERILIZATION.....06 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 OTHER.....10 (SPECIFY) UNSURE/DK.....98	
317A	In the last six months, have you heard or read about family planning: On the radio? On the television? In a newspaper or magazine? From a poster? From friends or relatives?	YES NO RADIO.....1 2 TELEVISION.....1 2 NEWSPAPER/MAGAZINE.....1 2 POSTER.....1 2 FRIENDS/RELATIVES.....1 2	
319	Is it acceptable or not acceptable to you that family planning information is provided on radio or television?	ACCEPTABLE.....1 NOT ACCEPTABLE.....2 DK.....8	

SECTION 4. HEALTH AND BREASTFEEDING

401 CHECK 214:

ONE OR MORE LIVE BIRTHS
SINCE JAN. 1983 ☐

NO LIVE BIRTHS
SINCE JAN. 1983 ☐

(SKIP TO 428K)

402 ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE JAN. 1983 IN THE TABLE. BEGIN WITH THE LAST BIRTH. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS.

LINE NUMBER FROM Q. 212	LAST BIRTH NAME ALIVE ☐ DEAD ☐	NEXT-TO-LAST BIRTH NAME ALIVE ☐ DEAD ☐	SECOND-FROM-LAST NAME ALIVE ☐ DEAD ☐	THIRD-FROM-LAST NAME ALIVE ☐ DEAD ☐
403 When you were pregnant with (NAME) were you given any injection to prevent the baby from getting tetanus?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
404 When you were pregnant with (NAME), did you see anyone for advice on this pregnancy? IF YES: Whom did you see? PROBE FOR THE TYPE OF PERSON AND RECORD THE MOST QUALIFIED.	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 OTHER.....4 (SPECIFY) NO ONE.....5	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 OTHER.....4 (SPECIFY) NO ONE.....5	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 OTHER.....4 (SPECIFY) NO ONE.....5	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 OTHER.....4 (SPECIFY) NO ONE.....5
405 Who assisted with the delivery of (NAME)? PROBE FOR THE TYPE OF PERSON AND RECORD THE MOST QUALIFIED.	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 RELATIVE.....4 OTHER.....5 (SPECIFY) NO ONE.....6	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 RELATIVE.....4 OTHER.....5 (SPECIFY) NO ONE.....6	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 RELATIVE.....4 OTHER.....5 (SPECIFY) NO ONE.....6	DOCTOR.....1 TRAINED NURSE/ MIDWIFE.....2 TRADITIONAL BIRTH ATTENDANT.....3 RELATIVE.....4 OTHER.....5 (SPECIFY) NO ONE.....6
405A Where did you deliver (NAME)?	HOSPITAL.....1 CLINIC.....2 HOME.....3 OTHER.....4 (SPECIFY)	HOSPITAL.....1 CLINIC.....2 HOME.....3 OTHER.....4 (SPECIFY)	HOSPITAL.....1 CLINIC.....2 HOME.....3 OTHER.....4 (SPECIFY)	HOSPITAL.....1 CLINIC.....2 HOME.....3 OTHER.....4 (SPECIFY)
406 Did you ever feed (NAME) at the breast?	YES.....1 (SKIP TO 407)< NO.....2	YES.....1 (SKIP TO 408)< NO.....2	YES.....1 (SKIP TO 408)< NO.....2	YES.....1 (SKIP TO 408)< NO.....2
406A Why did you never feed (NAME) at the breast?	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK.....03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 OTHER.....07 (SPECIFY) (ALL SKIP TO 408C)<	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK.....03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 OTHER.....07 (SPECIFY) (ALL SKIP TO 408C)<	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK.....03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 OTHER.....07 (SPECIFY) (ALL SKIP TO 408C)<	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK.....03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 OTHER.....07 (SPECIFY) (ALL SKIP TO 408C)<
407 Are you still breast-feeding (NAME)? (IF DEAD, CIRCLE '2')	YES.....1 (SKIP TO 408B)< NO (OR DEAD).....2			
408 How many months old was (NAME) when you stopped breastfeeding?	MONTHS..... UNTIL DEATH.....96 (SKIP TO 408C)<	MONTHS..... UNTIL DEATH.....96 (SKIP TO 408C)<	MONTHS..... UNTIL DEATH.....96 (SKIP TO 408C)<	MONTHS..... UNTIL DEATH.....96 (SKIP TO 408C)<

408A Why did you stop breastfeeding (NAME)?	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK...03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 CH HAD DIARRHEA...07 CH WEANING AGE...08 BECAME PREGNANT...09 OTHER.....10 (SPECIFY) (ALL SKIP TO 408C)<	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK...03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 CH HAD DIARRHEA...07 CH WEANING AGE...08 BECAME PREGNANT...09 OTHER.....10 (SPECIFY) (ALL SKIP TO 408C)<	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK...03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 CH HAD DIARRHEA...07 CH WEANING AGE...08 BECAME PREGNANT...09 OTHER.....10 (SPECIFY) (ALL SKIP TO 408C)<	INCONVENIENT.....01 HAD TO WORK.....02 INSUFFICIENT MILK...03 BABY REFUSED.....04 CHILD DIED.....05 CHILD SICK.....06 CH HAD DIARRHEA...07 CH WEANING AGE...08 BECAME PREGNANT...09 OTHER.....10 (SPECIFY) (ALL SKIP TO 408C)<
408B Do you ever give (NAME) anything to drink or eat other than breastmilk?	YES.....1 NO.....2 (SKIP TO 409)<			
408C How many months old was (NAME) when you first gave him/her anything to drink or eat other than breastmilk?	MONTHS..... DIED BEFORE OTHER FOOD/ DRINK GIVEN.....96	MONTHS..... DIED BEFORE OTHER FOOD/ DRINK GIVEN.....96	MONTHS..... DIED BEFORE OTHER FOOD/ DRINK GIVEN.....96	MONTHS..... DIED BEFORE OTHER FOOD/ DRINK GIVEN.....96
409 How many months after the birth of (NAME) did your period return?	MONTHS..... NOT RETURNED.....96	MONTHS..... NEVER RETURNED...96	MONTHS..... NEVER RETURNED...96	MONTHS..... NEVER RETURNED...96
410 Have you resumed sexual relations since the birth of (NAME)?	YES (OR PREGN.)...1 NO.....2 (GO TO NEXT COL)<			
411 How many months after the birth of (NAME) did you resume sexual relations?	MONTHS..... (GO TO NEXT COLUMN)	MONTHS..... (GO TO NEXT COLUMN)	MONTHS..... (GO TO NEXT COLUMN)	MONTHS..... (GO TO 412)

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO																											
412	CHECK 407 FOR LAST BIRTH: LAST CHILD STILL BREASTFED ☐ ALL OTHERS ☐		>418																											
413	How many times did you breastfeed last night between sundown and sunrise?	NUMBER OF TIMES..... AS OFTEN AS CHILD WANTED.....96																												
414	How many times did you breastfeed yesterday during the daylight hours?	NUMBER OF TIMES..... AS OFTEN AS CHILD WANTED.....96																												
415	At any time yesterday or last night, was (NAME OF LAST CHILD) given any of the following: Plain water? Juice? Powdered milk? Cow's or goat's milk? Porridge or uji? Any other liquid? Any solid or mushy food?	<table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> </tr> <tr> <td>PLAIN WATER.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>JUICE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>POWDERED MILK.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>COW'S OR GOAT'S MILK.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>PORRIDGE OR UJI.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>ANY OTHER LIQUID</td> <td>1</td> <td>2</td> </tr> <tr> <td>(SPECIFY)</td> <td></td> <td></td> </tr> <tr> <td>ANY SOLID OR MUSHY FOOD....</td> <td>1</td> <td>2</td> </tr> </table>		YES	NO	PLAIN WATER.....	1	2	JUICE.....	1	2	POWDERED MILK.....	1	2	COW'S OR GOAT'S MILK.....	1	2	PORRIDGE OR UJI.....	1	2	ANY OTHER LIQUID	1	2	(SPECIFY)			ANY SOLID OR MUSHY FOOD....	1	2	
	YES	NO																												
PLAIN WATER.....	1	2																												
JUICE.....	1	2																												
POWDERED MILK.....	1	2																												
COW'S OR GOAT'S MILK.....	1	2																												
PORRIDGE OR UJI.....	1	2																												
ANY OTHER LIQUID	1	2																												
(SPECIFY)																														
ANY SOLID OR MUSHY FOOD....	1	2																												
416	CHECK 415: WAS GIVEN FOOD OR LIQUID ☐ NO FOOD OR LIQUID GIVEN ☐		>418																											

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	TO
417	Were any of these given in a bottle with a rubber nipple?	YES.....1 NO.....2	
418	At the time you became pregnant with (NAME OF LAST BIRTH), did you want to have that child then, did you want to wait until later, or did you want no (more) children at all?	THEN.....1 LATER.....2 NO MORE.....3	

419 ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE JAN. 1983 BELOW. BEGIN WITH THE LAST BIRTH. THE HEADINGS IN THE TABLE SHOULD BE EXACTLY THE SAME AS THOSE AFTER Q. 402. ASK THE QUESTIONS ONLY FOR LIVING CHILDREN.

LINE NUMBER FROM Q. 212				
	LAST BIRTH NAME	NEXT-TO-LAST BIRTH NAME	SECOND-FROM-LAST NAME	THIRD-FROM-LAST NAME
	ALIVE ☐ DEAD ☐	ALIVE ☐ DEAD ☐	ALIVE ☐ DEAD ☐	ALIVE ☐ DEAD ☐
	(GO TO 427)			
420 Do you have a child health card for (NAME)? IF YES: May I see it please?	YES, SEEN.....1 YES, NOT SEEN.....2 (SKIP TO 422)<--- NO CARD.....3	YES, SEEN.....1 YES, NOT SEEN.....2 (SKIP TO 422)<--- NO CARD.....3	YES, SEEN.....1 YES, NOT SEEN.....2 (SKIP TO 422)<--- NO CARD.....3	YES, SEEN.....1 YES, NOT SEEN.....2 (SKIP TO 422)<--- NO CARD.....3
421 RECORD IMMUNIZATION DATES FROM CHILD HEALTH CARD.	NOT GIVEN DAY MO YR	NOT GIVEN DAY MO YR	NOT GIVEN DAY MO YR	NOT GIVEN DAY MO YR
BCG	1	1	1	1
DPT 1	1	1	1	1
DPT 2	1	1	1	1
DPT 3	1	1	1	1
DPT 4	1	1	1	1
POLIO 1	1	1	1	1
POLIO 2	1	1	1	1
POLIO 3	1	1	1	1
POLIO 4	1	1	1	1
MEASLES	1	1	1	1
	(SKIP TO 423)	(SKIP TO 423)	(SKIP TO 423)	(SKIP TO 423)
422 Has (NAME) ever had a vaccination to prevent him/her from getting diseases?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8

423 Has (NAME) had diarrhea in the last 24 hours?	YES.....1 (SKIP TO 424A)<] NO.....2	YES.....1 (SKIP TO 424A)<] NO.....2	YES.....1 (SKIP TO 424A)<] NO.....2	YES.....1 (SKIP TO 424A)<] NO.....2
424 Has (NAME) had diarrhea in the last two weeks?	YES.....1 (SKIP TO 424B)<] NO.....2 (GO TO NEXT COL)<] DK.....8	YES.....1 (SKIP TO 424D)<] NO.....2 (GO TO NEXT COL)<] DK.....8	YES.....1 (SKIP TO 424D)<] NO.....2 (GO TO NEXT COL)<] DK.....8	YES.....1 (SKIP TO 424D)<] NO.....2 (SKIP TO 427)<] DK.....8
424A Now I have some questions about (NAME's) last episode of diarrhea. How many days ago did the diarrhea start?	DAYS..... DK.....98	DAYS..... DK.....98	DAYS..... DK.....98	DAYS..... DK.....98
424B CHECK 407: LAST CHILD STILL BREASTFED?	YES ☐ NO ☐ V (SKIP TO 424D)			
424C Did you breastfeed (NAME) when he/she had diarrhea then?	YES.....1 NO.....2			
424D When (NAME) had diarrhea then, was he/she given more, less, or the same amount to drink as before the diarrhea, or did you stop giving anything to drink?	MORE.....1 LESS.....2 SAME.....3 STOPPED.....4 DK.....8	MORE.....1 LESS.....2 SAME.....3 STOPPED.....4 DK.....8	MORE.....1 LESS.....2 SAME.....3 STOPPED.....4 DK.....8	MORE.....1 LESS.....2 SAME.....3 STOPPED.....4 DK.....8
424E Was (NAME) given more, less, or the same amount of solid food as was given before he/she had diarrhea or did you stop giving solid food altogether?	MORE.....1 LESS.....2 SAME.....3 STOPPED SOLID FOODS.4 SOLID FOODS NOT YET GIVEN.....5 DK.....8	MORE.....1 LESS.....2 SAME.....3 STOPPED SOLID FOODS.4 DK.....8	MORE.....1 LESS.....2 SAME.....3 STOPPED SOLID FOODS.4 DK.....8	MORE.....1 LESS.....2 SAME.....3 STOPPED SOLID FOODS.4 DK.....8

424G Was (NAME) given either a home solution of sugar, salt, and water to drink, or a solution made from a special packet? IF YES: Which?	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN.....3 NEITHER GIVEN.....4 (SKIP TO 425)<	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN.....3 NEITHER GIVEN.....4 (SKIP TO 425)<	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN.....3 NEITHER GIVEN.....4 (SKIP TO 425)<	HOME SOLUTION OF SALT, SUGAR, WATER.1 ORS PACKET SOLUTION.2 BOTH GIVEN.....3 NEITHER GIVEN.....4 (SKIP TO 425)<
424H The last time (NAME) was given (home solution/special packet), did he/she get better within a day, worse, or was there no change?	BETTER.....1 WORSE.....2 NO CHANGE.....3	BETTER.....1 WORSE.....2 NO CHANGE.....3	BETTER.....1 WORSE.....2 NO CHANGE.....3	BETTER.....1 WORSE.....2 NO CHANGE.....3
424I How much of the (home solution/special packet) was (NAME) given every 24 hours?	NUMBER OF GLASSES..... DK.....98	NUMBER OF GLASSES..... DK.....98	NUMBER OF GLASSES..... DK.....98	NUMBER OF GLASSES..... DK.....98
424J For how many days was (NAME) given (home solution/special packet)?	DAYS..... DK.....98	DAYS..... DK.....98	DAYS..... DK.....98	DAYS..... DK.....98
425 Was (NAME) taken to a private doctor, a hospital or clinic, a traditional healer, or any other place during the last episode of diarrhea? IF YES: Where was he/she taken (the last time)?	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5 (SKIP TO 426A)<	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5 (SKIP TO 426A)<	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5 (SKIP TO 426A)<	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5 (SKIP TO 426A)<
426 What treatments did (NAME) receive there (the last time)? CIRCLE ALL TREATMENTS MENTIONED.	INJECTION.....1 IV (INTRAVENOUS)....1 TABLETS OR CAPSULES.1 SYRUPS.....1 ORS.....1 HERBS.....1 OTHER.....1 (SPECIFY) NOTHING GIVEN.....1 (ALL GO TO NEXT COL)<	INJECTION.....1 IV (INTRAVENOUS)....1 TABLETS OR CAPSULES.1 SYRUPS.....1 ORS.....1 HERBS.....1 OTHER.....1 (SPECIFY) NOTHING GIVEN.....1 (ALL GO TO NEXT COL)<	INJECTION.....1 IV (INTRAVENOUS)....1 TABLETS OR CAPSULES.1 SYRUPS.....1 ORS.....1 HERBS.....1 OTHER.....1 (SPECIFY) NOTHING GIVEN.....1 (ALL GO TO NEXT COL)<	INJECTION.....1 IV (INTRAVENOUS)....1 TABLETS OR CAPSULES.1 SYRUPS.....1 ORS.....1 HERBS.....1 OTHER.....1 (SPECIFY) NOTHING GIVEN.....1 (ALL GO TO 427)<
426A Why was (NAME) not taken somewhere for treatment during the last episode of diarrhea?	ILLNESS WAS MILD....1 MOTHER TOO BUSY....2 MOTHER WORKING.....3 RELIGION FORBIDS....4 NO FACILITIES AVAIL.5 OTHER.....6 (SPECIFY) (ALL GO TO NEXT COL)<	ILLNESS WAS MILD....1 MOTHER TOO BUSY....2 MOTHER WORKING.....3 RELIGION FORBIDS....4 NO FACILITIES AVAIL.5 OTHER.....6 (SPECIFY) (ALL GO TO NEXT COL)<	ILLNESS WAS MILD....1 MOTHER TOO BUSY....2 MOTHER WORKING.....3 RELIGION FORBIDS....4 NO FACILITIES AVAIL.5 OTHER.....6 (SPECIFY) (ALL GO TO NEXT COL)<	ILLNESS WAS MILD....1 MOTHER TOO BUSY....2 MOTHER WORKING.....3 RELIGION FORBIDS....4 NO FACILITIES AVAIL.5 OTHER.....6 (SPECIFY) (ALL GO TO 427)<

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
427	CHECK 424G: HOME SOLUTION MENTIONED ☐ ↓ V	HOME SOLUTION NOT MENTIONED OR Q424G NOT ASKED ☐	>428
427A	Where did you learn how to prepare the sugar, salt and water solution given to (NAME)?	GOVERNMENT HOSPITAL.....01 GOVERNMENT HEALTH CENTER/ CLINIC/DISPENSARY.....02 PRIVATE HOSPITAL/CLINIC/ DISPENSARY.....03 VILLAGE HEALTH WORKER.....04 PRIVATE DOCTOR.....05 PHARMACY.....06 TRADITIONAL HEALER.....07 OTHER.....08 (SPECIFY) MOTHER DID NOT ADMINISTER.....96 DK.....98	
428	CHECK 424G: ORS PACKET MENTIONED ☐ ↓ V	ORS PACKET NOT MENTIONED OR Q424G NOT ASKED ☐	>428K
428A	Where did you get the packet of ORS (the last time)?	GOVERNMENT HOSPITAL.....01 GOVERNMENT HEALTH CENTER/ CLINIC/DISPENSARY.....02 PRIVATE HOSPITAL/CLINIC/ DISPENSARY.....03 VILLAGE HEALTH WORKER.....04 PRIVATE DOCTOR.....05 PHARMACY.....06 SHOP.....07 TRADITIONAL HEALER.....08 RELATIVE/FRIEND.....09 OTHER.....10 (SPECIFY) MOTHER DID NOT ADMINISTER.....96 DK.....98	>428K
428B	How much did the packet cost?	KSH CENTS COST..... FREE.....996 DK.....998	
428C	Do you have one of these packets in your house now?	YES.....1 NO.....2	>428E
428D	Can I see the packet? CODE TYPE OF PACKET.	UNICEF.....1 ORALYTE.....2 D.T.S.....3 OTHER PACKET.....4 PACKET NOT SHOWN.....5	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
428E	Do you think the contents of the packet are used to cure the diarrhea, or that they are used to prevent the child from drying out?	CURE DIARRHEA.....1 PREVENT DRYING OUT.....2 BOTH.....3 OTHER.....4 (SPECIFY) DK.....8	
428F	Did you use boiled water, bottled water, or other water to mix the contents of the packet (the last time)?	BOILED WATER.....1 BOTTLED WATER.....2 OTHER.....3 (SPECIFY) DK.....8	→428H
428G	Did you mix the contents of the packet with the water before you boiled the water or after you boiled the water (the last time)?	MIXED BEFORE BOILING WATER.....1 MIXED AFTER BOILING WATER.....2 DK.....8	
428H	What kind of container did you use to measure the correct amount of water (the last time)?	LARGE KIMBO.....1 SMALL KIMBO.....2 BEER BOTTLE.....3 SODA BOTTLE.....4 TEACUP.....5 GLASS.....6 OTHER.....7 (SPECIFY)	
428I	In what kind of container did you mix the contents of the packet and the water?	COOKING POT.....1 SUFURIA.....2 EARTHEN JAR.....3 EMPTY BOTTLE.....4 CALABASH.....5 OTHER.....6 (SPECIFY)	
428J	Did you prepare a new mixture every day or did you use the same mixture for more than one day?	NEW MIXTURE EACH DAY.....1 USE SAME FOR MORE THAN 1 DAY.....2 OTHER.....3 (SPECIFY)	
428K	Which places can you go if you want to get a vaccination for a child? CIRCLE ALL PLACES MENTIONED.	HOSPITAL.....1 HEALTH CENTER/CLINIC.....1 DISPENSARY.....1 MOBILE CLINIC.....1 VILLAGE HEALTH WORKER.....1 PRIVATE DOCTOR.....1 SCHOOL.....1 OTHER.....1 (SPECIFY)	

429 ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE JAN. 1983 BELOW. BEGIN WITH THE LAST BIRTH. THE HEADINGS IN THE TABLE SHOULD BE EXACTLY THE SAME AS THOSE AFTER Q. 419. ASK THE QUESTIONS ONLY FOR LIVING CHILDREN. IF NO CHILDREN SINCE JAN. 1983, SKIP TO 501.

LINE NUMBER FROM Q. 212				
	LAST BIRTH NAME ALIVE ☐ DEAD ☐ V	NEXT-TO-LAST BIRTH NAME ALIVE ☐ DEAD ☐ V	SECOND-FROM-LAST NAME ALIVE ☐ DEAD ☐ V	THIRD-FROM-LAST NAME ALIVE ☐ DEAD ☐ V
430 Has (NAME) had fever in the last four weeks?	YES.....1 NO.....2 (SKIP TO 433) < DK.....8	YES.....1 NO.....2 (SKIP TO 433) < DK.....8	YES.....1 NO.....2 (SKIP TO 433) < DK.....8	YES.....1 NO.....2 (SKIP TO 433) < DK.....8 (GO TO 501)
430A Was the fever due to malaria, measles, or some other cause?	MALARIA.....1 MEASLES.....2 OTHER CAUSE.....3 DK.....8	MALARIA.....1 MEASLES.....2 OTHER CAUSE.....3 DK.....8	MALARIA.....1 MEASLES.....2 OTHER CAUSE.....3 DK.....8	MALARIA.....1 MEASLES.....2 OTHER CAUSE.....3 DK.....8
431 Was (NAME) taken to a private doctor, a hospital or clinic, a traditional healer, or any other place to treat the fever? IF YES: Where was he/she taken?	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5
433 Has (NAME) suffered from severe cough or difficult or rapid breathing in the last four weeks?	YES.....1 NO.....2 (GO TO NEXT COL) < DK.....8	YES.....1 NO.....2 (GO TO NEXT COL) < DK.....8	YES.....1 NO.....2 (GO TO NEXT COL) < DK.....8	YES.....1 NO.....2 (SKIP TO 501) < DK.....8
434 Was (NAME) taken to a private doctor, a hospital or clinic, a traditional healer, or any other place to treat the problem? IF YES: Where was he/she taken?	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5	PRIVATE DOCTOR.....1 HOSPITAL/CLINIC.....2 TRADITIONAL HEALER..3 OTHER.....4 (SPECIFY) CHILD NOT TAKEN.....5
435 Was there anything (else) you or somebody did to treat the problem? IF YES: What was done? CIRCLE CODE 1 FOR ALL MENTIONED.	CAPSULES.....1 LIQUID OR SYRUP.....1 ASPIRIN.....1 OTHER TABLETS.....1 INJECTION.....1 UVULECTOMY.....1 OTHER.....1 (SPECIFY) NOTHING.....1 (ALL GO TO NEXT COL)	CAPSULES.....1 LIQUID OR SYRUP.....1 ASPIRIN.....1 OTHER TABLETS.....1 INJECTION.....1 UVULECTOMY.....1 OTHER.....1 (SPECIFY) NOTHING.....1 (ALL GO TO NEXT COL)	CAPSULES.....1 LIQUID OR SYRUP.....1 ASPIRIN.....1 OTHER TABLETS.....1 INJECTION.....1 UVULECTOMY.....1 OTHER.....1 (SPECIFY) NOTHING.....1 (ALL GO TO NEXT COL)	CAPSULES.....1 LIQUID OR SYRUP.....1 ASPIRIN.....1 OTHER TABLETS.....1 INJECTION.....1 UVULECTOMY.....1 OTHER.....1 (SPECIFY) NOTHING.....1 (ALL GO TO 501)

SECTION 5. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
501	Now we come to matters of marriage. Have you ever been married or lived with a man?	YES.....1 NO.....2	→519
502	Are you now married or living with a man, or are you widowed, divorced or not now living together?	MARRIED.....1 LIVING TOGETHER.....2 WIDOWED.....3 DIVORCED.....4 NOT NOW LIVING TOGETHER.....5	→507
503	Does your husband/partner live with you or is he now staying elsewhere?	LIVING WITH HER.....1 STAYING ELSEWHERE.....2	
504	Does your husband/partner have any other wives besides yourself?	YES.....1 NO.....2	→507
505	How many other wives does he have?	NUMBER..... DK.....98	→507
506	Are you the first, second,...wife?	RANK.....	
507	Have you been married or lived with a man only once, or more than once?	ONCE.....1 MORE THAN ONCE.....2	
508	In what month and year did you start living with your (first) husband or partner?	MONTH..... DK.....98 YEAR..... DK YEAR.....98	→509A

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
509	How old were you when you started living with him?	AGE.....	
509A	At the time that you married him, did your (first) husband/partner have any other living wives besides yourself?	YES.....1 NO.....2	→518
509B	How many other living wives did he have at the time that you married him?	NUMBER..... DK.....98	
518	In how many towns and districts have you lived for six months or more since you were first married (started living together) including this place?	NUMBER OF TOWNS..... NUMBER OF DISTRICTS.....	→520
519	Now we need some details about your sexual activity in order to get a better understanding of contraception and fertility. Have you ever had sexual intercourse?	YES.....1 NO.....2	→520A →528
520	Now we need some details about your sexual activity in order to get a better understanding of contraception and fertility.		
520A	How old were you when you first had sexual intercourse?	AGE.....	
522	How many days in the last four weeks have you had sexual intercourse?	DAYS.....	
523	When was the last time you had sexual intercourse?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 BEFORE LAST BIRTH.....996	→528

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
524	CHECK 220: NOT PREGNANT ☐ OR NOT SURE ☐ PREGNANT ☐		>528
525	CHECK 313: NOT USING ☐ CONTRACEPTION ☐ USING ☐ CONTRACEPTION ☐		>528
526	If you become pregnant in the next few weeks, would you feel happy, unhappy, or would it not matter very much?	HAPPY.....1 UNHAPPY.....2 WOULD NOT MATTER.....3	>528
527	What is the main reason that you are not using a method to avoid pregnancy?	LACK OF KNOWLEDGE.....01 OPPOSED TO FAMILY PLANNING.....02 HUSBAND DISAPPROVES.....03 OTHERS DISAPPROVE.....04 HEALTH CONCERNS.....05 ACCESS/AVAILABILITY.....06 COSTS TOO MUCH.....07 INCONVENIENT TO USE.....08 INFREQUENT SEX.....09 FATALISTIC.....10 RELIGION.....11 POSTPARTUM/BREASTFEEDING.....12 MENOPAUSAL/SUBFECUND.....13 OTHER14 (SPECIFY) DK.....98	
528	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10.....1 2 HUSBAND.....1 2 OTHER MALES.....1 2 OTHER FEMALES.....1 2	

SECTION 6. FERTILITY PREFERENCES

SKIP

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	TO
601	CHECK 502: CURRENTLY MARRIED OR LIVING TOGETHER ☐ ALL OTHERS ☐		>609
602	CHECK 220 AND MARK BOX. Now I have some questions about the future. NOT PREGNANT OR UNSURE ☐ Would you like to have a (another) child or would you prefer not to have any (more) children? PREGNANT ☐ After the child you are expecting, would you like to have another child or would you prefer not to have any (more) children?	HAVE ANOTHER.....1 NO MORE.....2 SAYS SHE CAN'T GET PREGNANT.....3 UNDECIDED OR DK.....8	>605
603	How long would you like to wait from now before the birth of a (another) child?	DURATION MONTHS.....1 YEARS.....2 DK.....998	>605
604	CHECK 215: How old would your youngest child be then? IF NO LIVING CHILDREN, CIRCLE '96'.	AGE OF YOUNGEST YEARS..... NO LIVING CHILDREN.....96 DK.....98	
605	For how long should a couple wait before starting sexual intercourse after the birth of a baby?	DURATION MONTHS.....1 YEARS.....2 OTHER.....996 (SPECIFY)	
606	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter?	WAIT.....1 DOESN'T MATTER.....2	
607	Do you think that your husband/partner approves or disapproves of couples using a method to prevent or delay pregnancy?	APPROVES.....1 DISAPPROVES.....2 DK.....8	
608	How often have you talked to your husband/partner about this subject in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3	
609	In general, do you approve or disapprove of couples using a method to prevent or delay pregnancy?	APPROVE.....1 DISAPPROVE.....2	
610	CHECK 202 AND 204: NO LIVING CHILDREN ☐ If you could choose exactly the number of children to have in your whole life, how many would that be? HAS LIVING CHILDREN ☐ If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? RECORD SINGLE NUMBER OR OTHER ANSWER.	NUMBER..... OTHER ANSWER..... (SPECIFY)	
611	How many boys? How many girls?	NUMBER OF BOYS..... NUMBER OF GIRLS..... OTHER.....996 (SPECIFY)	

SECTION 7. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
701	CHECK 501: EVER MARRIED OR LIVED WITH A MAN ☐ ↓ ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND/PARTNER.	ALL OTHERS ☐	715
702	Now I have some questions about your (most recent) husband/partner. Did your husband/partner ever attend school?	YES.....1 NO.....2	706
703	What was the highest level of school he attended: primary, secondary, higher, or university?	PRIMARY1 SECONDARY.....2 HIGHER.....3 UNIVERSITY.....4 OTHER5 (SPECIFY) DK.....8	706
704	What was the highest (standard, form, year) he completed at that level?	STANDARD/FORM/YEAR..... DK.....98	
705	CHECK 703: PRIMARY ☐ ↓ SECONDARY OR HIGHER ☐		707
706	Can (could) he read a letter or newspaper in any language?	YES.....1 NO.....2	
707	What kind of work does (did) your husband/partner mainly do?	 NEVER WORKED.....96	712

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO				
708	CHECK 707: DOES (DID) NOT ☐ WORK IN AGRICULTURE ↓ WORKS (WORKED) ☐ IN AGRICULTURE		→710				
708A	Does he work for someone else or for himself?	FOR SOMEONE ELSE.....1 FOR HIMSELF.....2	→712				
709	Does (did) he earn a regular wage or salary?	YES.....1 NO.....2 DK.....8	→712				
710	Does (did) your husband/partner work mainly on his or family land, or on someone else's land?	HIS/FAMILY LAND.....1 SOMEONE ELSE'S LAND.....2	→712				
711	Does (did) he lease the land or does (did) he work for wages?	LEASES THE LAND.....1 WORKS FOR WAGES.....2					
712	Before you married your (first) husband, did you yourself ever work regularly to earn money, other than on a farm or in a business run by your family?	YES.....1 NO.....2					
714	Since you were first married, have you ever worked regularly to earn money other than on a farm or in a business run by your family?	YES.....1 NO.....2	→717 →718				
715	Have you ever worked regularly to earn money, other than on a farm or in a business run by your family?	YES.....1 NO.....2	→718				
717	Are you now working to earn money other than on a farm or in a business run by your family?	YES.....1 NO.....2					
718	RECORD THE TIME.	HOUR..... MINUTES.....	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				

INTERVIEWER'S OBSERVATIONS

(To be filled in after completing interview.)

Person Interviewed: _____

Specific Questions: _____

Other Aspects: _____

Name of Interviewer: _____ Date: _____

SUPERVISOR'S OBSERVATIONS

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS

Name of Field Editor: _____ Date: _____

Name of Keyer: _____ Date: _____

NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
MINISTRY OF HOME AFFAIRS AND NATIONAL HERITAGE
KENYA DEMOGRAPHIC AND HEALTH SURVEY
HUSBAND'S QUESTIONNAIRE

CONFIDENTIAL
Data used
for research
purposes only

IDENTIFICATION	
PROVINCE _____	
DISTRICT _____	
LOCATION/TOWN _____	
SUBLOCATION/WARD _____	
CLUSTER NUMBER.....	
HOUSEHOLD NUMBER.....	
STRUCTURE NUMBER.....	
URBAN/RURAL (urban=1, rural=2).....	
NAME OF HOUSEHOLD HEAD _____	
LINE NUMBER OF HUSBAND.....	
LINE NUMBER OF WIFE INTERVIEWED.....	
LINE NUMBER OF WIFE INTERVIEWED.....	
LINE NUMBER OF WIFE INTERVIEWED.....	

INTERVIEWER VISITS	1	2	3	FINAL VISIT
DATE				MONTH YEAR
INTERVIEWER'S NAME				INTERVIEWER NO.
RESULT*				FINAL RESULT
NEXT VISIT: DATE TIME				TOTAL NUMBER OF VISITS
*RESULT CODES: 1 COMPLETED 4 REFUSED 2 NOT AT HOME 5 PARTLY COMPLETED 3 POSTPONED 6 OTHER (SPECIFY) _____				
LANGUAGE OF QUESTIONNAIRE** ENGLISH LANGUAGE USED IN INTERVIEW**..... RESPONDENT'S LOCAL LANGUAGE**..... TRANSLATOR USED (1=NOT AT ALL; 2=SOMETIME; 3=ALL THE TIME)...				
**LANGUAGE CODES: 01 KALENJIN 05 LUHYA 09 KISWAHILI 02 KAMBA 06 LUO 10 ENGLISH 03 KIKUYU 07 MERU/EMBU 11 OTHER 04 KISII 08 MIJIKENDA				
NAME DATE	FIELD EDITED BY _____	OFFICE EDITED BY _____	KEYED BY _____	KEYED BY

SECTION H1 RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
H100	RECORD THE TIME.	HOUR..... MINUTES.....	
H101	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in the countryside, in Nairobi or Mombasa, or in another town?	COUNTRYSIDE.....1 NAIROBI/MOMBASA.....2 OTHER TOWN.....3	
H102	How long have you been living continuously in _____ (NAME OF SUBLOCATION, TOWN, CITY)?	ALWAYS......95 VISITOR......96 YEARS.....	
H103	It is important to know your exact age. In what month and year were you born?	MONTH..... DK MONTH......98 YEAR..... DK YEAR......98	
H104	How old were you at your last birthday? INTERVIEWER: COMPARE AND CORRECT H103 AND/OR H104 IF INCONSISTENT.	AGE IN COMPLETED YEARS...	
H105	What is your religion?	CATHOLIC.....1 PROTESTANT/OTHER CHRISTIAN.....2 MUSLIM.....3 OTHER (SPECIFY).....4 NO RELIGION.....5	
H106	What is your ethnic group or tribe?	KALENJIN......01 KAMBA......02 KIKUYU......03 KISII......04 LUHYA......05 LUO......06 MERU/EMBU......07 MIJIKENDA/SWAHILI......08 SOMALI......09 OTHER.....10 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO												
H107	Now we come to matters of marriage. Have you been married only once or more than once?	ONCE.....1 MORE THAN ONCE.....2	H109												
H108	How many wives or partners do you currently have?	NUMBER.....													
H109	How many wives or partners did your father have?	NUMBER.....													
H110	Would you like to have an additional wife in the future?	YES.....1 NO.....2 DON'T KNOW.....8													
H111	Have you ever lost a wife or partner: Through death? Through divorce? (She is not coming back) Through separation? (She might come back)	<table border="1"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>DEATH.....1</td> <td>1</td> <td>2</td> </tr> <tr> <td>DIVORCE.....1</td> <td>1</td> <td>2</td> </tr> <tr> <td>SEPARATION.....1</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	DEATH.....1	1	2	DIVORCE.....1	1	2	SEPARATION.....1	1	2	
	YES	NO													
DEATH.....1	1	2													
DIVORCE.....1	1	2													
SEPARATION.....1	1	2													
H112	In what month and year did you start living with your (first) wife or partner?	MONTH..... DK.....98 YEAR..... DK YEAR.....98	H114												
H113	How old were you when you started living with her?	AGE.....													
H114	Do you approve or disapprove of divorce?	APPROVE.....1 DISAPPROVE.....2 DON'T MIND.....3													
H115	Generally, do you approve or disapprove of polygamy?	APPROVE.....1 DISAPPROVE.....2 DON'T MIND.....3													

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
H116	Have you ever attended school?	YES.....1 NO.....2	H120
H117	What was the highest level of school you attended: primary, secondary, higher or university?	PRIMARY.....1 SECONDARY.....2 HIGHER.....3 UNIVERSITY.....4 OTHER.....5 (SPECIFY)	
H118	What was the highest (standard, form, year) you completed at that level?	STANDARD/FORM/YEAR.....	
H119	INTERVIEWER: CHECK 117: PRIMARY ☐ SECONDARY OR ABOVE ☐		H122
H120	Have you ever attended an adult literacy class?	YES.....1 NO.....2	
H121	Can you read a letter or newspaper in any language easily, with difficulty, or not at all?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	
H122	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2	
H123	What kind of work do you mainly do ?	 NEVER WORKED.....96	H201
H124	CHECK H123: DOES NOT WORK IN AGRI- CULTURE ☐ WORKS IN AGRICULTURE ☐		H127
H125	Do you work for someone else or for yourself?	FOR SOMEONE ELSE.....1 FOR HIMSELF.....2	H201
H126	Do you earn a regular wage or salary?	YES.....1 NO.....2	H201
H127	Do you work mainly on your own or family land, or on someone else's land?	HIS/FAMILY LAND.....1 SOMEONE ELSE'S LAND.....2	H201
H128	Do you lease the land or do you work for wages?	LEASES THE LAND.....1 WORKS FOR WAGES.....2	

SECTION H2: CONTRACEPTION

H201 Now I would like to talk about a different topic. There are various ways or methods that a couple can use to delay or avoid a pregnancy. Which of these ways or methods have you heard about? CIRCLE CODE 1 IN H202 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED. THEN FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN H202 ASK H202A-H204 BEFORE PROCEEDING TO THE NEXT METHOD.

	H202 Have you ever heard of (METHOD)? READ DESCRIPTION.	H202A Do you know how to use (METHOD)?	H203 Have you ever used (METHOD) with any partner?	H204 Where would you go to obtain (METHOD) if you wanted to use it? (CODES BELOW)
PILL Women can take a pill every day.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.....1 NO.....2	OTHER
IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.....1 NO.....2	OTHER
INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.....1 NO.....2	OTHER
DIAPHRAGM/FOAM/JELLY Women can place a diaphragm, tampon, sponge, foam tablets, jelly or cream in themselves before sex.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.....1 NO.....2	OTHER
CONDOM Men can use a rubber sheath during sexual intercourse.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v	YES.....1 NO.....2	YES.....1 NO.....2	OTHER
FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.....1 NO.....2	OTHER
MALE STERILIZATION Men can have an operation to avoid having any more children.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v		YES.....1 NO.....2	OTHER
PERIODIC ABSTINENCE Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v	YES.....1 NO.....2	YES.....1 NO.....2	Where would you go to obtain advice on periodic abstinence? OTHER
WITHDRAWAL Men can be careful and pull out before climax.	YES/SPONT.....1 YES/PROBED.....2 NO.....3 v	YES.....1 NO.....2	YES.....1 NO.....2	
ANY OTHER METHODS? Have you heard of any other ways or methods that women or men can use to avoid pregnancy? (SPECIFY) _____	YES/SPONT.....1 NO.....3 v	YES.....1 NO.....2	YES.....1 NO.....2	CODES FOR H204 01 GOVERNMENT HOSPITAL 02 GOVERNMENT HEALTH CENTER 03 FPAK 04 MOBILE CLINIC 05 FIELD EDUCATOR 06 PHARMACY/SHOP 07 PRIVATE HOSPITAL 08 MISSION HOSPITAL/DISPENSARY 09 EMPLOYER'S CLINIC 10 PRIVATE DOCTOR 11 TRADITIONAL HEALER 12 WIFE/PARTNER WOULD GO 13 FRIENDS/RELATIVES 14 OTHER (SPECIFY) 15 NOWHERE 98 DK

H205 CHECK H203: NOT A SINGLE "YES" (NEVER USED) ☐

AT LEAST ONE "YES" (EVER USED) ☐

→ SKIP TO H208

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
H206	Have you ever used anything with any partner or tried to delay or avoid having a child? MARK APPROPRIATE BOX WITH AN 'X'.	YES..... ☐ NO..... ☐	H211
H207	What have you used or done? CORRECT H202-H204 AS NECESSARY.		
H208	How many living children, if any, did you already have when you first did something or used a method to avoid having a child? IF NONE ENTER '00'.	NUMBER OF CHILDREN.....	
H209	Are you currently doing something or using any method with any partner to avoid having a child?	YES.....1 NO.....2	H211
H210	Which method(s) are you using? CIRCLE ALL MENTIONED	PILL.....1 IUD.....1 INJECTIONS.....1 DIAPHRAGM/JELLY/FOAM.....1 CONDOM.....1 FEMALE STERILIZATION.....1 MALE STERILIZATION.....1 PERIODIC ABSTINENCE.....1 WITHDRAWAL.....1 OTHER.....1 (SPECIFY)	H215
H211	Do you intend to use a method to avoid pregnancy at any time in the future?	YES.....1 NO.....2 DK.....8	H213 H215
H212	Why not?	LACK OF KNOWLEDGE.....01 OPPOSED TO FAMILY PLANNING.....02 PARTNER DISAPPROVES.....03 OTHERS DISAPPROVE.....04 HEALTH CONCERNS.....05 ACCESS/AVAILABILITY.....06 COSTS TOO MUCH.....07 INCONVENIENT TO USE.....08 INFREQUENT SEX.....09 FATALISTIC.....10 RELIGION.....11 WANTS CHILDREN.....12 OTHER.....13 (SPECIFY) DK.....98	H215
H213	Which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 DIAPHRAGM/JELLY/FOAM.....04 CONDOM.....05 FEMALE STERILIZATION.....06 MALE STERILIZATION.....07 PERIODIC ABSTINENCE.....08 WITHDRAWAL.....09 OTHER.....10 (SPECIFY) UNSURE.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
H214	Do you intend to use (PREFERRED METHOD) in the next 12 months?	YES.....1 NO.....2 DK.....8	
H215	Is it acceptable to you that family planning information is provided on radio or television?	ACCEPTABLE.....1 NOT ACCEPTABLE.....2 DK.....8	
H216	How often have you talked to your wife(s)/partner(s) about family planning in the past year?	NEVER.....1 ONCE OR TWICE.....2 THREE OR MORE.....3	
H217	Do you think that your wife(s)/partner(s) approves or disapproves of couples using a method to prevent or delay pregnancy?	APPROVES.....1 DISAPPROVES.....2 DK.....8	
H218	In general, do you approve or disapprove of couples using a method to prevent or delay pregnancy?	APPROVE.....1 DISAPPROVE.....2	
H219	If couples wish to avoid pregnancy, do you approve or disapprove of their using: The condom? Male sterilisation? Withdrawal?	APPR DISAPPR DK CONDOM.....1 2 8 MALE STERILIZATION..1 2 8 WITHDRAWAL.....1 2 8	
H220	In your opinion, what is the main problem, if any, with using: The condom? Male sterilisation? Withdrawal? ENTER CODE FOR EACH METHOD FROM LIST BELOW. 01 NONE 02 NOT EFFECTIVE 03 WIFE/PARTNER DISAPPROVES 04 COMMUNITY DISAPPROVES 05 RELIGION DISAPPROVES 06 HEALTH CONCERN 07 ACCESS/AVAILABILITY 08 COSTS TOO MUCH 09 INCONVENIENT TO USE 10 OTHER (SPECIFY) 98 DK	CONDOM..... _____ (OTHER - SPECIFY) MALE STERILIZATION..... _____ (OTHER - SPECIFY) WITHDRAWAL..... _____ (OTHER - SPECIFY)	
H221	How many own sons do you have? And how many own daughters do you have? IF NONE ENTER '00'.	SONS..... DAUGHTERS.....	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
H222	Now I have some questions about the future. Would you like to have a (another) child or would you prefer not to have any (more) children?	HAVE ANOTHER.....1 NO MORE.....2 UNDECIDED OR DK.....3	H224
H223	How long would you want to wait from now before the birth of a (another) child?	TIME TO WAIT: MONTHS.....1 YEARS.....2 DK.....998	
H224	For how long should a couple wait before starting sexual intercourse after the birth of a baby?	DURATION MONTHS.....1 YEARS.....2 OTHER.....996 (SPECIFY)	
H225	Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter?	WAIT.....1 DOESN'T MATTER.....2	
H226	From the time a woman gets her period until the time she gets her next period, when do you think she has the greatest chance of becoming pregnant? PROBE: What are the days during the month when a woman has to be careful to avoid becoming pregnant?	DURING HER PERIOD.....1 RIGHT AFTER HER PERIOD HAS ENDED.....2 IN THE MIDDLE OF THE CYCLE.....3 JUST BEFORE HER PERIOD BEGINS.....4 AT ANY TIME.....5 OTHER.....6 (SPECIFY) DK.....8	
H227	CHECK H221: NO OWN CHILDREN ☐ If you could choose exactly the number of children to have in your whole life, how many would that be? HAS OWN CHILDREN ☐ If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? RECORD SINGLE NUMBER OR OTHER ANSWER.	NUMBER..... OTHER ANSWER..... (SPECIFY)	
H228	How many boys? How many girls?	NUMBER OF BOYS..... NUMBER OF GIRLS..... OTHER.....996 (SPECIFY)	
H229	RECORD THE TIME.	HOUR..... MINUTES.....	

INTERVIEWER'S OBSERVATIONS:

Name of Interviewer: _____ Date: _____

SUPERVISOR'S OBSERVATIONS:

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS:

Name of Editor: _____ Date: _____