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No. 26

The Kenya Fertility Survey, 1978 A Summary of Findings

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The World Fertility Survey is an international research programme whose purpose is to assess the current state of human fertility throughout the world. This is being done principally through promoting and supporting nationally representative, internationally comparable, and scientifically designed and conducted sample surveys of fertility behaviour in as many countries as possible.

The WFS is being undertaken, with the collaboration of the United Nations, by the International Statistical Institute in cooperation with the International Union for the Scientific Study of Population. Financial support is provided principally by the United Nations Fund for Population Activities and the United States Agency for International Development. Substantial support is also provided by the U.K. Overseas Development Administration.

This summary is one of a series containing the salient findings of the First Country Reports of the countries participating in the WFS programme. A copy of the report itself: *Kenya Fertility Survey, 1978* is available for reference at all WFS depository libraries, or may be obtained from the International Statistical Institute, 428 Prinses Beatrixlaan, P.O. Box 950, 2270 AZ Voorburg, Netherlands, on payment of U.S. \$ 10 postage.

For information on Country Reports, WFS publications, and WFS depository libraries, write to the Publications Office, International Statistical Institute, 428 Prinses Beatrixlaan, P.O. Box 950, 2270 AZ Voorburg, Netherlands. For information on the WFS, generally, write to the Information Office, World Fertility Survey, International Statistical Institute, 35-37 Grosvenor Gardens, London SW1W 0BS, U.K.

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1. THE SETTING

Kenya is situated across the equator, extending to latitude 4° North and 4° South. It is bounded on the East by the Indian Ocean and extends to Lake Victoria on the West. The total area of 582,646 Km² includes 14, 789 Km² of inland water.

Kenya is divided into four physical regions - the narrow coastal plain, the semi-arid region of the East and North, the Highlands including the Rift Valley, and the Plateau Region around Lake Victoria. Of these regions the Highlands and the Lake plateau are the most important agriculturally and the most densely populated. About 66 percent of Kenya has an average rainfall of under 50 cm a year and only 13 percent of the country can expect to receive consistently 60 or more centimeters of rainfall a year. These better-watered areas are limited to the south-western part and the south-eastern Coastal belt.

It is expected that the Kenya National Census taken in August, 1979, will place the total population at about 15.3 million people. Projections made using the 1969 Census as a base and fertility and mortality estimates from sample surveys indicate that the total population could be as high as 15.8 million. Sample surveys conducted in 1973 and 1977 indicated a gradual increase in fertility from a total fertility rate of 7.6 in 1969 to 8.1 in 1977; this was accompanied by an increase in life expectancy at birth from 49 to 58 years over the same time period. In 1969 about 15 percent of the total population lived in urban centres, defined as containing over 2000 inhabitants.

Kenya's economy is predominantly agricultural, and this sector accounted for 38 percent of the GNP in 1977. However, manufacturing and tourism are being developed and expanded. In 1977, about 903,000 people were actively engaged in the monetary (wage) sector of the economy. Females accounted for 17 percent of this total.

At the time of the 1969 Census, over 98 percent of the population was African: the remainder consisted mostly of Asians, with smaller European and Arab minorities. The African ethnic groups covered in the Kenya Fertility Survey - Kalenjin, Kamba, Kikuyu, Kisii, Luo, Luhya, Meru, Mijikenda - plus certain smaller tribes speaking one of the above languages or Swahili, constitute 95 percent of the total population.

The Kenyan population is predominantly Christian. The Muslims form a small proportion and are mainly found along Kenya's Coastal strip which has had a long history of Arab influence.

In 1969, only 9 percent of males and 2 percent of females over the age of 60 had attended primary school; however, of the population aged 15 to 19, 60 percent of males and 45 percent of females had had some formal schooling. In 1976 a national Literacy Survey indicated that 65 percent of the male, but only 30 percent of the female population was literate.

2. THE SURVEY

The Kenya Fertility Survey was conducted in 1977-78 by the Central Bureau of Statistics (CBS) within the Ministry of Economic Planning and Development. It was carried out as a component of the National Integrated Sample Survey Programme (NISSP) which was developed by CBS in order to collect interrelated socio-economic data.

The multi-purpose national area sample is the common factor linking all constituent surveys comprising the NISSP. The coverage of the sample excludes the entire North-Eastern Province, and certain other districts which though large in area contain only an estimated five percent of the total population of Kenya. The KFS sample of rural households was selected systematically from a complete enumeration of the 120 clusters which took place early in 1977 as part of the National Demographic Survey. In the 80 urban clusters a special listing was carried out a few weeks prior to fieldwork.

In total, 10,763 households were selected and 8,891 were successfully enumerated. From these enumerated households 8,452 women aged 15 to 50* who had slept the previous night in the household were identified. Of these women, 8,100 were interviewed. The overall response rate for the survey was 88.9 percent. In the computation of results, weighting factors were introduced to adjust for the over-sampling of the urban population, to correct for differential coverage of the national sample frame and lastly to compensate for differential non-response.

The questionnaire for the KFS was translated from English and printed in the eight major tribal languages, Swahili and English. The household schedule contained only enough information for the interviewer to list all members and identify eligible women. The individual questionnaire followed the WFS Individual Core Questionnaire and incorporated the WFS Module on Factors Other than Contraception Affecting Fertility.

The main survey field work was carried out from August, 1977 to May, 1978 and was done in three phases. Each phase utilized six teams consisting of five or six interviewers and two supervisors. All of the interviewers were female and were proficient in Swahili, English and at least one tribal language. The twelve supervisors remained throughout the field work, while the interviewers were usually employed only for the one phase which included their tribal region.

The editing, coding, validation and tabulation were all done in Kenya. The main report was published in June 1980. This document is a summary of that report. However, many further analyses of the data will be published in the future.

3. FINDINGS

3.1 NUPTIALITY

Age at marriage

In the Kenya Fertility Survey (KFS), as in the 1969 census, marriage was defined to include both unions which had been sanctioned by religious or

* Unlike most other surveys in the WFS programme, women aged 50 were considered eligible for the detailed interview, as a safeguard against severe heaping at this age.

civil law and those which simply entailed living together in a more or less stable sexual partnership. According to this definition, 22 percent of the total sample of 8,100 women aged 15 to 50 had never been married. The proportion never married falls steeply and smoothly from a level of 87 percent among 16 year olds to 29 percent among those aged 20. The proportion further declines from 22 to 2 percent between ages 21 and 23, by which age 98 percent of all women have been in a union.

There is clear evidence that female age at first marriage has been rising. Comparison of women aged 30 to 34 at the time of the survey with those aged 20 to 24 indicates a fall from 21 to 13 in the percentage reporting a first union before the age of 15, and a corresponding increase from 21 to 32 percent in the proportion still unmarried by age 20. The median age at first union (i.e. the exact age by which half the women have married) is 17.1 and 18.1 for the 30 to 34 and 20 to 24 age group, respectively. This trend towards postponement of marriage is also apparent from a comparison of the survey results with figures from the 1962 and 1969 Censuses.

TABLE 1
PERCENTAGE DISTRIBUTION OF ALL WOMEN ACCORDING TO AGE AT FIRST MARRIAGE, BY CURRENT AGE IN 1977-78

Current Age	Age at First Marriage						Not Yet Married	Total	Median	Mean	Number of Women
	<15	15-17	18-19	22-24	20-21	25+					
20-24	13	31	21	11	3	-	21	100	18.1	-	1436
25-29	16	34	21	13	9	2	4	100	17.5	-	1479
30-34	21	34	23	11	7	3	1	100	17.1	17.7	1011
35-39	22	32	21	11	8	5	1	100	17.1	17.9	926
40-44	19	35	21	11	9	5	1	100	17.2	18.2	614
45-49	16	31	20	16	10	7	0	100	17.8	18.9	644

Age at first marriage differs among socio-economic, regional and ethnic subgroups of the sample for women. Length of formal education of women is closely related to their age at first marriage. Among women currently aged 20 to 24, half of those with no schooling had been married by the age of 16½ years, but the same half-way point is not reached until the age of 23½ for women with secondary school education or higher. Improving standards of female education are largely responsible for the slight rise in the average age at marriage over the last decade. The rural-urban difference is modest, but large regional and ethnic variations are apparent. The Kikuyu, in Central Province, and Kamba, Meru and Embu tribes in Eastern Province can be identified as late-marrying groups. At the other extreme, the Mijikenda who form the majority of the population of Coast Province, are the earliest marrying group.

Stability of Marital Unions

Of the 6,319 ever-married women in the sample 16 percent reported that their first marriage had been dissolved - by divorce, separation or death of husband. Just over half (52 percent) of those who had experienced a dissolution, had re-married. At the time of the survey, 91 percent of all ever-married women were currently in a union, 5 percent were divorced or separated while the remaining 4 percent were widows.

Those who are currently working or have worked for a wage or salary since first marriage are much more likely to report dissolution of their first marriage and are less likely to have re-married than women who have only worked before marriage or who have never been engaged in cash employment. Though it is not possible from survey data to distinguish cause from effect, the most plausible explanation is that women are drawn into the monetary labour force, following dissolution of their marriage.

Less well educated women report a higher level of marital dissolution than the better educated, but are also more prone to re-marriage, with the net result that the proportion currently married at the time of interview varies little with educational level.

Rural-urban differences are again minor, but major tribal variations are apparent. The Mijikenda and Kamba appear to have the least stable marital unions, with about one-fifth of first marriages contracted in the last 10 years already dissolved. The former group also has a particularly high re-marriage rate.

Prevalence of Polygamous Unions

All currently married women were asked whether their husbands had other wives, whether living in the same compound or not and, if so, how many. Twenty one percent of the women reported one co-wife, 6 percent two co-wives and a further 3 percent three or more co-wives. Thus nearly a third (30 percent) of all currently married women aged 15 to 50 are in polygamous unions. No directly comparable figures from other sources are available but in Round 1 of the Integrated Rural Survey (1974/75)*, about 20 percent of male heads of households were recorded as having two or more wives.

The prevalence of polygamous unions rises steadily with the current age of the respondent. While just over 20 percent of women aged under 25 are in a polygamous union, this proportion is nearly twice as high for those aged 40 and over. This link with age may reflect a historical decline in the popularity of such unions or it may reflect life cycle effects, whereby the transition from monogamy to polygamy more commonly involves older women. Data concerning the "seniority" of wives in polygamous marriages, as yet unanalysed, may shed further light on this topic.

* *Social Perspectives Vol. 2 No. 1, March 1977.*

Polygamy is strongly related to the educational level of the wife. For women under 30 years of age, for instance, twice as many of those with no education have co-wives as those with secondary school or higher education. Differences according to the occupation of the husband are less pronounced, though self-employed farmers and sales and service workers may be identified as groups with a higher than average propensity for polygamy. Urban-rural differences are also slight, but there are pronounced tribal variations with a range from 12 percent (Kikuyu) to 43 percent (Luo). It is interesting to note that among the Luo, Luhya and Mijikenda, where polygamy is particularly common, the relative difference between age groups is minor. Conversely, among the two ethnic groups where polygamy is least practiced, the Kikuyu and Meru/Embu, the relative difference is greatest. This suggests, but does not prove, that polygamy is declining in popularity most among groups where its prevalence is already relatively low.

3.2 FERTILITY AND FAMILY SIZE

Number of Children Ever Born

The mean number of children ever born to the women covered by the survey was 3.85 and further details are shown in Table 2. The dominant impression is of very high fertility. Before the age of 25, the average woman has already borne the 2.5 children necessary, under prevailing mortality conditions, to bring about an eventually stationary population where births are balanced by deaths. Women reaching the end of their reproductive lives at the time of the survey have far exceeded this level with an average of about 8 live births of which 6.3 are survivors.

TABLE 2
PERCENTAGE DISTRIBUTION OF ALL WOMEN ACCORDING
TO NUMBER OF CHILDREN EVER BORN, BY CURRENT AGE

Current Age	Number of Births											Total	Mean Ever Born	Mean Surviving	Percentage Surviving
	0	1	2	3	4	5	6	7	8	9	10+				
15-19	74	19	5	2	0	0	-	-	-	-	-	100	0.35	0.32	91.4
20-24	19	25	26	17	9	3	1	0	-	-	-	100	1.84	1.61	87.5
25-29	5	7	13	17	22	19	10	4	2	0	0	100	3.76	3.22	85.6
30-34	3	3	4	8	10	16	20	17	11	5	3	100	5.55	4.70	84.7
35-39	2	3	4	5	5	8	13	15	18	12	15	100	6.82	5.62	82.4
40-44	3	3	2	2	4	6	12	13	13	18	26	100	7.59	6.14	80.9
45-49	3	2	3	4	4	6	7	11	16	13	33	100	7.88	6.00	76.1
50	3	2	4	1	1	8	4	10	20	18	30	100	8.01	6.30	78.1
All	23	11	10	9	8	8	7	7	6	5	7	100	3.85	3.18	82.6

Among the group aged 45 to 49, almost a third have experienced 10 or more births, nearly three quarters 7 or more births, while only 12 percent have borne less than 4 children.

In all, about 17 percent of births recorded in the KFS had died prior to the survey, and the majority of older women had experienced at least one child loss. The infant mortality rate for the years 1973 to 1975 calculated directly from the birth history data is 96 deaths per 1000 live births.

The KFS and Round 1 of the National Demographic Survey (NDS) yield almost identical estimates of children ever born up to age 34. At older age groups, the mean number of births reported is slightly higher in the KFS than NDS. This difference is exactly what one would expect, as the more painstaking interviewing technique of the KFS should yield a more complete recall of births among older women than the more census-like approach of the NDS. Comparison of the 1962 and 1969 Census data with the results of the 1977 and 1977/78 surveys shows an apparently large increase in cumulative fertility at all but the youngest age-group but improvements in the quality of data account for much if not all of the increase.

Trends in Fertility

One obvious approach to the examination of fertility trends is to compare the estimated current rate at the time of the two censuses and the 1977/78 surveys. The relevant total fertility rates are shown below:

	<u>Unadjusted Estimate</u>	<u>Adjusted Estimate</u>
1962 Census	5.3	6.8
1969 Census	6.6	7.6
1977 NDS	7.7	8.1
1977/78 KFS	8.1	---

This set of figures shows a major increase in the level of fertility between 1962 and 1969, and a further rise, though less steep, between 1969 and 1977. The extent of the increase should not be accepted at face value, as it depends on the reliability of the estimates, each of which is surrounded by an element of uncertainty. The high completed fertility recorded in the KFS certainly suggests that the adjusted Census estimates are too low and preliminary analysis of the KFS birth history data lends no support to the contention that a major increase in fertility has occurred; but further analysis of the data is required to establish the precise course of fertility over the past 25 years.

Nuptiality and Fertility

In Kenya, as in most other African countries, childbearing is not confined within marital unions. Of the total sample of ever-married women, about 20 percent reported a birth before the time of first union and the overall mean number of pre-marital birth was 0.29. For the subgroup of women who first married 5 to 9 years before the survey, the experience of pre-marital fertility rises sharply as age at first union increases. About 40 percent of women not entering a union until age 20 or after had at least one pre-marital birth.

Though childbearing is not confined to marriage, there is nevertheless a strong relationship between marital status, age at marriage and cumulative fertility which can be clearly seen in Table 3. The number of children born to single women is greatly below that of ever-married women. No doubt the major reason is the difference in exposure to risk.

With a few minor deviations, there is a strong inverse association between age at first marriage and number of children ever born. For instance, among women currently aged 30 to 34, those who married before the age of 15 have, on average, two more births than women who first married between age 22 to 24. The corresponding difference for those now aged 40 to 44 years is 1.4 births.

TABLE 3
MEAN NUMBER OF CHILDREN EVER BORN TO ALL WOMEN, BY CURRENT AGE
AND BY AGE AT FIRST MARRIAGE

Current Age	Age at First Marriage						All Ever Married	Never Married
	15	15-17	18-19	20-21	22-24	25+		
15-19	1.47	0.90	0.56	.	.	.	0.96	0.12
20-24	2.93	2.40	1.85	1.47	1.18	.	2.16	0.64
25-29	4.78	4.28	3.82	3.11	2.29	1.90	3.85	1.73
30-34	6.35	5.90	5.47	5.13	4.24	3.34	5.61	-
35-39	7.44	7.39	6.69	6.65	5.23	4.36	6.85	-
40-44	8.47	7.96	7.17	6.78	7.10	6.01	7.59	-
45-49	7.87	8.43	8.15	7.39	7.61	6.25	7.88	-

Fertility Differentials

Urban-rural differences both in lifetime and recent fertility levels are marked. Women currently living in the two main cities, Nairobi and Mombasa, have a total fertility rate which is 2.5 births lower than rural women, while the fertility rate of the non-metropolitan urban sector is intermediate. The fact that this pattern persists for marital fertility, though in diminished form, implies that rural-urban differences in total fertility are caused by the combined effects of genuinely lower marital fertility and of delayed marriage in urban areas.

The relationship between women's educational attainment and total fertility is curvilinear. The highest fertility group comprises women with 1 to 4 years of schooling; the fertility of women with no formal education is slightly lower while that of women with 5 to 8 years and 9 or more years of education is appreciably lower. When attention is confined to recent levels of marital fertility, however, the large differences disappear, implying that postponement of marriage is the major cause of the lower total fertility of better educated women.

With the exception of Coast Province and the Mijikenda tribe where fertility is relatively low, regional and tribal variations in cumulative and recent fertility are generally small. The major sources of differentiation thus appear to be the "modernizing" factors of education and urbanity, rather than cultural divergencies in behaviour stemming from tribal affiliation.

3.3 FAMILY SIZE PREFERENCES

Desire to Cease Childbearing

The question, "Do you want to have another child sometime?" was asked only of the 5,150 sample women who were currently married and considered themselves physiologically capable of future childbearing. Of these women, 68 percent expressed the wish for more children, 17 percent wanted no more and the remaining 15 percent were undecided or gave answers which could not be classified into the simple yes/no dichotomy.

Even among wives who have six living children, only 25 percent reported that they wanted no more. But this proportion reached 38 percent among the older women with 6 children and averages 37 percent for those with 7 children. Women with 8 or more children are generally 35 years of age and over and here the proportion increases significantly, to around 50 percent.

Of course, these attitudinal data should not be interpreted literally and the large "undecided" group may have at least a tentative interest in family limitation. Nevertheless, the results are indicative of a very pro-natalist culture.

Total Desired Family Size

All women in the sample were asked the question "if you could choose the number of children to have in your whole life, how many children would that be?" Interviewers were instructed to probe for a numerical response but not insist upon one. Nearly one woman in five (18.5 percent) gave a non-numerical answer such as "as many as possible" or "what God or fate decrees". This suggests that the concept of a desired size is alien to many women in Kenya, either because they do not think in such terms or because they regard the subject in a fatalistic manner. Survey findings on this subject therefore must be regarded with considerable scepticism.

On the women willing to state a desired number of children, only 6 percent wanted less than 4 children. The remainder were roughly equally divided in their preferences into those expressing a desire for 4 or 5, 6 or 7 and 8 or more children. The overall mean desired family size was 6.8 children; the mean rises from 5.8 for the youngest age group to 8.4 for the oldest. This increase with age largely reflects rationalization by women in terms of their existing family size, which can be clearly seen in the row of figures below; mean desired size rises in step with the number of living children, implying that relatively few women are willing to state a desired size less than their achieved size.

Number of Living Children	0	1	2	3	4	6	7	8
Mean Desired	6.2	6.4	6.6	6.8	7.0	7.3	8.1	10.0

3.4 CONTRACEPTIVE KNOWLEDGE AND USE

Knowledge and Ever-Use

Nearly nine out of ten (88 percent) of all women in the sample had heard of at least one of a list of contraceptive methods read out to them by the interviewer. The majority (84 percent) had heard of a modern method (i.e. pill, IUD, condom, sterilization, injection, diaphragm, foam or jellies) while an additional 3 percent had heard of a traditional method only (i.e. rhythm, abstinence, douche, withdrawal or a folk method).

As may be seen in Table 4 knowledge is fairly evenly spread across age groups; the proportion with some awareness of a contraceptive method falls only among the youngest age group and the small cohort of 50 year old women.

Actual use of contraception shows a similar pattern across age groups, but at a much lower level. Under one-third (29 percent) of all women had ever tried any method and only 11 percent had used a modern method. Rhythm and abstinence were the most commonly used methods, followed by the pill and withdrawal. It appears that there is wider experience of traditional than modern methods.

TABLE 4

THE PERCENTAGE OF ALL WOMEN WHO HAD HEARD OF AND WHO EVER USED CONTRACEPTION, BY CURRENT AGE

Current Age	Heard of			Ever Used		
	A Modern Method	A Traditional But Not a Modern Method	Any Method	A Modern Method	A Traditional But Not a Modern Method	Any Method
15-19	73	4	76	3	14	17
20-24	88	3	91	11	20	31
25-29	90	3	93	16	19	34
30-34	89	4	93	17	18	35
35-39	89	3	92	14	17	31
40-44	88	4	92	12	20	32
45-49	83	5	89	9	20	28
50	73	13	86	10	23	33
All	84	3	88	11	18	29

The proportion who had tried any method of contraception varies according to marital status: 32 percent of ever married and 19 percent of single women have been users. This difference, however, is reversed when the number of living children is taken into account. Fourteen percent of single women with no child compared to 12 percent of similar ever-married women had used contraception at some time in their lives: the corresponding figures for those with at least one child were 42 and 33 percent. Thus contraception is rather more likely to be employed in premarital liaisons than to control fertility once a union has been established.

Current Use of Contraception

To avoid possible embarrassment and irrelevancy questions on current use of contraception were directed only to currently married, non-pregnant women who considered themselves able to have more children. Of these 4,217 women, 6 percent reported use of a modern method and 3 percent use of a traditional method at the time of the survey. The 388 women who were current users represented 7 percent of all currently married women and 6 percent of all ever-married women. This low level of contraceptive practice is most unlikely to have any impact on the overall level of fertility in Kenya. The pill appears to be the most widely used method, accounting for nearly one-third of all current users. In view of the relatively large proportion of women who reported they had used traditional methods only, it is surprising that so few reported the current use of such a method. The results suggest that use of methods like rhythm, abstinence and withdrawal is erratic and short.

Current use is particularly low among the women with less than two living children (about 3 percent of those women are current users) but rises to between 10 and 15 percent for women with 3 to 8 children. No consistent pattern across age groups is discernible; there is thus no support for the view that younger women have been more responsive to Government efforts to promote family planning.

Knowledge and Use of Family Planning Facilities

One of the determinants of adoption of modern contraception is knowledge of, and access to sources of advice and supply. Accordingly, ever-married women were questioned concerning their awareness of such facilities. Nearly half (42 percent) knew of at least one source; hospitals and dispensaries were the most frequently mentioned source of supply (38 percent), followed by mobile family planning units (14 percent). The other sources - private doctors, family planning field workers and shops or pharmacies - were mentioned by less than 10 percent of women.

Women who had heard of at least one source were asked how long it would take to travel from their home to the nearest source by their normal means of transport. For rural, provincial urban and metropolitan residents the mean travelling times were 68, 40 and 30 minutes, respectively.

Though 42 percent of all ever-married women were aware of family planning facilities only 6 percent had visited one in the last 12 months and a further 6 percent over one year ago. Four-fifths of women who had sought advice or supplies recently had gone to a hospital or dispensary.

3.5 NON-CONTRACEPTIVE FACTORS AFFECTING FERTILITY

Two precisely defined periods of time, the open and the closed pregnancy intervals, were used in the analysis of non-contraceptive factors affecting fertility. The open interval refers to the time since the last pregnancy, thus women with no pregnancies or those currently pregnant have no open interval. The closed interval refers to the period between the last two pregnancies and thus only women with at least two pregnancies were included. Never-married women were excluded from this section of the report.

Breastfeeding

Two aspects of breastfeeding were examined in the KFS: first, the age at which the child was given supplementary liquid or solid food, in addition to or as a substitute food for breastmilk and, second, the age at which the child was finally weaned. The former will be termed the duration of full breastfeeding and the latter the duration of breastfeeding.

It is clear from the survey data that most Kenya women *full* breastfeed for two months. After that they tend to supplement breastmilk and by the end of the fifth month 66 percent have given supplementary food.

The percent distribution of women according to reported length of lactation in the closed interval is shown below:

Not Breastfed	Until child Died	Months				Total	Mean Duration
		0-6	7-12	13-18	19+		
3%	7%	11%	42%	21%	15%	100%	13.0

The mean duration rises from about 12 months for young women to nearly 14 months for older women. The preference for reporting length of breastfeeding in rounded numbers (6, 12, 18, 24 and 36 months) also rises with age from 40 percent giving such a response among younger women to 63 percent for the oldest cohort. In order to overcome this problem of memory lapse and consequent heaping of responses, breastfeeding was also studied by examining the proportions of all children born in the last 3 years who were still nursing at the time of interview according to their age in months. This approach indicates that 90 percent of children are breastfed for at least 6 months and about three quarters for at least the first year. In the following months weaning is common and by the age of 18 months, over half have been weaned. The median duration is about 16 months. This pattern suggests that the estimates of length of lactation from the closed interval may be too low, perhaps because women tended to round down their answers to 12 months.

Despite the possible shortcomings of data for the last closed interval the study of differentials is based on this source. Major contrasts are apparent when duration is classified by education and urban-rural residence. The mean length of lactation is about 50 percent longer among women with no education than among those with secondary school education and a difference of similar magnitude exists between rural and metropolitan women. There are indications that lactation is relatively short in Central, Rift Valley and Coast provinces compared to other regions and among the Kalenjin and Kikuyu compared to other tribes.

Post Partum Amenorrhoea

Post partum amenorrhoea is the infecund period between a birth and the first fecund cycle which follows it. In demography its length is measured by the period of time elapsing between a birth (either live or non-live) and the return of menstruation*. As with breastfeeding, the reported durations of post partum amenorrhoea in the closed pregnancy interval show heaping at durations 12, 18 and 24, though in a less pronounced form. The mean reported length of post partum amenorrhoea is 8.8 months; it rises slightly with age from 7.5 months at ages under 25 to 9.5 months at ages 40 to 44.

Analysis based on proportions still amenorrhoeic by months elapsed since last pregnancy indicates that menstruation resumes in about a quarter of the cases after three to four months and in about 50 percent of cases after 8 months. As for breastfeeding, there is some evidence that women may have understated length of amenorrhoea in the closed interval.

The relationship between length of post partum amenorrhoea, current age of women and duration of breastfeeding is as expected. There is an average difference of one month in the length of amenorrhoea between those aged less than 35 and those of 35 or more. This difference persists when duration of breastfeeding is controlled. Also, as expected, a strong relationship between lactation and amenorrhoea is apparent. The duration of amenorrhoea rises from about 4 to 5 months for women who breastfeed for only a few months to over 12 months for women who did not wean their child until the child was a year and a half old or more.

Post Partum Sexual Abstinence and Temporary Separation of Spouses

Post partum abstinence and temporary separation of spouses are factors which can have an important direct effect on the level of fertility. This is not the case in Kenya because abstinence is relatively short. For a large majority of women, it had ended 6 months after the birth and about 50 percent of women resumed sexual intercourse by the end of the third month after giving birth. The mean duration of abstinence in the closed interval is 4 months.

The possible impact of temporary separations between husband and wife on the length of pregnancy intervals was measured in the KFS by recording all separations in the closed and open intervals which had lasted continuously for a period of 3 months or more. Most women (94 percent) reported no such separations and the overall mean length of absence for the closed interval is only 0.6 months. This factor, then, can also have little role to play in the aetiology of fertility.

* For the few women who reported that they became pregnant again before the return of menstruation, a possible but uncommon phenomenon, the length of amenorrhoea was defined to be the interval between the penultimate pregnancy termination and conception.

Length of Exposure and Interval to Conception

The total time between the beginning of the last closed interval and the date of the next conception less duration of amenorrhoea, abstinence and temporary separations* should indicate the number of months in which the woman was exposed to risk of conception during the interval. The reliability of this estimate depends on the accuracy of reported dates of pregnancies and durations, and assumes regular sexual exposure without contraception, once the period of post partum abstinence is over. Some of these problems have been partially overcome by confining attention to women continuously married throughout the interval, who did not use contraception, and who stated a precise calendar date of the beginning and end of the interval.

For these 3,414 women, the length of exposure in the last closed interval was 13.7 months, increasing monotonically from 10.4 months for the age group 15 to 19 to 19.7 months for those now aged 45 to 49. Though the age pattern is reasonable, the overall lengths of exposure are somewhat high, in view of knowledge of fecundability (i.e. probability of conceiving in a month) of human populations. Underreporting of the duration of amenorrhoea and intermittent sexual relations are two possible reasons for these apparently long exposure times.

In addition to the 3,414 women whose characteristics were defined above, there was a small group of 344 women who were continuously married and stated precise dates for beginning and end of the interval but who reported contraceptive use in this period of time. Their length of "exposure", as expected, is considerably longer than for non-users of contraception, a mean of 18.2 months. It may be concluded that contraceptive users experience some success in at least postponing births, though the level of use in Kenya is too low for any overall effect.

4. CONCLUDING COMMENTS

By far the most important finding of the KFS is the extremely high level of fertility evident both from the completed fertility of women aged 45 to 49, which approaches an average of 8 births per woman, and the current total fertility rate which, if sustained in the future, implies an average of just over 8 births per woman. The data also indicate that there has possibly been a slight increase in fertility over the previous fifteen years.

The reasons for continued high fertility clearly emerge from the analysis of the KFS. Age at first marriage and age at first birth, though increasing in the recent past due to improved educational opportunities for women, are still young. Marriages are relatively stable and remarriage is common for the minority experiencing dissolution. Though the widespread practice of polygamy may act as a restraint on fertility performance, in all likelihood its prevalence is declining. The number of women using contraception is still too small for any noticeable effect to be made on fertility levels. Delay in resumption of sexual activity after childbirth and temporary absences of spouses appear to be of minimal importance. Breastfeeding does appear to be universally practiced and this has an effect of postponing the return of menstruation and thus acts as the major restraint on fertility. However, the length of breastfeeding appears to be declining among younger, more educated and urbanized women. Finally, it appears that the women interviewed in the KFS desire to have large families, and only a small minority wish to stop childbearing.

* Any overlap between temporary separations and amenorrhoea or abstinence were discounted.

The high fertility levels combined with the low levels of mortality estimated from the KFS and other sources imply a growth rate of about 4 percent per annum. At this rate the population of Kenya will double in 18 years. It is hoped that further analysis of these data may provide greater understanding necessary to formulate effective policies to reduce this growth rate in the future.