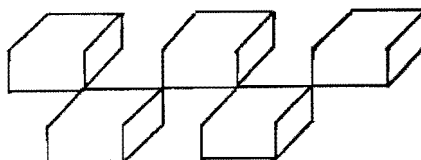


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**REGIONAL AND SOCIO-ECONOMIC FERTILITY
DIFFERENTIALS IN NIGERIA, 1981-82**

O. ADEGBOLA



**INTERUNIVERSITY
PROGRAMME IN
DEMOGRAPHY**

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CHAPTER 1

INTRODUCTION

This volume presents facts and conjectures about the reproductive behaviour of Nigerian women – how they achieve their actual fertility levels through different patterns of starting, spacing and stopping. It is based on the data of the Nigeria Fertility Survey (NFS) conducted between October 1981 and August, 1982 under the auspices of the National Population Bureau, Lagos, as part of the World Fertility Survey (WFS) programme.

A First Country Report of the NFS was published toward the end of 1984 and a detailed evaluation of the quality of the demographic data appeared as WFS Scientific Report number 80 in July 1980 (NPB, 1984; Morah, 1985). The First Country Report offers an extraction of the major findings of the NFS based on a large set of detailed and fairly standardized tabulations produced according to the WFS guidelines. It also provides a descriptive and situational account of the levels and trends of, together with differentials in, various components of population dynamics: nuptiality, fertility, knowledge and use of contraception, non-contraceptive factors affecting fertility and infant and childhood mortality.

One of the problems raised by the report is the adequacy and reliability of indices obtained from data which exclude censored cases. A cross-sectional survey like the NFS provides incomplete or censored information on duration variables for women who have not experienced a particular event under study by the time of the survey. By employing appropriate techniques for the analysis of censored data, a new set of relatively more reliable estimates of demographic parameters can be made.

At the National Seminar held to present the First Country Report, the need to carry out further analysis of the data was recognised and stressed. In such analyses, issues which were either not raised or which were described or explained inadequately in the Report can be addressed so that the reasons for the observed patterns can be appreciated. However, an important step that needs to be taken before embarking on an explanatory analysis is a more comprehensive examination of the proximate determinants of fertility than has been previously attempted.

There are at least two reasons for selecting proximate determinant variables for this initial in-depth analysis. First, these variables, systematically classified by Davis and Blake (1956) and later expanded and re-classified by Bongaarts (1978), constitute the locus of the institutional control mechanisms through which a society regulates the reproductive capacity of its members for the achievement of fertility levels consonant with production and social organization.

In sub-Saharan Africa the major preventive check operates through prolonged breast-feeding beyond the period of lactational amenorrhoea and the observance of post-partum abstinence. A balanced view of fertility in general, and of its social context in particular, requires that all proximate determinants are studied and the contribution of each to fertility itself evaluated in order to understand fertility behaviour and the likely impact of any policy intervention.

Secondly, proximate determinant variables are intimately linked

to, and are strongly influenced by, socio-economic conditions which are, of course, dynamic. In a period of social and economic change, the various determinants may respond differently to the same general set of factors. In particular, not all the proximate determinants necessarily shift in the direction of lower fertility in the process of modernization. On the contrary, a curvilinear relationship between fertility and stages of modernization is noticeable in many African societies: an initial rise in fertility at the early stages of modernization process followed by declines as modernization processes advance. At the onset of modernization, the duration of breast-feeding and post-partum abstinence is reduced, a practice which is essentially fertility-increasing in its effect. This effect is not fully compensated by the impact of changes in fertility-reducing behaviour such as later marriage and greater use of contraception. A study of the proximate determinants is thus likely to pick up trends in fertility behaviour well in advance of a study of fertility levels themselves.

1.1. Scope and Organization of Analysis

The analysis is undertaken at the aggregate, as opposed to the individual, level. In this exercise, we have a double task. First, we present a set of tables on various measures of the proximate determinants of fertility to serve as a reference work. The results in this fact book are presented variable by variable. For each variable, analyses at the national level are presented first. Age effects are brought out here by a subdivision into seven five-year age groups. Results for socio-economic and spatial subgroups are presented in three broad age groups, not only to dampen some of the effects of age mis-statement but also to provide relatively reasonable sample sizes. Tables 1-3 show the sample size of each of the subgroups within the total. The number of women in the components of the subgroups seems adequate for valid comparisons among the components. Where it is felt that samples are too small, considerable caution is exercised. Indeed, no estimates are made for sub-groups if the total number of cases for all age groups is less than 30. Estimates based on less than 30 cases for a particular age group are given in parenthesis and should be interpreted with extreme caution.

Since the amount of information contained in the factbook is substantial, our second task is to engage in a selective discussion of the salient points in the tables. This approach implies that this analysis is more descriptive than explanatory. It does not consider the dynamics underlying observed patterns in details; nor does it explain the pattern observed in a multivariate context. The discussion is organized around the dynamic family-formation framework. The variables are thus grouped into three main themes:

- (1) the starting pattern of family formation: components of age at first birth - capacity to bear children (often referred to, following some conventions, as the "risk" of childbearing), sexual union ("exposure to risk") and contraception and abortion ("risk reduction")
- (2) the spacing pattern (components of birth intervals, more particularly the post-partum variables, breast-feeding, post-partum amenorrhoea and post-partum abstinence)
- (3) the stopping pattern (the age at last birth).

The relative contribution of each of the proximate determinants to

Table 1 : Sample Sizes for the Major Variables used by Place and Region

Place & Region	Ever-Married	Currently Married	15-24	25-34	AGE GROUPS 35-49	15-49 (all women)
<u>Northeast</u>						
Rural	1820	1787	707	714	526	1947
Urban	365	344	145	168	83	396
<u>Northwest</u>						
Rural	1801	1786	677	736	462	1875
Urban	336	323	132	128	86	345
<u>Southeast</u>						
Rural	2000	1757	1166	821	795	2781
Urban	207	196	202	95	61	358
<u>Southwest</u>						
Rural	758	739	307	310	308	924
Urban	833	806	476	342	284	1102

Table 2 : Sample Sizes for the Major Variables used by State

	Ever- Married	Currently Married	15-24	Age Groups		15-49 (all women)
				25-34	35-49	
Anambra	617	524	319	231	221	770
Bauchi	375	373	172	138	71	380
Bendel	220	209	143	93	68	303
Benue	320	311	122	125	104	351
Borno	648	625	256	248	217	721
Cross-River	464	429	251	217	160	628
Gongola	622	602	211	272	164	648
Imo	848	746	654	363	382	1399
Kaduna	582	571	197	247	157	601
Kano	860	846	383	323	199	904
Kwara	245	237	121	110	78	309
Lagos	293	283	166	113	105	385
Niger	286	284	69	135	83	287
Ogun	180	176	110	44	82	235
Ondo	316	312	117	158	114	389
Oyo	337	329	126	134	146	406
Plateau	221	220	90	99	54	242
Rivers	278	254	144	105	93	342
Sokoto	410	408	160	159	109	429
Nigeria	8120	7737	3811	3313	2605	9729

Table 3 : Sample Sizes for the Major Variables Used by Subgroups

Subgroups	Ever-Married	Currently Married	15-24	25-34	35-49	15-49 (all women)
<u>Type of Place of Residence</u>						
- Rural	6380	6069	2857	2580	2091	7527
- Urban	1092	1050	612	474	340	1426
- Large Urban	649	619	343	259	174	776
<u>Literacy Status of Woman</u>						
- Can Read	1633	1556	1858	741	304	2903
- Cannot Read	6487	6181	1953	2572	2302	2605
<u>Literacy of Partner</u>						
- Can Read	3203	3091	1106	1318	779	3203
- Cannot Read	4917	4646	1190	1924	1803	4917
<u>Religion</u>						
- Catholic	1093	1009	818	463	367	1648
- Protestant	898	833	500	359	335	1194
- Other Christian	1160	1077	623	488	412	1523
- Moslem	4115	4039	1417	1659	1151	4427
- Traditional	546	497	150	215	205	570
<u>Years of Education of Woman</u>						
- 0 yrs	6348	6043	1809	2508	2283	6599
- 1-4 yrs	637	605	301	301	150	752
- 5-7 yrs	798	763	773	319	130	1222
- 8+ yrs	737	325	929	185	42	1156
<u>Region</u>						
- Northeast	2185	2131	852	882	609	2343
- Northwest	2137	2109	809	864	548	2221
- Southeast	2207	1952	1368	916	856	3139
- Southwest	1591	1545	782	652	592	2027
<u>Years of Education of Partner</u>						
- 0 yrs	4058	3792	851	1581	1626	4058
- 1-4 yrs	509	487	144	224	141	509
- 5-7 yrs	1168	1130	415	467	286	1168
- 8+ yrs	756	732	293	336	127	756
<u>Last Work Status of Woman</u>						
- Family Farm	2262	2132	533	923	893	2349
- Family Employed	119	115	73	32	41	146
- Other Paid Cash	521	493	232	265	147	644
- Other Employed	433	395	199	179	171	549
- Self Employed	2562	2436	712	1048	874	2634
- Did Not Work	2223	2167	2062	865	480	3407

fertility levels and differentials (the components of the themes listed above) concludes the discussion.

To provide the necessary background for the major themes analysed, three additional topics are examined here. The first is devoted to methodology. It summarizes the techniques used to generate the measures for operationalizing the variables in each of the main themes. The second gives a systematic description of the explanatory variables while the third discusses the quality of the data.

1.2. Methods of Analysis

(a) Starting Pattern Variables

The life-table technique, centred on survival probabilities, is used for the analysis of most of the variables, although its use is particularly pronounced with respect to the starting pattern variables. The method, discussed in detail by Smith (1980) and Rodriguez and Hobcraft (1980), is a useful strategy for partly coping with one major problem commonly encountered in the analysis of the sequences of (fertility process) events which results from the incomplete nature of fertility-survey data: censoring.*1 Censoring denotes curtailment of observed or reported exposure at the date of the interview (Sheps, et al, 1970). This problem of unequal exposure time is reduced by putting together the information corresponding to the closed (complete) and open (incomplete) periods of exposure through the life table technique. The strategy is appropriate when the data set includes for all cases, information on the time elapsed to observation for those who have not yet experienced the event in question (but will ultimately do). Maximal use can then be made of the information for censored cases on the assumption that their future behaviour will be identical with the past behaviour of the non-censored cases. The use of life table technique does not, however, completely eliminate the truncation effect.*2 As convincingly demonstrated by Sheps and Menken (1973), the derived survivor function cannot be expected to be a completely unbiased estimator for real life experience. The technique produces slightly biased estimates mainly because a sample consists of women with varying levels of fecundability. The more fecundable women experience a subsequent event (for example, birth) sooner than the less fecundable women. Hence, the more fecund women have a higher probability of closing periods of exposure before an interview. In effect, then, a fundamental assumption of life table analysis - that of independence between the probability of being censored and the probability of experiencing the event - is not satisfied in some of the analyses undertaken here. Despite this drawback, the life table technique offers the only usable method for reducing the censoring problem. A brief exposition of the technique is required for an appreciation of the limitations and strength of the indices produced by using the method.

The risk of experiencing the non-renewable event (for example, menarche, first marriage, first birth) between exact duration x and $(x+n)$ is estimated as:

$${}_nq_x = \frac{{}_nE_x}{N_x - {}_nC_x}$$

where

${}_nq_x$ is the risk in question;

- E_n^x is the number known to have experienced the event between durations x and $(x+n)$;
 N_x is the number reported as having exact age x without experiencing the event; and
 C_n^x is the number of cases for whom observation ceases between exact durations x and $(x+n)$.

From the ${}_nq_x$ estimates, the survival function (l_x) – the proportion not yet experiencing the event at exact duration x – is calculated. Very strong heaping on multiples of 5 years distorts the values of this l_x function. This problem is reduced by the use of Tukey's (1977) running medians technique to smooth the cumulative survival function. On the basis of the smoothed l_x – values, a series of quantiles, T_x or the time elapsed before x -per cent of the persons concerned have experienced the event, are calculated to describe the timing of the first birth, first marriage and menarche. At the national level, T_{10} , T_{25} , T_{50} , T_{75} and T_{90} are given. For the subgroups, typically, the median, the trimean and the H-spread are presented.

Although T_{50} is the median, the trimean is used as an overall measure of central tendency. It is a weighted average of the quartiles and the median that gives twice as much weight to the median as to the first and third quartiles: $(T_{25} + 2T_{50} + T_{75})/4$. The H-spread, calculated as $(T_{75} - T_{25})$, indicates the degree of dispersion. Where the abridged form of estimates is presented, the first and third quartiles can be calculated using the following relationship.

$$\text{H-spread} = T_{75} - T_{25}$$

$$\text{and Trimean} = (T_{25} + 2T_{50} + T_{75})/4$$

$$\text{Therefore, } T_{25} = 2 \text{ Trimean} - T_{50} - 0.5\text{H-spread}$$

$$T_{75} = \text{H-spread} + T_{25}$$

(b) Spacing Pattern Variables

Current status data (a simple dichotomy indicating for each case whether or not the event in question has already occurred) have been used in calculating the mean length of periods of the natural birth-spacing variables. The prevalence/incidence or "stationarity" technique is employed in estimating the indices because it is less sensitive than the closely related "survivor" technique. The prevalence/incidence mean is a special case of a life table mean that assumes a stationary condition. If we are willing to accept this assumption we can make use of the general form of the property well-known in the particular case of a stationary population i.e.

$$e_0 = \frac{\text{population size}}{\text{Births per year}} = b^{-1}$$

where

- b is the Crude Birth Rate (per person per year)
 e_0 is the expectation of life at birth (in years)

Therefore $e_0 = P/B$ where P is the total population size
 B is the number of births per year

More generally, $\bar{x} = P/I$ where \bar{x} is the mean duration of time spent in state A.

p is the total number of persons observed in state A (the observed prevalence)
and I is the number of persons entering state A per unit of time (the observed incidence, here assumed constant).

In the case of post-partum variables

$\bar{x} = P/I$ where \bar{x} is the mean duration of the post-partum variable in months

p is the number of births for which the mother is still in the post-partum state at the time of the interview regardless of when those births occur (= prevalence);

I is the average number of births per month (= incidence).

I is usually estimated from the number of births in the last one, two or three years, although as noted by Ferry and Page (1984), two years seem to provide the most robust estimate in a number of countries. The estimates here are based on two years since they produce minimal discrepancies compared with estimates based on fewer or more years (see Eelens and Donné, 1985). A violation of the assumption of stationarity, however, may produce unreliable estimates. This is likely to be the case among very young or very old women, or when the number of cases is small.

Both because of the way dates are coded in NFS and also in order to avoid the problem caused by heaping around multiples of 12, half the births for which the time elapsed since birth is recorded as 24 months are treated as having occurred within the last two years. The computation of I then becomes

$$I = \frac{\text{All births reported as occurring 0-24 months before survey} + \text{1/2 births reported as occurring 24 months before survey}}{24}$$

The other piece of information on spacing variables, current use of contraceptive, uses simple contingency tables. The contraceptives used are grouped into efficient and inefficient methods. In the former are included hormonal contraceptives (pill, injection) and appliance methods (IUD, condom) while all other methods fall into the latter category. Two tables are produced in each case - one in which abstinence is not considered to be a contraceptive method because of possible widespread confusion with post-partum abstinence and the other in which abstinence is treated as an inefficient method. The former should provide a better picture of the use of contraception.

(c) Stopping variables

Four indicators of stopping are given. The first two, based on women's current self-reported fecundity status, are the mean age at infecundity and menopause. They are estimated as:

$$X = \alpha + \frac{\sum_{x=\alpha}^{\beta-1} {}_1L_x - (\beta - \alpha) {}_1l_{\beta}}{1 - {}_1l_{\beta}}$$

where α and β are the lower and upper ages considered at which the characteristics can be acquired
 ${}_1l_{\beta}$ is the proportion of women who acquired it before age β
 and ${}_1L_x$ is the proportion who have not yet acquired it among women age x to $(x+1)$.

The third measure is based on the failure to have a live birth in the last five years before the survey. The mean age at which this characteristic is acquired is estimated using the same formula. The fourth and last index used here is the mean age of any one of the three previous characteristics. It is based on the assumption that a woman who has one of the three characteristics is probably infecund.

Although analyses of such concrete characteristics as menopause and absence of births in the last five years give more plausible results, the use of self-reported fecundity status as a measure of stopping pattern has some problems. While older women tend to over-rate their fecundity status, many women are uncertain about their status and are classified as such.

1.3. Explanatory Variables

Although most of the background variables available in the NFS can be used to assess fertility differentials, only a few of them are selected for analyses here. The selection is based on the plausibility of results of preliminary analysis involving all the explanatory variables. Those chosen are discussed in turn in order in which they appear in the tables.

(a) Type of place of residence (V702)

The type of place of residence where the respondent was enumerated on the interview day is classified into three: rural, urban, and large urban (village, town, city). The definitions used are those employed by the National Demographic Sample Survey, 1980. That scheme classified as a village, any settlement of less than 10,000 inhabitants (according to the 1963 census). Other places are classified as 'urban'. The latter is further grouped into two categories, not on the basis of population per se but on the basis of the availability of certain indicators of modernization such as telephone, electricity and piped water.

This classification scheme is defective in at least two respects. First, the use of the 1963 census figures to characterize the size of a settlement assumes that the figures are correct and that no growth has taken place. Second, what constitute indicators of modernization and in what circumstances they are to be taken into account are issues not probably well understood by the enumerator. A "rural" settlement which has been engulfed by metropolitan Lagos will probably be classified as a city because metropolitan Lagos is a city. Although misclassification detected during the mapping exercises were corrected, the problem persisted. To the hypothetical case just cited, the "rural" behaviour of the women could affect demographic measures obtained for Lagos. But because the education of "urban" Lagos is very high, the socio-economic indices of Lagos might also be high. thus the differentials obtained for cities may be slightly

reduced.

(b) Literacy of respondent (V705) and literacy of her partner (V803)

This relatively unambiguous measure provides information on whether or not a respondent (and her husband) can read. It is meant to group women (and their spouses) according to their ability to receive and disseminate socializing and modernizing information through the printed media. The measure therefore classifies respondents (and their partners) into traditional-modern dichotomy. It should be noted that attendance at school does not necessarily guarantee ability to read while absence of formal schooling is not an indication that a respondent cannot read.

(c) Religion (V706)

The ten-category classification of religions in the Standard Record data file has been collapsed into a five-fold classification. Catholics constitute 17% of the women in the sample. the Protestant category, which makes up 14% of the women, consists mainly of the Anglican, Baptist, Lutheran, Methodist, Presbyterian, Sudan Interior Mission, African and Salvation Army churches. Other christians constitute 17% of the women and they are made up of Jehovas Witness, Adventist and Fundamentalist Sects such as Cherubim and Seraphim, Celestial, Fourth Tarbernacle, Apostolic and several Evangelical groups. Moslems and traditional religions making up 43 and 7 per cent of the women respectively are left intact. The categories "no religion" and "other", which respectively constitute 4% and 1% of the women in the sample are excluded from the analysis because it is not exactly clear what they mean.

A cross-tabulation of education and religion yields the following distribution of literates: catholics, 31.6%; other christians, 26.3%; protestants, 22.8%; moslems, 18.1%; traditional religion, 1.2%. A break-down by number of years of education which appears in Table 4 confirms the strong association between education and religion. This association suggests that the various religious groups are on the traditional-modern scale, with the traditional religions on the traditional end and catholics on the modern end. In-between are moslems, protestants and other christians in that order.

(d) Years of education of respondent (X704) and of her partner (X802)

These variables refer to the number of years of formal schooling completed. The respondent's educational attainment is likely to be more accurately reported than that of her husband. In both cases four educational groups are used: 0 year, 1-4 years, 5-7 years and 8 or more years of schooling. Women (and husbands) who have only Koranic education are placed in the 0 year category. Given the differences in the number of years required for primary education both across the country and over the years, seven years of school attendance is a convenient benchmark for the completion of formal primary education.

These two variables measure the degree of exposure to external influence and modern ideas during childhood and during later years. Extensive educational attainment (8+ years) is often followed by employment activity before childbearing. The variables therefore have a strong influence on fertility via the timing of marriage and the husband-wife

Table 4 : Percentage Distribution of Women by Religion and Education

Religion	No. of Years of Education								Total	N
	0 yr	1-4 yr	5-7 yr	8-20 yr	0 yr	1-4 yr	5-7 yr	8-20 yr		
Catholics	10.2	25.6	31.3	39.4	38.9	11.2	22.7	27.3	100.0	1648
Protestant	7.6	26.3	22.1	23.2	39.9	15.8	22.1	22.2	100.0	1194
Other Christians	10.9	30.0	29.1	24.0	45.1	14.1	22.8	17.9	100.0	1523
Moslems	63.4	13.7	15.5	12.9	90.3	2.2	4.2	3.3	100.0	4427
Traditional Rel.	8.1	4.3	2.0	0.5	89.2	5.5	4.3	1.1	100.0	570
Total	100.0	100.0	100.0	100.0						
N	6310	717	1195	1141						

relationship.

(e) Region of residence (V70)

The country has been divided into four geographical regions: the northeast, the northwest, the southeast and the southwest (Fig. 1). The regions contain respectively, 22.5, 28.0, 22.4 and 27.1 per cent of the country's population in 1963 and 24.1, 22.8, 32.3 and 20.8 per cent respectively of the women in the weighted sample. Each of the regions except the northeast contains a major agricultural, as well as an industrial, core. The main industrial area of the northeast is around Jos but it is relatively small compared with other regions. The densest agricultural area and the highest man-land ratio is found in the southeast. The densest urban-industrial complex is in the southwest.

With unequal distribution of resources among the regions, development has been uneven. Gini coefficients show that the two southern regions are more developed than their northern counterparts (Adegbola, 1983). The distribution of women in the sample shows that the women in the south have the highest number of years of schooling while those in the north received the least education. The means for each of the four regions are 2.0, 1.3, 4.2 and 4.6 per cent for the northeast, northwest, southeast and southwest respectively. By implication, modernization has progressed more in the south than in the north.

(f) Last work status of woman (V711)

The most recent work status, which probably characterizes a woman's work experience during the most recent part of her reproductive life, has been selected for analysis. The nine categories in the Standard Recode File have been regrouped into six to ensure enough cases in each category. All the women who worked for the family outside the family farm are grouped together as "family employed". As Table 5 (upper panel) which cross-tabulates this variable with a full listing of occupation shows that most of the women in the categories grouped together are sales workers. Women who work for other people but are not paid in cash are grouped together under "other employed". Again, nearly all the women in this category are agricultural workers whether they are paid in kind or unpaid and their reclassification into one group seems in order.

The table allows us to speculate on the location of a women's job relative to her home and relative to traditional and modern sector. Focussing on the upper panel, it will be seen that more than 78 per cent of the women who are self employed are sales workers. These are probably traders whose articles of trade may include local and manufactured goods. However, most of them will have their places of job located close to their home. More important, their work style is usually compatible with child-rearing. It is very likely therefore that they exhibit traditional traits. Self-employed workers can be regarded as being located largely in the traditional employment settings. Similarly, a large proportion of women who work for the family outside the family farm are found in sales work and can be regarded as belonging in the traditional sector.

The case of sales workers employed and paid in cash by "others" is different. These women are probably sales clerks and shop attendants. The nature of their jobs puts them in the modern sector category. Indeed, most of the other women who are paid cash by "other" are found in the classical modern sector occupations - professional, technical, managerial,

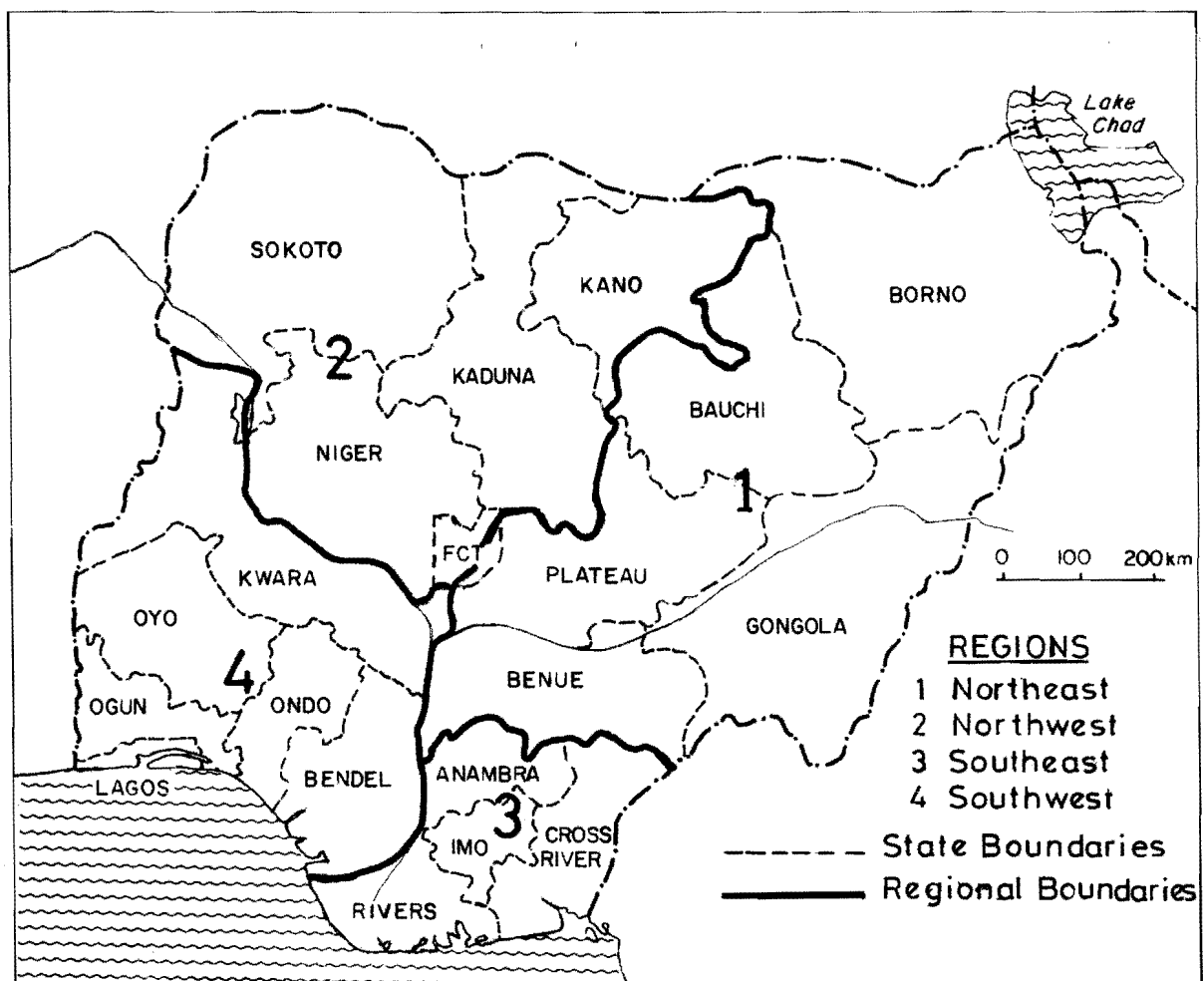


Figure 1 : Nigerian States and Regions

Table 5 : Percentage Distribution of Women by Most Recent Occupation and Most Recent Work Status

[illegible]

clerical, skilled production and service work. As the bottom panel of the table clearly shows, nearly 94 per cent of all professionals, almost 90 per cent of the clerical workers and about 31 per cent of service workers are all "paid in cash" by "others". It is not unreasonable, therefore, to locate "other paid cash" women in the modern sector of the economy.

On the other hand, nearly all the women who are paid in kind by "others" or who work for "others" gratis are agricultural workers (see upper panel), probably tenant farmers. These women, together with those who work in the family farm belong properly in the traditional sector of the economy.

Women who do not work cannot be placed on the basis of Table 5. Their educational and place of residence background gives us an idea of what their economic characteristics would have been had they worked. The mean number of years they spent in school is 3.3, which is second only to those spent by "other, paid in cash" women (6.5). About 40 per cent of these women are literate. Their distribution among the four educational categories shows that 5 per cent of them have spent one to four years in school, 13.9 per cent completed primary education and 22.4 per cent have at least eight years of education. Indeed, of the 1156 women who have eight or more years of education 66.1 per cent belong to this category. However, about 77 per cent of them live in rural areas. This pattern means that the high socio-economic traits exhibited by these women are attributable to only 23 per cent of their members. Thus, if these women had worked, their occupational distribution would have spanned both traditional and modern sectors. One should expect their reproductive behaviour to oscillate between traditional and modern depending on which attribute is dominant when considering a demographic variable.

Summarizing, it can be assumed that "other, paid in cash" women are in the modern sector employment while all the other categories of workers are employed in the traditional sector of the economy. The "did not work" group belongs to both.

The next two variables have been created from the original variables.

(g) Place and region of residence

Both V701 and V702 are combined and transformed into this new variable. In the transformation, city and town are merged together to avoid having few cases in some cells. In this new variable women in each region are classified into urban and rural groups. Thus the observations made above for the original variables from which the new variable is created also apply here.

(h) State

There is a strong case for state-based analysis. First, measures produced on the basis of the four regions mask wide variations existing in the country and without a knowledge of the peculiar problem of each state, appropriate solutions are impossible to prescribe. Second, it is doubtful if regional aggregation can accommodate the needs of planners and policy makers. Planning units organised on a wide areal basis such as the region are exceptional if ever they exist.*3 The states are not just administrative divisions or political organizations but also growth poles. Indeed, in the Second National Development Plan, the states are designated

economic planning regions (Federal Republic of Nigeria, 1970). It will thus enhance planning for even development and growth if information is available at the state level. Third, most national data are collected and published by states. The Annual Abstract of Statistics and the Industrial Directory, for example, publish data by states. This procedure is inevitable since the evaluation of the resources of the country (except those, such as mining, which the constitution assigns to the Federal Government) is undertaken at the state level. Thus, information about each state will fit into the scheme of other data-gathering agencies of the Federal Government as well as aid state governments in their planning. Finally, the states are so large in either area or population or both as to require data for good government. The smallest of them in population is larger than a number of countries with a small population. The smallest of them in area is larger than several countries with either a small or a large population. For these reasons, it was decided to examine some variables by states.

There are nineteen states in the country (Fig. 1). The sample sizes within states is relatively small (see Table 2). Therefore, only selective analyses have been performed at the state level. No analysis involving more than two covariates is meaningful. No estimates are made for states (even when only one covariate is involved) if the total number of cases for all age groups is less than 50. Estimates based on less than 30 cases for a particular age group are given between parentheses.

Before concluding this section on explanatory variables, it must be stressed that the analysis in this volume is based on aggregates as opposed to individuals. When measures are obtained for areal units in this way, for example, the problems of ecological correlation surface. The reason is that aggregate analysis does not necessarily reflect individual level relationships nor relationships at another level of aggregation.

1.4. The Quality of the Data

Before turning to a more detailed presentation of the results of the analysis, it is useful to review very briefly, the nature of the data. Such a review is necessary because all retrospectively survey data are subject to response and non-response errors which can bias estimates. Response errors, the main focus of attention here, arise primarily from misreporting of ages as well as the omission and/or misplacement of vital events (Brass and Coale, 1968; Potter, 1977; Goldman, Coale and Weinstein, 1979).

The job of evaluation has been simplified for us by Morah (1985). In a recent publication he undertook a comprehensive evaluation of the quality of the NFS data. His analysis involved checks of internal consistency and conformity with well known logical population relationships to determine the accuracy of the data and the extent to which errors biased demographic estimates. The analysis would have benefitted from a comparison of observed with expected patterns using stable population techniques and such relevant techniques as Coale's nuptiality model. A comparison of the results with the results of the Ife - based national fertility survey of the 1970's would also have enhanced the evaluation.*4 Nonetheless the methods employed in the analysis make the conclusions reached adequate for our purpose. What is done in this section, therefore, is to review the salient features of the results of Morah's analysis under general and specific findings, give an example of possible misreporting in a background variable and suggest some ways to make the best use of the

data presented in this report.

(a) General problems of the data

(i) Ages are very poorly reported in both the household and the individual data at all levels of analysis: this affects data on respondent's chronological age and nuptiality, fertility and infant mortality data.

(ii) The poor reporting is due to the inability of most women to know and to report the exact ages at which particular events, such as births and marriage, occurred. This situation gives rise to imputation of ages on the basis of response to related questions and/or by reference to an assumed "normal" age at which a given event (marriage, first live birth etc) "ought" to have occurred. Of course, imputation makes it more difficult to check on internal consistencies and response errors in the data. It also produces data that bias demographic measures by grading teenage single girls downwards from an assumed normal marriage age and married women's ages upwards from this reference point.

(iii) The poor reporting of ages is manifested in the heaping that occurs at the pivotal digits of the decimal system, with the age 30 being particularly favoured.

(iv) Age mis-reporting is selective: education, urbanization and youthfulness stand out as important determinant of the quality of the data. Age ratios are higher for older women than for younger ones while sex ratios are under unity as often as above. Myer's indices of age-heaping are higher for rural than for urban areas, for the northern than for the southern parts of the country, for illiterates than literates and for males than females.

(b) Specific problems of mis-reporting

(i) There is a marked tendency for some older women in particular to misreport their ages at events, thus distorting age-specific measures. This practice pulls the right hand tail of the distribution of age at event out for older women.

(ii) there is substantial heaping in all nuptiality data involving dates, age at first marriage, year at first marriage and years since first marriage (marital duration). There is an excessive concentration of first marriages at around fifteen years of age. There is also a spurious increase in age at marriage of older women who tend to report dates of first marriage that are nearer to the survey date thereby reporting higher ages at first marriage and lower proportions ever-married at each age. The mean interval between first marriage and first birth is excessively long, especially among the older women.

(iii) The dates of most of the births of the women had to be estimated. Selective omission of births, particularly female births, births of lower orders and births more distant in the past from the survey date, is common especially among older women. Forward displacement of the date of first birth, again, especially among older cohorts, is clearly recognizable.

(c) Mis-reporting in explanatory variables: an example

Table 5 provides materials to illustrate the problem of the misreporting that may also characterize background variables, and shows that it is not only demographic variables that are beset with problems. The table shows that a sizeable number of women (447, representing 4.61% of the total), most of them over 35, were reported as working for non-family members without receiving any remuneration. 94% of these (422) were in agriculture. These are probably tenant farmers. If they are, then, they are not working gratis. They should have been classified with "paid in kind" since they receive articles or rights in exchange for their work. If they are not tenant farmers, they were probably involved in mutual aid work. Again, this work is reciprocal and is not performed on a regular basis; therefore, they should not have been coded as "other unpaid". It is difficult to explain what these women are doing for outsiders on a regular, full-time basis without being paid.

Furthermore, 35 per cent of the women are classified as not working. This proportion is too large. A breakdown of the 3407 women involved shows that 77 per cent of them lived in rural areas. Practically all women in rural areas of the country are active. Women in urban areas are usually involved in petty trading or in home duties or in both. A breakdown of these women by marital status shows that about 65 per cent of them were married. This group must be engaged in house work and should have been classified as private household worker. It is even possible that some of these married women, especially those of them living in urban areas and/or those who were highly educated were on maternity leave. Such a leave cannot be interpreted as unemployment. It seems that the classification of these women as unemployed, can hardly be justified.

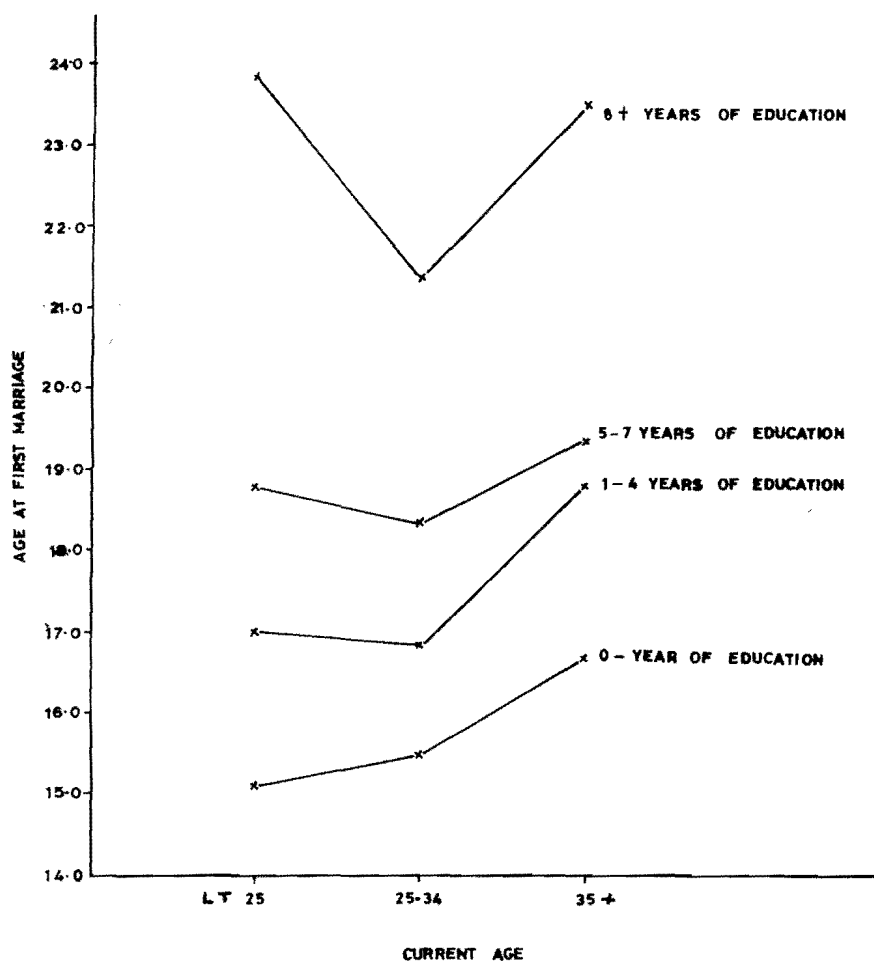
(c) Some suggestions

A few points emerge from the above review. First, in a situation where older women are more likely than younger women to misreport dates of an event, an apparent age pattern for any event cannot be interpreted as a trend. A particularly high or low measure obtained for older women is likely to be spurious rather than genuine. If measures are lower (or higher) than those obtained for younger women, it will be wrong to conclude that there has been a decline (or an increase) in the measures over the years. The temptation to draw that conclusion without supporting independent evidence should be avoided.

This observation does not mean that the data are worthless. Since age mis-reporting is common to all older women, valid comparison can probably still be made among subgroups: as Figure 2 shows, for example, the level of age at first marriage varies by education. It is not unreasonable to make conclusions on the basis of certain age-specific levels, even though it is not advisable to interpret the age pattern as a trend.

Second, it is better to place confidence in information given by younger women than in that given by older women. In all our discussions on age pattern, we have been very cautious in making reference to the older women, particularly those above 35 years of age. Furthermore, events relating to periods close to the survey date are preferred to events in the distant past. This point explains the frequent use of current status data, whenever they are available, for most of our analysis.

Fig. 2. MEDIAN AGE AT FIRST MARRIAGE



It is extremely important that the limitations of the data are appreciated in reading and interpreting the tables. With this caveat, we can now turn to a description of the results.

FOOTNOTES

- *1. Another problem is 'selectivity'. It stems from the fact that transition from one state to the next state can only be studied if, and only if, the first state has been achieved at the time of the survey. See Rodriguez and Hobcraft (1980).
- *2. The terms "censoring" and "truncation" are used here interchangeably. Strictly, the truncation problem refers to the bias in the observed distribution while "censoring" refers to the curtailment of the individual exposure time. See Srinivasan (1980).
- *3. Each of the River-Basin Authorities embraces more than one state but is smaller than any of the four regions. Even then, these authorities are not economic planning units.
- *4. The evaluation can also be extended to more demographic and possibly non-demographic variables. For example, the nuptiality analysis can include evaluation of data on divorced, widowed and types of conjugal union.

CHAPTER 2

THE STARTING PATTERNS OF FAMILY FORMATION

The beginning of the formation of a family can be located either at the point where a woman gets married or at that where she has her first birth. The case for locating it at the age at first birth is strong where pre-marital pregnancies and births occur. Cultural barriers that once prevented pre-marital coitus in traditional Nigerian society are gradually breaking down and an increasing proportion of women are having a pregnancy before marriage. It is, therefore, logical to locate the starting point of family formation in Nigeria today at the age at first birth. In this chapter, measures of the age at first birth and those of its proximate determinants are presented.

2.1. Age at First Birth

The patterns of the age at first birth can be examined via two methods: life table techniques on the one hand, and proportions parous as well as singulate mean age at first birth, on the other. With the aid of the former method, first birth patterns by age can be studied in detail. Life table cumulative proportions of women having their first birth by current age are displayed in Table 6 and Figure 3 for the whole country. Among women in the 40-44 age category, 97% had already had a birth by age 40 while only 91% of those aged 45-49 had had a birth by the same age. The first birth curve is steeply upward among the youngest cohort and becomes gentler as the cohorts become older. However, changes in the intensity of first birth (i.e. in the slope of the curve of cumulative proportion of women having their first birth) have been small; the curve for the age groups 30-34 and 40-44 being nearly identical in shape. For these age groups, the shift in age at first birth is seen instead as a rightward displacement of the complete curve. The 40-44 curve shifted between two (at lower ages) and four (at higher ages) years to the right of the 30-44 curve. Note, however, that these data involve the recalling of ages at first birth, and that the shifts may be artificial.

For the states and subgroups, the results of the life table analysis of age at first live birth are summarized in Tables 7 through 10 and in Figures 4 and 5. With a national trimean of 19.8 years (all birth cohorts), the age at first birth is relatively low compared with Latin-American countries but not too low by African standards. Ten per cent of the women are mothers before their fifteenth birthday and 25 per cent before their seventeenth birthday (Table 6). By age thirty, 90 per cent of all women have had their first birth. It is rather surprising that at this age as many as 10% of the women still have not had a birth.

The age pattern reveals that while women in the age group 20-34 had their first birth when they were slightly over 14, women in other age categories gave birth to their first baby just a few months after attaining age 15. The apparent decline in age at first birth exhibited by women 20-34 relative to older women suggests a misreporting by some of the older women of the date of, or the age at, their first live birth. Among these older women, the lower T_x values are not very severely distorted, but the upper end of the distribution has been pulled upwards by this misreporting.

In Table 8, the estimated ages at first birth are reported for three broad cohorts for each of the nineteen states. The distribution of

Table 6 : Age at First Birth by Current Age of Mother : Nigeria

0.0 Estimation impossible

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
15-19	15.4	17.3	19.7	0.0	0.0	0.0	0.0	2101
20-24	14.1	16.0	18.6	21.9	0.0	18.8	5.9	1710
25-29	14.2	16.1	18.9	22.2	26.6	19.0	6.2	1766
30-34	14.3	16.1	18.9	22.4	26.6	19.1	6.3	1547
35-39	15.0	16.5	19.8	23.9	30.4	20.0	7.3	1110
40-44	15.5	17.8	20.9	26.5	34.8	21.5	8.7	904
45+	15.5	18.0	21.8	27.7	38.2	22.3	9.7	591
ALL AGES	14.7	16.6	19.5	23.5	29.5	19.8	6.8	9729

Fig 3 CUMULATIVE PROPORTION OF WOMEN HAVING THEIR 1ST BIRTH
BY CURRENT AGE GROUP (COUNTRY)

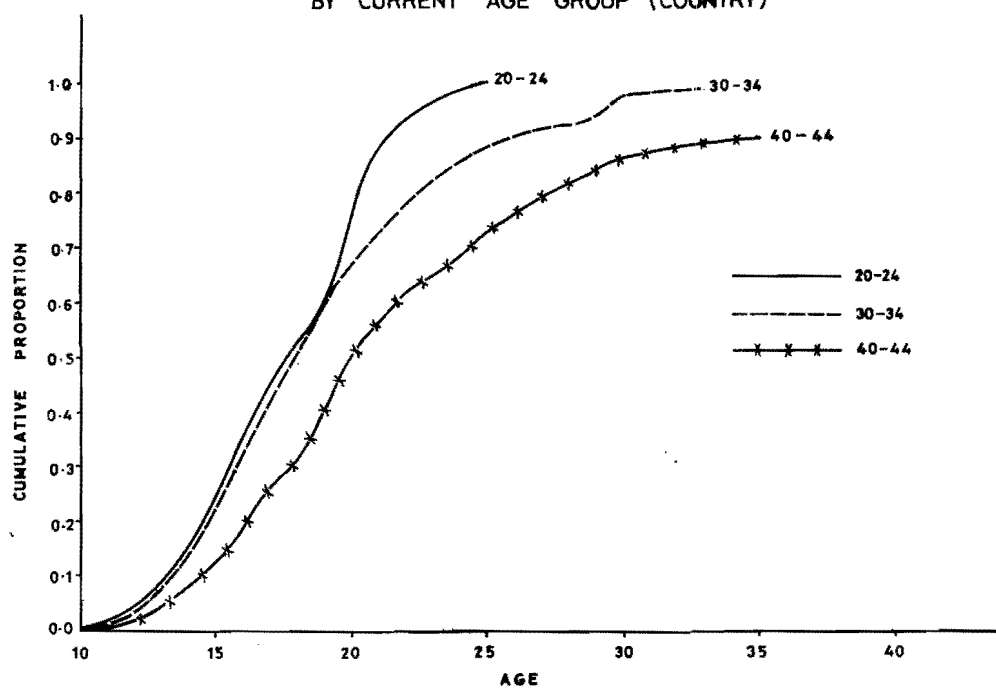
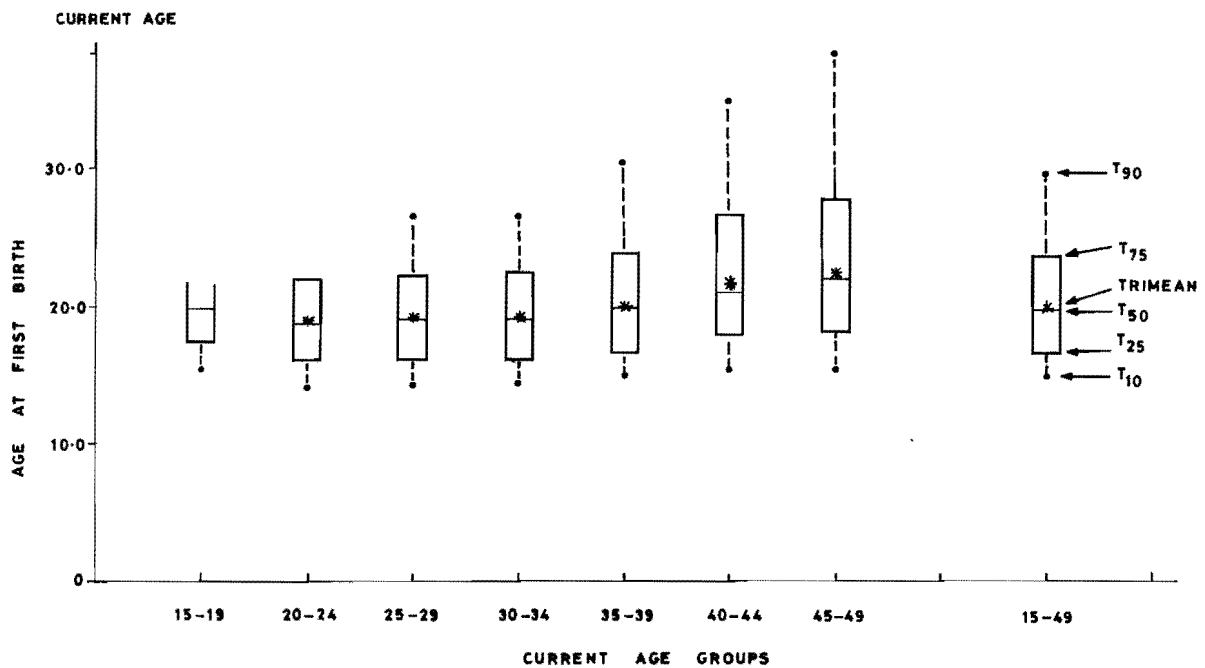


Fig.4 : AGE AT FIRST LIVE BIRTH BY CURRENT AGE



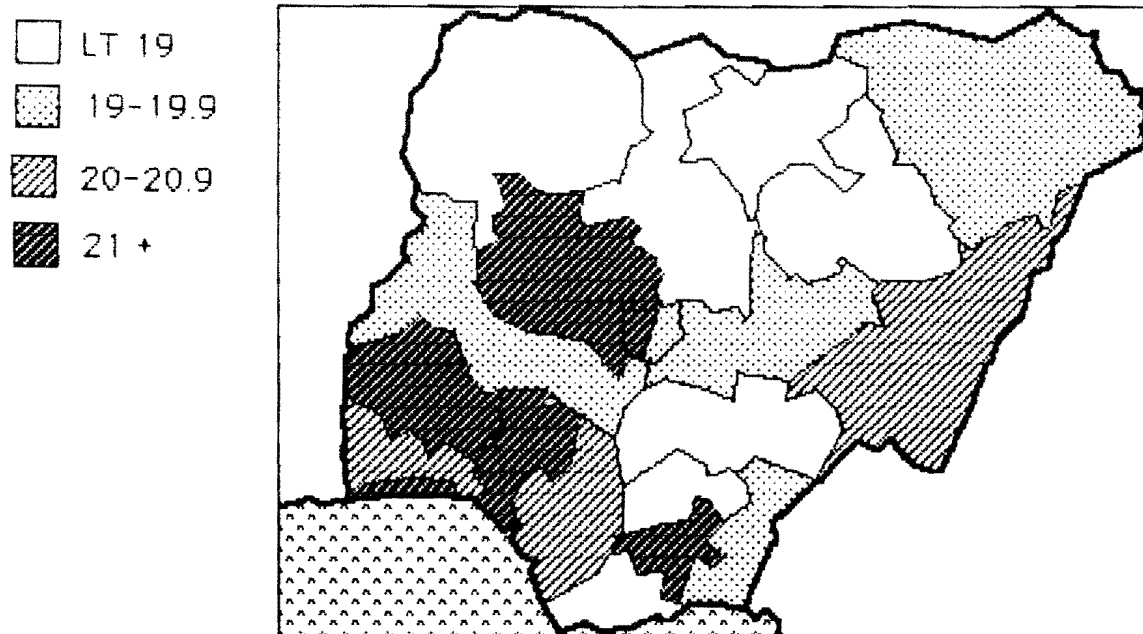


FIGURE 5 : AGE AT FIRST BIRTH

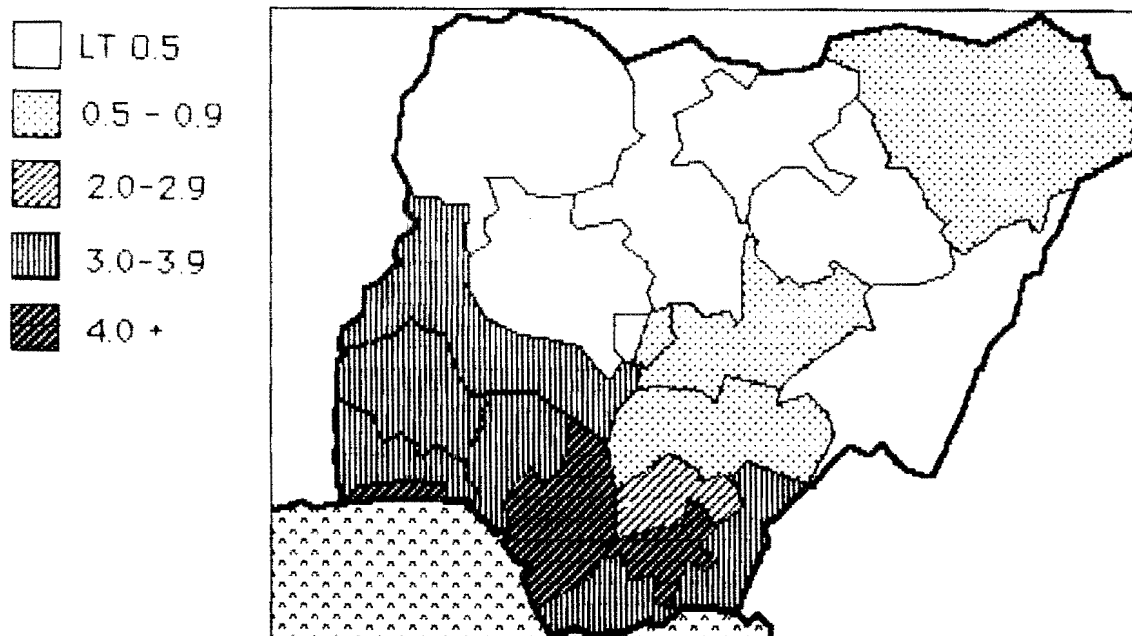


FIGURE 6 : MEAN NUMBER OF YEARS OF SCHOOLING , WOMEN 15-49

the trimean ages is shown in Figure 5. A couple of conspicuously apparent outlines can be briefly noted. There is a tendency for states in the southwest to show higher average ages (20 and over) at first birth and for the northern and eastern states to show lower ages (less than 20). In the north, the average age of 21.9 estimated for Niger state stands out since it is far higher than those estimated for any of the other eighteen states. This feature is, however, in large part due to exceptionally high reported age at first birth for the older age group of women. If we exclude the older age group on the grounds of less reliable reporting, then the difference between Niger state and the other states is reduced from 4 to 2 years.

In the southeast, Imo is conspicuously an island of high age at first birth in the sea of relatively low ages. The low ages at first birth in the east are rather surprising. The region, as shown in Fig. 6, has a relatively high literacy rate. The average number of years of education of women in the region ranges from 2.4 in Anambra through 3.1 in Rivers to 3.5 in Cross-River. Each of these means is higher than the national average of 2.3 years and far exceeds the mean for Niger state (0.11) which records the highest age at first birth.

The problem of age-misreporting by older women is reflected in the distribution of the age at first birth among the cohorts in each state. It is obvious that the omission of the first birth and/or its misplacement in time in the maternity histories reported by the older women have distorted the estimates. As shown in Table 8, in only two states, Imo and Kwara, is there an indication of a systematic rise in age at first birth. The general impression conveyed by the table is that of falling average age at first birth throughout the country. Almost half of the states record systematic falls. In eight of the states, there is a slight increase in age for the most recent cohorts, a quite plausible feature, but there is also a more marked, and less plausible higher age for the oldest cohorts.

Table 9 displays the ages at first birth by place and region of residence. The estimates reveal little difference in the average age between rural and urban areas in each region except in the southeast (and to a less extent also in the southwest), where there is a difference of about 1-2 years. With the exception of the northeast (and to some extent, the northwest), women in urban areas become mothers later than rural women. Average age at birth for women in the rural areas of the country is highest in the southwest whereas the highest mean for the urban women is recorded in the southeast.

The most noteworthy feature of Table 10 is the remarkable explanatory power exercised by modernization attributes in shaping age at first birth. In most cases estimates are modestly higher for women with modern characteristics, despite the fact that these are women who are expected to report better quality ages. They are likely to delay the start of childbearing since extensive educational attainment or employment activity in the modern sector requires delaying the onset of childbearing. The following patterns are noted:

- (i) Women in urban areas become mothers at least a year later on average than their rural counterparts.
- (ii) While illiterate women have their first births at age 19 on average, literate women become mothers at 21 on average. Women without education and those with less than five years of education are

Table 7 : Age at First Birth by Current Age of Mother

0.0 Estimation impossible

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
<u>ANAMBRA</u>								
LT 25 YRS	15.4	17.1	19.6	23.8	0.0	20.0	6.7	319
25-34 YRS	14.9	15.9	17.7	19.9	22.5	17.8	4.1	231
GE 35 YRS	15.4	16.9	19.1	23.0	28.6	19.5	6.1	221
ALL AGES	15.2	16.6	18.7	21.9	26.6	18.9	5.3	770
<u>BAUCHI</u>								
LT 25 YRS	13.7	15.1	16.8	18.9	21.7	16.9	3.8	172
25-34 YRS	12.4	14.7	16.8	19.3	23.0	16.9	4.6	138
GE 35 YRS	13.8	15.5	17.8	20.5	27.1	17.9	5.0	71
ALL AGES	13.1	15.1	17.1	19.4	23.3	17.2	4.3	380
<u>BENDEL</u>								
LT 25 YRS	16.4	18.2	20.3	22.5	0.0	20.3	4.3	143
25-34 YRS	14.4	16.2	18.7	22.2	26.6	18.9	5.9	93
GE 35 YRS	15.9	17.8	20.6	24.6	32.4	20.9	6.9	68
ALL AGES	15.4	17.3	19.9	23.0	28.2	20.0	5.6	303
<u>BENUE</u>								
LT 25 YRS	15.4	16.8	18.4	19.8	20.9	18.3	3.0	122
25-34 YRS	13.9	15.2	17.5	20.6	23.4	17.7	5.3	125
GE 35 YRS	15.2	17.4	21.2	25.7	31.5	21.4	8.3	104
ALL AGES	14.6	16.2	18.7	22.1	26.0	18.9	5.9	351
<u>BORNO</u>								
LT 25 YRS	13.8	16.0	17.2	19.6	21.8	17.5	3.6	256
25-34 YRS	14.2	16.0	18.1	21.5	25.6	18.4	5.5	248
GE 35 YRS	14.8	16.5	21.8	30.0	0.0	22.5	13.5	217
ALL AGES	14.3	16.1	18.8	23.3	31.8	19.3	7.1	721
<u>CROSS-RIVER</u>								
LT 25 YRS	15.6	17.1	19.6	21.7	0.0	19.5	4.6	251
25-34 YRS	12.5	15.4	18.1	21.1	26.8	18.2	5.7	217
GE 35 YRS	14.0	16.5	19.4	23.9	32.2	19.8	7.4	160
ALL AGES	14.2	16.4	19.1	22.6	29.6	19.3	6.2	628
<u>GONGOLA</u>								
LT 25 YRS	14.6	16.1	18.2	20.7	0.0	18.3	4.6	211
25-34 YRS	15.8	18.0	19.8	23.5	0.0	20.3	5.5	272
GE 35 YRS	15.7	18.8	21.8	28.2	0.0	22.7	9.4	164
ALL AGES	15.1	17.4	19.8	23.8	35.0	20.2	6.5	648
<u>IMO</u>								
LT 25 YRS	18.3	20.8	24.2	0.0	0.0	0.0	0.0	654
25-34 YRS	14.7	16.6	20.3	23.8	29.2	20.3	7.1	363
GE 35 YRS	15.8	17.4	20.3	23.4	28.7	20.3	6.0	382
ALL AGES	16.1	18.5	21.2	24.7	30.7	21.4	6.3	1399
<u>KADUNA</u>								
LT 25 YRS	13.7	15.2	16.8	19.4	0.0	17.1	4.1	197
25-34 YRS	13.6	15.5	18.5	22.5	26.4	18.7	7.0	247
GE 35 YRS	14.6	16.4	20.5	30.3	0.0	21.9	13.9	157
ALL AGES	13.9	15.5	18.3	23.4	32.3	18.9	7.9	601
<u>KANO</u>								
LT 25 YRS	13.1	14.4	16.3	19.9	0.0	16.7	5.5	383
25-34 YRS	13.4	15.0	17.9	23.3	0.0	18.5	8.3	323
GE 35 YRS	14.2	15.6	19.8	27.5	45.3	20.7	12.0	199
ALL AGES	13.4	14.8	17.5	22.9	33.5	18.2	8.1	904

Table 7 : Continued

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
KWARA								
LT 25 YRS	15.6	18.0	19.1	23.0	23.6	19.8	5.0	121
25-34 YRS	15.4	17.1	19.2	21.3	24.5	19.2	4.2	110
GE 35 YRS	15.8	16.9	19.3	21.5	24.6	19.2	4.6	78
ALL AGES	15.6	17.1	19.2	21.4	24.5	19.2	4.4	309
LAGOS								
LT 25 YRS	17.0	18.1	20.9	22.6	24.5	20.6	4.5	166
25-34 YRS	15.3	17.4	20.2	24.7	31.2	20.7	7.3	113
GE 35 YRS	16.5	20.3	22.4	25.8	29.5	22.7	5.5	105
ALL AGES	16.4	18.4	21.4	25.3	29.6	21.6	6.9	385
NIGER								
LT 25 YRS	15.5	17.2	20.0	21.8	0.0	19.8	4.6	69
25-34 YRS	16.1	18.8	20.3	23.5	26.8	20.7	4.7	135
GE 35 YRS	18.8	21.6	26.1	35.0	41.5	27.2	13.4	83
ALL AGES	16.3	19.0	21.2	26.0	35.5	21.9	7.0	287
OGUN								
LT 25 YRS	16.4	18.2	20.2	22.2	23.3	20.2	3.9	110
25-34 YRS	15.9	18.0	20.5	22.9	27.1	20.5	4.9	44
GE 35 YRS	16.0	19.0	21.0	25.3	30.3	21.6	6.2	82
ALL AGES	16.2	18.6	20.8	23.2	28.6	20.8	4.7	235
ONDO								
LT 25 YRS	16.7	18.4	21.5	23.5	0.0	21.3	5.1	117
25-34 YRS	15.1	17.7	20.7	24.0	27.1	20.8	6.3	158
GE 35 YRS	16.2	19.3	22.2	26.4	30.6	22.5	7.1	114
ALL AGES	15.9	18.3	21.2	24.7	28.5	21.3	6.5	389
OYO								
LT 25 YRS	16.5	18.4	21.0	23.3	24.3	20.9	4.9	126
25-34 YRS	15.1	17.3	20.3	23.4	25.8	20.3	6.1	134
GE 35 YRS	16.9	19.4	22.3	26.7	30.6	22.7	7.3	146
ALL AGES	16.0	18.5	21.1	24.7	28.7	21.3	6.1	406
PLATEAU								
LT 25 YRS	13.7	15.4	18.0	19.9	22.6	17.8	4.5	90
25-34 YRS	15.1	16.4	18.0	22.5	24.9	18.7	6.1	99
GE 35 YRS	16.4	18.1	22.4	29.5	36.9	23.1	11.4	54
ALL AGES	14.8	16.2	19.1	23.2	28.4	19.4	7.0	242
RIVERS								
LT 25 YRS	14.5	16.1	17.9	20.6	0.0	18.1	4.4	144
25-34 YRS	12.9	15.0	17.5	19.9	22.7	17.5	4.8	105
GE 35 YRS	14.6	17.0	19.2	21.1	25.8	19.1	4.1	93
ALL AGES	13.7	15.9	18.1	20.5	24.1	18.2	4.6	342
SOKOTO								
LT 25 YRS	14.5	16.2	17.6	21.1	0.0	18.1	5.0	160
25-34 YRS	14.8	16.2	18.6	20.8	25.4	18.5	4.6	159
GE 35 YRS	14.8	15.8	19.6	25.2	30.9	20.0	9.4	109
ALL AGES	14.7	16.0	18.4	21.7	27.6	18.7	5.7	429
NIGERIA								
LT 25 YRS	14.7	16.7	19.3	22.5	0.0	19.4	5.9	3811
25-34 YRS	14.3	16.1	18.9	22.3	26.6	19.1	6.2	3313
GE 35 YRS	15.2	17.3	20.6	25.6	33.3	21.0	8.3	2605
ALL AGES	14.7	16.6	19.5	23.5	29.5	19.5	6.8	9729

Table 8 : Age at First Birth by Current Age of Mother

0.0 Estimation impossible

[illegible]

Table 9 : Age at First Birth by Current Age of Woman, Region and Place of Residence

Subgroup	MEDIAN				TRIMEAN				H-SPREAD				
(N of Cases)	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>													
Rural (1947)		17.9	18.4	21.0	18.8	17.9	18.6	21.6	19.1	3.4	5.8	10.2	6.4
Urban (396)		16.8	18.8	22.6	18.8	17.1	19.3	22.7	19.3	4.4	6.3	8.2	7.0
<u>Northwest</u>													
Rural (1875)		17.0	19.0	20.9	18.7	17.4	19.1	21.5	19.2	5.4	6.8	12.1	8.1
Urban (345)		17.0	18.5	20.7	18.2	17.2	18.7	22.1	18.7	4.7	6.5	14.2	7.3
<u>Southeast</u>													
Rural (2781)		20.9	18.5	19.5	19.7	0.0	18.6	19.8	19.8	0.0	5.7	6.1	6.1
Urban (358)		22.1	19.5	21.2	21.5	22.1	20.2	21.6	21.8	4.7	9.2	5.5	7.0
<u>Southwest</u>													
Rural (924)		19.9	18.9	21.3	20.2	19.8	19.1	21.7	20.3	4.1	5.8	6.8	6.0
Urban (1102)		20.7	20.9	21.5	21.0	20.9	21.0	21.7	21.2	5.0	5.6	6.4	5.9
<u>Rural</u>													
Northeast (1947)		17.9	18.4	21.0	18.8	17.9	18.6	21.6	19.1	3.4	5.8	10.2	6.4
Northwest (1875)		17.0	19.0	20.9	18.7	17.4	19.1	21.5	19.2	5.4	6.8	12.1	8.1
Southeast (2781)		20.9	18.5	19.5	19.7	0.0	18.6	19.8	19.8	0.0	5.7	6.1	6.1
Southwest (924)		19.9	18.9	21.3	20.2	19.8	19.1	21.7	20.3	4.1	5.8	6.8	6.0
<u>Urban</u>													
Northeast (396)		16.8	18.8	22.6	18.8	17.1	19.3	22.7	19.3	4.4	6.3	8.2	7.0
Northwest (345)		17.0	18.5	20.7	18.2	17.2	18.7	22.1	18.7	4.7	6.5	14.2	7.3
Southeast (358)		22.1	19.5	21.2	21.5	22.1	20.2	21.6	21.8	4.7	9.2	5.5	7.0
Southwest (1102)		20.7	20.9	21.5	21.0	20.9	21.0	21.7	21.2	5.0	5.6	6.4	5.9

() Estimates based on less than 30 cases

0.0 Estimation impossible

Table 10 : Age at First Birth by Current Age of Mother and by Various Subgroups

Subgroup (N of Cases) Age Woman at Time of Interview	MEDIAN				TRIMEAN				H-SPREAD			
	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Age
<u>Type of Place of Residence</u>												
- Rural (7527)	19.0	18.7	20.4	19.3	19.1	18.8	20.8	19.5	5.5	6.0	8.4	6.7
- Urban (1426)	20.4	20.1	21.4	20.6	20.5	20.2	21.9	20.8	5.8	7.0	7.7	7.1
- Large Urban (776)	19.4	19.5	21.7	20.0	19.6	19.7	21.7	20.2	5.5	6.4	6.8	6.5
<u>Literacy Status of Woman</u>												
- Can Read (2903)	21.5	19.7	21.8	21.1	21.6	20.1	21.8	21.3	5.9	7.0	7.3	6.7
- Cannot Read (6826)	17.5	18.7	20.4	19.0	17.7	18.8	20.9	19.2	4.4	6.0	8.4	6.6
<u>Literacy Status of Partner</u>												
- Can Read (3203)	18.1	18.8	20.4	18.9	18.1	19.0	20.7	19.0	4.1	5.9	7.1	5.6
- Cannot Read (4917)	17.1	18.8	20.6	19.0	17.3	18.8	21.1	19.3	4.6	6.0	8.7	6.9
<u>Religion</u>												
- Catholic (1648)	21.5	19.1	20.0	20.4	0.0	19.2	20.2	20.5	0.0	5.9	6.7	6.4
- Protestant (1194)	20.7	19.0	20.4	20.1	20.6	19.2	20.4	20.2	6.0	6.6	5.8	6.2
- Other Christians (1523)	20.4	18.9	20.9	20.2	20.5	19.2	21.3	20.4	5.6	6.2	7.8	6.6
- Moslem (4427)	17.7	19.0	20.8	19.0	17.8	19.0	21.5	19.3	4.8	6.4	10.5	7.1
- Traditional (570)	17.5	18.0	19.8	18.4	17.5	18.2	20.4	18.7	3.2	4.7	7.4	5.1
<u>Years of Education of Woman</u>												
- 0 yrs (6599)	17.4	18.7	20.4	19.0	17.5	18.8	20.9	19.2	4.5	5.9	8.4	6.6
- 1-4 yrs (752)	18.2	18.6	20.8	19.0	18.4	18.8	20.7	19.2	4.4	6.4	6.5	5.9
- 5-7 yrs (1222)	19.9	19.0	21.4	20.1	20.0	19.5	21.7	20.4	4.4	6.7	7.1	6.2
- 8+ yrs (1156)	24.6	22.3	23.6	23.9	0.0	22.6	23.9	24.1	0.0	7.2	4.9	6.6
<u>Region of Residence</u>												
- Northeast (2243)	17.7	18.5	21.2	18.8	17.8	18.7	21.8	19.1	4.0	5.8	9.9	6.6
- Northwest (2221)	17.0	19.0	20.9	18.7	17.3	19.0	21.6	19.1	5.3	6.7	12.2	7.9
- Southeast (3139)	21.2	18.6	19.6	19.8	0.0	18.7	19.9	20.0	0.0	5.9	6.1	6.3
- Southwest (2027)	20.4	19.9	21.3	20.6	20.5	20.0	21.7	20.8	4.6	6.0	6.6	6.0
<u>Years of Education of Partner</u>												
- 0 yrs (4058)	17.3	18.9	20.6	19.2	17.5	19.0	21.1	19.5	4.5	6.1	8.5	6.9
- 1-4 yrs (509)	17.8	18.5	19.9	18.6	17.8	18.5	19.9	18.6	3.8	4.8	5.7	4.7
- 5-7 yrs (1168)	18.0	19.1	20.7	19.1	18.1	19.2	21.0	19.2	3.9	5.3	7.0	5.0
- 8+ yrs (756)	18.5	20.7	22.1	19.8	18.5	20.7	22.0	20.0	4.1	7.1	5.7	6.0
<u>Last Work Status of Woman</u>												
- Family Farm (2349)	17.5	18.3	20.5	18.9	17.6	18.4	20.8	19.1	3.8	5.4	7.3	6.0
- Family Employed (146)	19.2	19.1	20.4	19.6	19.7	18.8	20.7	19.8	6.2	5.4	6.4	5.4
- Other Paid Cash (644)	21.5	21.2	21.6	21.3	21.4	21.4	21.7	21.5	5.8	7.4	7.7	7.3
- Other Employed (549)	20.5	19.5	20.6	20.2	0.0	19.9	21.6	20.7	0.0	6.6	8.9	7.3
- Self Employed (3407)	20.5	19.3	20.0	20.0	0.0	19.4	20.8	20.5	0.0	7.0	10.6	7.7
- Did Not Work (2634)	17.6	18.7	20.7	19.1	17.7	18.8	21.1	19.3	4.6	5.8	9.0	6.5

identical in the timing of their first births - they have their first child at age 19 on average, five years before women with eight or more years of education. Similarly, while there has been a decline in age at first birth among women with less than four years of education, women with five to seven years of education gain nearly one year, and those with eight or more years of education gain over two years in their age at first birth. (In all cases the oldest women are excluded from discussion).

- (iii) The timing of the first birth of all Christian women is identical irrespective of their denominations, just as Moslems and traditional religionists have their first birth at almost the same ages. Not only do Christian women have a higher age at first birth than other religious groups but they also exhibit increases in age at first birth.
- (iv) There is a clear-cut distinction between the north and the south in the timing of first birth. The southern regions have higher ages and record increases in those ages over the years.
- (v) Women in modern-sector employments become mothers later than those in the traditional sectors of employment. Among women in the traditional sector, employment by "other" (that is by non-family) makes a difference. Those who are so employed have their first birth one and a half years later than those who work on family farms although, as shown in the first chapter, nearly all "other employed" women are engaged in agriculture. Finally, there are slight increases in ages at first birth among young women who are either self-employed or employed by non-family members. By contrast, the ages at first birth of women in other categories decline.

The results of the life table analysis are further verified by the analysis of the proportion of women who ever gave birth and the singulate mean age at first birth (SMAFB). The procedure adopted here is similar to the conventional proportion of women ever-married and Hajnal's singulate mean age at marriage. The indices produced by this procedure are reported in Tables 11-13.

Examining the proportions ever-giving birth among women 15-19, we find that in all but one of the ten northern states, at least 20% of women had had their first birth. By contrast, the proportion parous in this age group is below 20% in all the southern states except Rivers. While 60.3% of these young girls are mothers in Bauchi, only 1.6 of them are parous in Imo state. Turning to the percentage parous among older women, we find that the situation is reversed: the proportion parous is high in the southern, but low in the northern states. Among women 40-44, for example, at least 94% ultimately give birth in all the southern states, whereas the northern states have percentages parous in the 80's or low 90's except Kwara state. It would appear, therefore, that while marriage is early in the north, also sterility is higher there.

Within the sub-groups, the proportions of parous women in the age-groups are as expected. Among the 15-19 age category, the percentages are highest for traditional women and decline monotonically with increase in indices of modernization. Thus, while nearly half (47%) of illiterate women were parous, only a quarter of women with 1-4 years of education had had a child and only 16.3% and 2.8% respectively were mothers among women with 5-7 and 8+ years of education respectively. Again, the reverse was

Table 11 : Percentage of Parous Women at Ages 15-49 and Singulate Mean Age at First Birth by State

State	Current Age								SMAFB		
	15-19	20-24	25-29	30-34	35-39	40-44	45+	15-49	1982	Change, 1977-1982	Fictitious cohort 1977-1982
Anambra	17.9 (157)	72.4 (164)	95.5 (105)	97.4 (126)	92.5 (74)	98.2 (93)	89.3 (54)	74.7 (770)	18.5	+1.4	21.0
Bauchi	60.3 (74)	89.1 (98)	95.5 (79)	99.7 (58)	92.3 (49)	93.5* (19)	83.9* (2)	87.0 (380)	13.4	-1.5	17.3
Bendel	13.5 (83)	67.7 (59)	94.5 (38)	95.5 (55)	99.5 (28)	93.7* (29)	100.0* (11)	67.8 (303)	21.8	+0.7	21.9
Benue	35.9 (56)	89.4 (66)	97.7 (71)	98.7 (54)	98.1 (47)	93.5 (40)	100.0* (16)	86.1 (351)	19.3	-0.9	18.8
Borno	32.8 (162)	91.3 (94)	91.9 (141)	90.2 (106)	89.8 (129)	78.1 (62)	81.6* (27)	76.4 (721)	16.0	-0.1	19.1
Cross-River	13.7 (156)	81.0 (95)	91.7 (132)	91.2 (86)	90.7 (84)	95.6 (39)	94.5 (36)	70.9 (628)	20.5	+1.1	20.4
Gongola	53.1 (107)	75.0 (105)	85.2 (137)	85.2 (136)	85.1 (72)	84.9 (47)	94.2 (45)	78.8 (648)	20.1	-1.9	18.3
Imo	1.6 (420)	42.4 (234)	75.4 (204)	100.0 (159)	99.9 (151)	96.7 (117)	88.1 (115)	56.0 (1399)	21.4	+1.5	24.9
Kaduna	43.8 (95)	85.9 (102)	92.3 (140)	94.0 (107)	90.1 (63)	81.3 (64)	67.6 (30)	81.2 (601)	19.0	-3.0	18.8
Kano	52.8 (212)	79.3 (170)	82.2 (170)	86.0 (152)	90.5 (79)	90.6 (66)	90.7 (54)	77.2 (904)	18.5	-0.5	19.3
Kwara	14.4 (78)	80.3 (42)	99.4 (64)	99.2 (46)	97.3 (38)	100.0* (23)	100.0* (17)	75.0 (309)	20.5	+0.1	20.5
Lagos	7.3 (80)	69.2 (86)	85.3 (58)	92.0 (56)	100.0* (38)	94.5 (37)	100.0 (30)	69.9 (385)	22.6	-0.2	22.4
Niger	46.6* (22)	65.0 (47)	95.7 (71)	90.3 (64)	90.0 (33)	86.8 (33)	88.5* (17)	83.5 (287)	18.2	-2.9	19.0
Ogun	15.0 (69)	84.4 (41)	93.4* (27)	100.0* (17)	92.3* (25)	99.1 (35)	98.6 (22)	70.6 (235)	20.4	-1.3	20.2
Ondo	7.5 (63)	69.0 (54)	93.9 (70)	97.5 (88)	100.0 (41)	98.4 (55)	96.9* (18)	78.6 (389)	20.9	-0.6	21.7
Oyo	5.8 (64)	78.8 (62)	91.2 (72)	97.7 (62)	100.0 (45)	97.1 (66)	97.3 (36)	79.3 (406)	20.8	+0.2	21.5
Plateau	20.4 (35)	92.0 (55)	97.6 (47)	98.0 (52)	96.9* (29)	85.3* (16)	98.8* (9)	84.4 (242)	20.2	+0.2	19.8
Rivers	43.0 (86)	83.7 (58)	98.4 (61)	99.1 (44)	97.2 (37)	99.0* (26)	100.0 (30)	82.1 (342)	19.0	+0.4	19.0
Sokoto	40.0 (79)	80.8 (81)	93.8 (80)	95.3 (80)	96.3 (49)	91.9 (37)	94.0* (23)	81.8 (429)	18.5	-0.8	19.2
Nigeria	24.7 (2101)	74.5 (1710)	90.0 (1766)	94.0 (1547)	94.1 (1110)	92.6 (904)	91.7 (591)	74.6 (9729)	19.4	+0.1	20.7

() Number of observations

* Estimates based on less than 30 observations

Table 12 : Percentage of Parous Women at Ages 15-49 and Singulate Mean Age at First Birth by Place and Region of Residence

Place and Region of Residence	Current Age							SMAFB			
	15-19	20-24	25-29	30-34	35-39	40-44	45+	15-49	1982	Change, 1977-1982	Fictitious Cohort 1977-1982
<u>Northeast</u>											
Rural	41.0 (364)	86.0 (344)	92.9 (369)	92.6 (344)	90.2 (275)	86.0 (159)	92.6 (92)	81.0 (1947)	18.6	-0.9	18.7
Urban	46.6 (71)	88.7 (74)	89.0 (106)	88.4 (62)	95.0 (51)	81.4* (24)	84.7* (8)	81.5 (396)	16.1	-1.0	18.6
<u>Northwest</u>											
Rural	48.6 (338)	78.6 (339)	88.4 (396)	90.8 (340)	91.7 (189)	87.6 (168)	88.0 (105)	80.1 (1875)	17.4	-1.2	19.0
Urban	44.4 (71)	85.4 (61)	95.0 (65)	89.6 (62)	91.1 (35)	85.6 (31)	71.9* (19)	79.4 (345)	10.8	-3.5	18.7
<u>Southeast</u>											
Rural	12.1 (704)	64.0 (462)	89.0 (435)	97.6 (385)	95.5 (322)	98.3 (254)	91.7 (219)	68.4 (2781)	20.1	+1.3	22.7
Urban	6.8 (116)	52.8 (86)	71.4 (67)	93.1* (28)	100.0* (24)	85.4 (21)	79.5* (15)	50.8 (358)	19.2	+0.1	25.7
<u>Southwest</u>											
Rural	10.7 (181)	82.3 (126)	97.4 (138)	96.5 (171)	97.6 (104)	97.6 (134)	100.0 (70)	78.5 (924)	20.9	-0.0	20.7
Urban	10.8 (257)	68.9 (219)	89.6 (190)	96.7 (153)	99.5 (109)	96.6 (112)	97.1 (63)	70.2 (1102)	21.2	-0.3	21.7
<u>Rural</u>											
Northeast	41.0 (364)	86.0 (344)	92.9 (369)	92.6 (344)	90.2 (275)	86.0 (159)	92.6 (92)	81.0 (1947)	18.6	-0.9	18.7
Northwest	48.6 (338)	78.6 (339)	88.4 (396)	90.8 (340)	91.7 (189)	87.6 (168)	88.0 (105)	80.1 (1875)	17.4	-1.2	19.0
Southeast	12.1 (704)	64.0 (462)	89.0 (435)	97.6 (385)	95.5 (322)	98.3 (254)	91.7 (219)	68.4 (2781)	20.1	+1.3	22.7
Southwest	10.7 (181)	82.3 (126)	97.4 (138)	96.5 (171)	97.6 (104)	97.6 (134)	100.0 (70)	78.5 (924)	20.9	-0.0	20.7
<u>Urban</u>											
Northeast	46.6 (71)	88.7 (74)	89.0 (106)	88.4 (62)	95.0 (51)	81.4* (24)	84.7 (8)	81.5 (396)	16.1	-1.0	18.6
Northwest	44.4 (71)	85.4 (61)	95.0 (65)	89.6 (62)	91.1 (35)	85.6 (31)	71.9* (19)	79.4 (345)	10.8	-3.5	18.7
Southeast	6.8 (116)	52.8 (86)	71.4 (67)	93.1* (28)	100.0* (24)	85.4* (21)	79.5* (15)	50.8 (358)	19.2	+1.0	25.7
Southwest	10.8 (257)	68.9 (219)	89.6 (190)	96.7 (153)	99.5 (109)	96.6 (112)	97.1 (63)	70.2 (1102)	21.2	-0.3	21.7

() Number of observations

* Estimates based on less than 30 observations

Table 13 : Percentage of Parous Women at Ages 15-49 and Singulate Mean Age at First Birth by Subgroup

Subgroup	Current Age								SMAFB		
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	15-49	1982	Change, 1977-1982	Fictitious Cohort 1977-1982
<u>Type of Place of Residence</u>											
Rural	26.4 (1586)	75.7 (1270)	90.8 (1338)	94.2 (1241)	93.3 (891)	92.9 (715)	92.3 (486)	75.8 (7528)	19.4	+0.1	20.5
Urban	17.5 (350)	68.2 (262)	85.7 (293)	92.6 (181)	96.2 (145)	90.0 (118)	90.3 (77)	68.3 (1426)	20.1	-0.1	21.7
Large Urban	23.5 (165)	75.9 (178)	91.1 (134)	94.2 (124)	99.1 (74)	94.3 (71)	85.6* (29)	74.6 (776)	17.1	-1.2	20.5
<u>Literacy Status of Woman</u>											
Can Read	9.7 (1179)	59.3 (680)	83.8 (461)	95.6 (280)	97.2 (174)	97.3 (87)	95.1 (42)	50.5 (2903)	21.7	+0.5	23.3
Cannot Read	43.7 (922)	84.6 (1031)	92.1 (1305)	93.7 (1266)	93.5 (936)	92.1 (817)	91.4 (549)	84.9 (6826)	17.7	-0.9	18.8
<u>Literacy Status of Partner</u>											
Can Read	60.3 (371)	89.4 (735)	92.0 (748)	96.4 (570)	97.9 (367)	97.9 (257)	97.1 (156)	89.9 (3203)	17.5	-2.3	17.4
Cannot Read	57.0 (475)	85.2 (715)	93.1 (962)	94.0 (962)	93.3 (733)	91.2 (639)	90.1 (432)	88.1 (4917)	16.5	-1.8	17.8
<u>Religion</u>											
Catholic	9.2 (504)	58.1 (315)	90.0 (267)	96.6 (196)	97.1 (151)	99.2 (127)	91.1 (88)	61.4 (1648)	20.3	+0.9	23.1
Protestant	18.0 (277)	66.7 (223)	87.3 (213)	96.2 (146)	99.1 (127)	98.6 (120)	98.9 (87)	71.7 (1194)	21.4	+0.9	22.2
Other Christian	12.3 (329)	71.9 (294)	89.2 (249)	96.0 (239)	94.5 (174)	95.5 (117)	95.5 (122)	71.9 (1523)	20.9	+0.6	21.8
Moslem	40.4 (875)	82.5 (743)	90.2 (876)	92.1 (783)	92.8 (526)	87.5 (406)	88.2 (219)	79.4 (4427)	17.5	-1.2	19.2
Traditional	35.9 (56)	88.9 (94)	96.7 (94)	98.4 (121)	92.6 (77)	95.8 (82)	88.3 (46)	88.5 (570)	16.2	-0.5	18.9
<u>Years of Education of Woman</u>											
0 yrs	46.8 (825)	85.2 (984)	92.0 (1272)	93.2 (1236)	93.5 (927)	91.7 (806)	91.4 (550)	85.7 (6599)	17.5	-1.1	18.5
1-4 yrs	25.0 (131)	84.2 (170)	96.7 (167)	98.7 (134)	98.1 (77)	100.0 (49)	97.7* (24)	82.1 (752)	19.3	-0.1	19.9
5-7 yrs	16.3 (503)	76.5 (270)	82.0 (203)	99.3 (116)	97.2 (81)	100.0 (35)	93.0* (14)	57.0 (1222)	19.7	-0.7	21.3
8+ yrs	2.8 (642)	30.6 (287)	72.9 (125)	91.2 (60)	93.3 (25)	100.0* (14)	83.8* (4)	25.2 (1156)	21.7	+0.8	26.5
<u>Region of Residence</u>											
Northeast	41.9 (435)	86.5 (417)	92.0 (475)	92.0 (406)	91.0 (326)	85.4 (183)	92.0 (99)	81.1 (2343)	18.4	-0.8	18.7
Northwest	47.9 (409)	79.6 (400)	89.3 (461)	90.6 (403)	91.6 (224)	87.3 (200)	85.5 (124)	80.0 (2221)	16.6	-1.5	18.9
Southeast	11.4 (820)	62.3 (548)	86.7 (502)	97.3 (414)	95.8 (346)	97.3 (275)	90.9 (234)	66.4 (3139)	20.2	+1.3	22.7
Southwest	10.8 (437)	73.8 (345)	92.9 (328)	96.6 (324)	98.6 (213)	97.2 (246)	98.6 (133)	74.0 (2027)	21.2	-0.1	21.3
<u>Years of Education of Partner</u>											
0 yrs	54.4 (322)	85.9 (529)	93.8 (795)	93.4 (786)	93.5 (656)	92.7 (566)	90.8 (404)	89.1 (4058)	16.7	-1.9	18.0
1-4 yrs	65.0 (37)	92.3 (107)	96.0 (223)	99.1 (110)	97.1 (71)	99.0 (40)	100.0 (30)	94.3 (509)	17.6	-1.7	17.1
5-7 yrs	68.1 (122)	91.5 (293)	92.4 (255)	97.8 (212)	98.8 (124)	98.8 (102)	100.0 (61)	92.3 (1168)	17.6	-2.7	16.9
8+ yrs	64.7 (93)	87.6 (200)	88.0 (219)	96.4 (118)	96.9 (72)	94.4 (37)	98.2* (18)	87.7 (756)	18.1	-3.4	17.1
<u>Last Work Status of Woman</u>											
Family Farm	43.0 (209)	91.6 (324)	95.5 (441)	96.8 (482)	96.2 (349)	95.4 (306)	93.8 (239)	90.5 (2349)	17.4	-0.5	18.4
Family Employed	25.5 (45)	76.9* (27)	84.9* (17)	94.0* (15)	100.0* (22)	77.9* (14)	100.0* (6)	68.1 (146)	22.0	+0.3	21.2
Other Paid Cash	21.6 (59)	55.5 (173)	78.6 (164)	91.6 (101)	88.7 (78)	90.9 (46)	93.6* (23)	71.8 (644)	22.2	-0.3	21.5
Other Employed	14.3 (117)	62.4 (82)	83.6 (85)	91.5 (94)	90.0 (74)	86.7 (53)	91.0 (44)	68.7 (549)	21.5	+0.8	21.4
Self Employed	53.7 (248)	86.8 (465)	93.4 (541)	93.9 (507)	96.2 (355)	93.2 (319)	89.5 (200)	88.7 (2634)	16.1	-2.1	18.0
Did Not Work	17.9 (1422)	63.6 (640)	86.4 (517)	91.7 (348)	90.1 (233)	90.0 (166)	90.1 (81)	54.6 (3407)	22.6	+0.2	22.5

() Number of observations

* Estimates based on less than 30 observations

the case among women in advanced ages; proportions parous increased with levels of modernization.

The singulate mean age at first birth (last three columns of Tables 11-13) measures the mean number of years spent in the nulliparous state among women ultimately giving birth to a child and as such provides a good summary measure of age at first birth. It is calculated using current proportions parous in each age group.

The patterns of the SMAFB are similar to those of trimean age of first birth obtained by the life table technique. At the national level, the SMAFB of 19.4 years compares with a trimean of 19.8 years. Except in a few cases, differences between SMAFBs and trimeans at the state and subgroup levels are minor. Thus, the range of SMAFB's found among the states and subgroup is as broad as that of the trimeans. Among the states, the youngest age is 13 in Bauchi and the oldest 23 years in Lagos. In general, the states in the north cluster in the lower and those in the south in the upper part of the range, whether the 1982 data of real cohorts or the fictitious cohort, representing the central tendency of the age pattern of first births are considered. Among the subgroups, SMAFB's increase with increasing levels of modernization, as measured by education, urbanity and employment sector.

Changes in the age at first birth is found by using the proportions of women nulliparous and parous five years prior to the survey (1977) and by assuming no change in the proportion parous at ages 45-54. The changes are shown in column 10 of Tables 11-13 where they are expressed as the difference between the earlier and current singulate mean age at first birth. The results of SMAFB for an hypothetical cohort which shares the characteristics of the 1977 and 1982 estimates are shown in the last column of the tables.

For the country as a whole, there is hardly any change in the SMAFB between 1977 and 1982, a slight increase of just about one month being recorded. But while increases in age at first birth are recorded by most of the southern states, SMAFB declined in the northern states. For the southern states, increases of the order of one or more years are seen in the eastern states of Anambra, Cross-River and Imo, evidence of a rapid change. Modest increases are recorded in Bendel, Oyo and Rivers while, rather surprisingly, decreases in ages at first birth are noticed in the remaining states of southwestern Nigeria. It is not unlikely that this decreases do not represent any long term trend as the SMAFB's for the fictitious cohorts are considerably higher in these states. Changes are also found in the northern states but these changes are negative. The decline is highest (three years) in Kaduna and Niger states and lowest (only one month) in Borno state while in Kwara and Plateau states slight increases (one to two months) in age at first birth were recorded.

Examining Tables 12 and 13 for the subgroups, we find no discernible pattern. While ages at first birth increase among rural (traditional) women, they decline among urban (modern) women. By contrast, among women who can be described as modern on account of literacy, occupation or religion, a slight increase in age at first birth evidently occurred in the five years before the survey. For the categories in each subgroups, therefore, the SMAFB's for the fictitious cohort span a narrower range than the actual SMAFB recorded in 1982. Apart from the subgroups "years of education of women" and "religion", where the difference among categories is about eight years, all other subgroups have differences in

SMAFB's in the range of 1.2 to 4.5 years.

By and large, the results of the analysis obtained using the two techniques are consistent. Where differences in measures produced by the two methods occur, the differences reflect the sensitivity of SMAFB to the proportion of null-parity women in the final age group. Proportions nulliparous in the age group 45-54 have large sampling errors (low proportions and small sub-samples) and can be rather volatile. However, these differences do not attain such a magnitude as to cast doubt on the results of the analysis: both methods established that age at first birth is just about 19.5; that the age is lower in the northern states and among traditional women than in the south and among modern women. In order to explain the observed differential patterns, we have to turn our attention to biological and social variables which affect the age at first birth.

2.2. The Proximate Determinants of Age at First Live Birth

2.2.1. Age at puberty

A girl generally reaches sexual maturity when she starts ovulating. Since women do not usually know the exact time they have their first-ever ovulation, the biological point at which reproductive life begins is usually taken as the age at menarche. Although menarche is not a perfect measure of the start of a woman's fecund life because it may precede the onset of ovulation by several months, it is nonetheless an adequate surrogate. It also has an important advantage that it is an easily recognizable sign that a girl is physically on the threshold of her reproductive life.

Nearly all Nigerian societies recognize the onset of menarche as an event which ushers a girl into womanhood. In several parts of the country, this important change in the physical and social status of a girl used to be marked by elaborate puberty rites with a diligent touch of profound religiousness. The obviously memorable ceremony may aid correct dating of age at puberty, especially if the ceremony is associated with a dateable historical event in the life of the society. On the other hand, the ceremony may produce stereotypes, if the respondents give ages normally associated with such ceremonies as the actual age at puberty. The latter appears to have occurred, as the results on menarche presented in Tables 14 to 18 and Figure 7 clearly show.

The estimates, though plausible, reveal remarkable similarities in the mean ages at puberty between the older and the younger women. At the national level (Table 14), Nigerian women are reported to reach puberty at age 14.6 on average while the range among the cohorts is only six months with a spread of just 2 to 2.4 years.

The pattern among the states is not different. Only in a few states is the difference between the highest and the lowest estimates greater than six months and in only one state is it over one year. Similarly, there is no systematic difference among the various cohorts in each of the subgroups. Thus, puberty in Nigeria contains a sufficiently strong biological element, having limited variability in time.

The most striking feature of these tables is not the similarity in ages at menarche across cohorts but the pattern of distribution of the very slight differences that do exist among the subgroup categories. It is generally argued that improvements in nutrition and in health accelerate

Table 14 : Age at Menarche by Current Age of Woman : Nigeria

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
15-19 YRS.	12.5	13.6	14.7	15.6	16.6	14.7	2.0	2101
20-24 YRS.	12.3	13.3	14.6	15.6	16.7	14.5	2.3	1701
25-29 YRS.	12.3	13.2	14.5	15.5	16.5	14.5	2.3	1766
30-34 YRS.	12.3	13.3	14.7	15.7	16.9	14.6	2.4	1547
35-39 YRS.	12.5	13.4	14.6	15.6	16.5	14.6	2.2	1110
40-44 YRS.	12.6	13.7	15.1	15.9	17.7	14.9	2.2	904
45-49 YRS.	12.5	13.8	15.1	15.9	17.7	15.0	2.2	591
ALL AGES	12.4	13.4	14.7	15.7	16.8	14.6	2.3	9729

Table 15 : Age at Menarche by Current Age of Woman and by State

States	Age Woman at Time of Interview	MEDIAN				TRIMEAN				H-SPREAD			
		LT 25y.	25-34y.	GE 35y.	All ages	LT 25y.	25-34y.	GE 35y.	All ages	LT 25y.	25-34y.	GE 35y.	All Age
Anambra		15.3	15.2	15.6	15.4	15.2	15.2	15.7	15.4	1.8	1.9	2.2	2.0
Bauchi		14.5	15.0	14.6	14.7	14.5	14.9	14.5	14.6	1.5	1.8	1.9	1.7
Bendel		14.7	14.7	14.6	14.7	14.7	14.6	14.5	14.6	2.0	2.0	2.3	2.1
Benue		13.6	13.6	13.5	13.6	13.7	13.7	13.6	13.7	1.9	2.2	1.7	1.9
Borno		14.3	13.9	13.8	14.0	14.5	14.1	13.9	14.2	2.9	1.9	1.9	2.1
Cross-River		14.6	13.5	13.5	14.1	14.5	13.7	13.7	14.1	2.3	2.8	2.8	2.8
Gongola		12.5	13.3	13.5	13.0	12.6	13.4	13.6	13.1	2.0	2.9	2.6	2.5
Imo		15.0	15.1	15.5	15.1	15.0	15.0	15.5	15.1	1.4	1.5	1.5	1.5
Kaduna		14.4	14.4	14.4	14.4	14.4	14.3	14.4	14.4	2.3	2.3	2.0	2.2
Kano		14.2	14.2	14.3	14.2	14.2	14.1	14.2	14.2	2.2	2.3	1.8	2.1
Kwara		14.3	14.8	15.1	14.6	14.2	14.6	14.8	14.5	2.0	2.2	2.2	2.2
Lagos		15.3	15.4	15.4	15.3	15.1	15.3	15.4	15.2	1.8	1.9	2.5	1.9
Niger		14.4	14.4	14.7	14.5	14.3	14.4	14.8	14.5	1.3	1.8	1.2	1.5
Ogun		15.1	14.9	15.2	15.1	14.9	14.7	14.9	14.9	2.4	2.9	2.2	2.4
Ondo		14.6	15.0	15.2	14.9	14.6	15.0	15.1	14.9	1.9	1.7	1.4	1.7
Oyo		15.5	15.2	15.4	15.4	15.4	14.9	15.4	15.2	2.1	2.5	2.1	2.3
Plateau		14.3	14.8	15.6	14.8	14.3	14.8	15.6	14.8	2.5	2.6	2.9	2.7
Rivers		14.9	14.6	15.3	14.9	14.9	14.6	15.6	14.9	2.7	2.6	3.4	2.8
Sokoto		15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	1.3	1.3	1.5	1.4
Nigeria		14.7	14.6	14.9	14.7	14.6	14.5	14.8	14.6	2.2	2.3	2.2	2.3

Fig.7: AGE AT MENARCHE BY CURRENT AGE

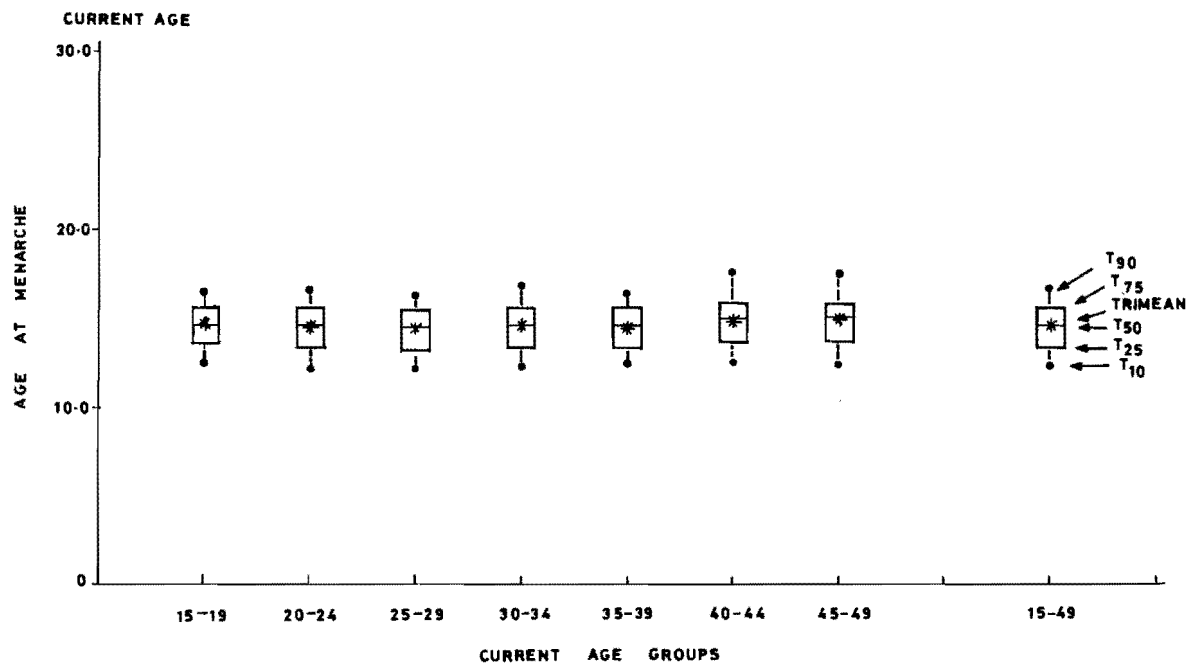


Table 16 : Age at Menarche by Current Age of Woman, Region & Place of Residence

0.0 Estimation impossible

() Estimates based on less than 30 cases

Subgroup		MEDIAN				TRIMEAN				H-SPREAD				
(N of Cases)	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	
<u>Northeast</u>														
	Rural (1947)	13.9	13.9	13.9	13.9	13.8	14.0	14.0	13.9	2.4	2.6	2.3	2.5	
	Urban (396)	14.0	14.1	13.8	14.0	14.0	14.2	13.9	14.1	1.9	2.1	2.1	2.0	
<u>Northwest</u>														
	Rural (1875)	14.6	14.5	14.6	14.6	14.5	14.4	14.6	14.5	2.1	2.2	1.8	2.1	
	Urban (345)	14.3	14.5	14.5	14.4	14.3	14.6	14.4	14.4	2.1	2.0	1.7	2.0	
<u>Southeast</u>														
	Rural (2781)	15.1	14.9	15.4	15.1	15.0	14.8	15.3	15.0	1.7	2.3	2.2	1.9	
	Urban (358)	14.6	14.8	15.3	14.8	14.7	14.8	15.3	14.8	1.4	1.5	1.8	1.5	
<u>Southwest</u>														
	Rural (924)	14.9	14.7	15.2	14.9	14.7	14.5	15.0	14.8	2.2	2.3	2.0	2.2	
	Urban (1102)	15.0	15.3	15.3	15.2	14.9	15.2	15.1	15.1	2.0	1.8	1.9	1.9	
<u>Rural</u>														
	Northeast (1947)	13.9	13.9	13.9	13.9	13.8	14.0	14.0	13.9	2.4	2.6	2.3	2.5	
	Northwest (1875)	14.6	14.5	14.6	14.6	14.5	14.4	14.6	14.5	2.1	2.2	1.8	2.1	
	Southeast (2781)	15.1	14.9	15.4	15.1	15.0	14.8	15.3	15.0	1.7	2.3	2.2	1.9	
	Southwest (924)	14.9	14.7	15.2	14.9	14.7	14.5	15.0	14.8	2.2	2.3	2.0	2.2	
<u>Urban</u>														
	Northeast (396)	14.0	14.1	13.8	14.0	14.0	14.2	13.9	14.1	1.9	2.1	2.1	2.0	
	Northwest (345)	14.3	14.5	14.5	14.4	14.3	14.6	14.4	14.4	2.1	2.0	1.7	2.0	
	Southeast (358)	14.6	14.8	15.3	14.8	14.7	14.8	15.3	14.8	1.4	1.5	1.8	1.5	
	Southwest (1102)	15.0	15.3	15.3	15.2	14.9	15.2	15.1	15.1	2.0	1.8	1.9	1.9	

Table 17 : Age at Menarche by Current Age of Woman and by Various Subgroups () Estimates based on less than 30 cases

Subgroup (N of Cases) Age Woman at Time of Interview	MEDIAN				TRIMEAN				H-SPREAD			
	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ag
<u>Type of Place of Residence</u>												
- Rural (7527)	14.7	14.5	14.9	14.7	14.6	14.4	14.8	14.6	2.2	2.4	2.3	2.3
- Urban (1426)	14.6	14.8	15.0	14.8	14.6	14.8	14.8	14.7	1.9	2.1	2.1	2.0
- Large Urban (776)	14.7	15.0	15.0	14.9	14.7	14.8	14.9	14.8	2.3	2.2	2.0	2.2
<u>Literacy Status of Woman</u>												
- Can Read (2903)	14.9	15.0	15.3	15.0	14.9	14.9	15.2	14.9	1.8	2.1	1.9	1.9
- Cannot Read (6826)	14.4	14.5	14.8	14.6	14.3	14.4	14.7	14.5	2.4	2.4	2.3	2.4
<u>Literacy Status of Partner</u>												
- Can Read (3203)	14.5	14.8	15.0	14.7	14.4	14.7	14.9	14.6	2.3	2.3	2.3	2.3
- Cannot Read (4917)	14.2	14.4	14.8	14.5	14.2	14.4	14.8	14.5	2.3	2.3	2.2	2.3
- No Partner (1609)	15.1	16.0	(15.0)	15.1	15.1	0.0	(14.9)	15.1	1.7	0.0	(2.4)	1.7
<u>Religion</u>												
- Catholic (1648)	15.0	14.8	15.2	15.0	15.0	14.8	15.1	15.0	1.7	1.9	1.7	1.7
- Protestant (1194)	14.7	14.8	15.1	14.8	14.7	14.6	15.0	14.8	2.2	2.3	2.1	2.2
- Other Christian (1523)	14.8	14.7	15.2	14.9	14.8	14.5	14.9	14.7	2.0	2.8	2.6	2.4
- Moslem (4427)	14.3	14.4	14.5	14.4	14.3	14.4	14.5	14.4	2.3	2.3	2.2	2.3
- Traditional (570)	14.7	14.9	15.2	14.9	14.7	14.8	15.2	14.9	2.0	2.2	2.1	2.1
<u>Years of Education of Woman</u>												
- 0 yrs (6599)	14.3	14.5	14.8	14.5	14.3	14.4	14.7	14.5	2.4	2.3	2.3	2.4
- 1-4 yrs (752)	14.9	14.8	15.2	14.9	14.8	14.7	15.0	14.8	2.2	2.6	2.1	2.3
- 5-7 yrs (1222)	15.0	15.0	(15.5)	15.1	14.9	14.9	(15.5)	15.0	1.9	2.3	(1.4)	1.9
- 8+ yrs (1156)	14.9	15.2	15.5	15.0	14.9	15.2	15.4	15.0	1.6	1.6	2.4	1.6
<u>Region of Residence</u>												
- Northeast (2343)	13.9	14.0	13.9	13.9	13.9	14.1	14.0	14.0	2.3	2.5	2.3	2.4
- Northwest (2221)	14.5	14.5	14.6	14.5	14.5	14.5	14.6	14.5	2.1	2.1	1.8	2.0
- Southeast (3139)	15.0	14.9	15.4	15.1	15.0	14.8	15.3	15.0	1.7	2.2	2.1	1.8
- Southwest (2027)	14.9	15.0	15.2	15.1	14.8	14.9	15.1	14.9	2.1	2.1	2.0	2.1
<u>Years of Education of Partner</u>												
- 0 yrs (4058)	14.1	14.4	14.9	14.5	14.0	14.4	14.8	14.5	2.3	2.4	2.3	2.4
- 1-4 yrs (509)	14.3	14.8	15.2	14.8	14.3	14.6	15.0	14.7	2.7	2.7	1.9	2.4
- 5-7 yrs (1168)	14.6	14.9	15.2	14.9	14.5	14.6	15.0	14.7	2.4	2.3	2.4	2.4
- 8+ yrs (756)	14.7	15.0	15.2	15.0	14.7	15.0	15.0	14.9	2.1	1.9	2.4	2.1
<u>Last Work Status of Woman</u>												
- Family Farm (2349)	14.2	14.5	15.2	14.7	14.2	14.4	15.1	14.6	2.8	2.3	2.3	2.4
- Family Employed (146)	14.3	14.5	14.7	14.5	14.3	14.4	14.5	14.4	2.4	2.3	2.5	2.4
- Other Paid Cash (644)	15.2	14.9	14.8	15.0	15.1	14.8	14.7	14.9	1.8	2.0	2.5	2.1
- Other Employed (549)	15.0	14.1	14.5	14.6	14.9	14.1	14.4	14.5	2.3	2.9	2.4	2.7
- Self Employed (2634)	14.5	14.7	14.9	14.7	14.4	14.6	14.8	14.6	2.2	2.2	2.1	2.2
- Did Not Work (3407)	14.7	14.6	14.5	14.7	14.7	14.5	14.5	14.6	2.0	2.4	2.3	2.1

Table 18 : Age at Menarche by Current Age of Woman : States.

0.0 Estimation impossible

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
<u>ANAMBRA</u>								
LT 25 YRS	12.8	14.3	15.3	16.0	16.9	15.2	1.8	319
25-34 YRS	12.9	14.2	15.2	16.1	17.7	15.2	1.9	231
GE 35 YRS	13.4	14.7	15.6	16.9	17.9	15.7	2.2	221
ALL AGES	13.0	14.3	15.4	16.3	17.6	15.4	2.0	770
<u>BAUCHI</u>								
LT 25 YRS	12.5	13.7	14.5	15.2	15.9	14.5	1.5	172
25-34 YRS	12.4	13.8	15.0	15.7	16.3	14.9	1.8	138
GE 35 YRS	12.4	13.6	14.6	15.4	16.0	14.5	1.9	71
ALL AGES	12.5	13.7	14.7	15.5	16.0	14.6	1.7	380
<u>BENDEL</u>								
LT 25 YRS	12.7	13.7	14.7	15.6	16.4	14.7	2.0	143
25-34 YRS	12.6	13.5	14.7	15.6	16.2	14.6	2.0	93
GE 35 YRS	12.5	13.3	14.6	15.6	16.3	14.5	2.3	68
ALL AGES	12.6	13.5	14.7	15.6	16.3	14.6	2.1	303
<u>BENUE</u>								
LT 25 YRS	12.3	12.8	13.6	14.7	15.5	13.7	1.9	122
25-34 YRS	12.2	12.7	13.6	14.9	15.7	13.7	2.2	125
GE 35 YRS	12.3	12.9	13.5	14.5	15.6	13.6	1.7	104
ALL AGES	12.3	12.8	13.6	14.7	15.6	13.7	1.9	351
<u>BORNO</u>								
LT 25 YRS	12.6	13.3	14.3	16.2	0.0	14.5	2.9	256
25-34 YRS	13.0	13.4	13.9	15.3	16.8	14.1	1.9	248
GE 35 YRS	12.5	13.1	13.8	15.0	15.9	13.9	1.9	217
ALL AGES	12.6	13.3	14.0	15.4	17.4	14.2	2.1	721
<u>CROSS-RIVER</u>								
LT 25 YRS	12.3	13.4	14.6	15.7	16.9	14.5	2.3	251
25-34 YRS	11.9	12.5	13.5	15.3	16.5	13.7	2.8	217
GE 35 YRS	12.1	12.5	13.5	15.4	16.0	13.7	2.8	160
ALL AGES	12.1	12.7	14.1	15.5	16.7	14.1	2.8	628
<u>GONGOLA</u>								
LT 25 YRS	10.9	11.6	12.5	13.6	14.8	12.6	2.0	211
25-34 YRS	11.2	12.1	13.3	15.0	16.3	13.4	2.9	272
GE 35 YRS	11.7	12.4	13.5	15.0	15.9	13.6	2.6	164
ALL AGES	11.2	12.0	13.0	14.6	15.8	13.1	2.5	648
<u>IMO</u>								
LT 25 YRS	13.3	14.2	15.0	15.6	16.0	15.0	1.4	654
25-34 YRS	13.2	14.3	15.1	15.7	16.6	15.0	1.5	363
GE 35 YRS	13.8	14.7	15.5	16.2	17.9	15.5	1.5	382
ALL AGES	13.4	14.3	15.1	15.8	16.7	15.1	1.5	1399
<u>KADUNA</u>								
LT 25 YRS	12.0	13.3	14.4	15.5	16.6	14.4	2.3	197
25-34 YRS	12.1	13.1	14.4	15.4	16.5	14.3	2.3	247
GE 35 YRS	12.4	13.4	14.4	15.4	16.2	14.4	2.0	157
ALL AGES	12.2	13.3	14.1	15.5	16.5	14.4	2.2	601
<u>KANO</u>								
LT 25 YRS	12.2	13.1	14.2	15.3	16.4	14.2	2.2	383
25-34 YRS	12.2	12.9	14.2	15.2	16.0	14.1	2.3	323
GE 35 YRS	12.4	13.2	14.3	15.0	16.1	14.2	1.8	199
ALL AGES	12.2	13.1	14.2	15.2	16.2	14.2	2.1	904

Table 18 : Continued.

0.0 Estimation impossible

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
<u>KWARA</u>								
LT 25 YRS	12.2	13.1	14.3	15.0	15.8	14.2	2.0	121
25-34 YRS	12.2	13.3	14.8	15.5	15.9	14.6	2.2	110
GE 35 YRS	12.3	13.4	15.1	15.6	15.9	14.8	2.2	78
ALL AGES	12.3	13.3	14.6	15.5	15.9	14.5	2.2	309
<u>LAGOS</u>								
LT 25 YRS	12.8	14.1	15.3	15.9	16.9	15.1	1.8	166
25-34 YRS	12.4	14.3	15.4	16.2	17.4	15.3	1.9	113
GE 35 YRS	13.0	14.1	15.4	16.6	18.3	15.4	2.5	105
ALL AGES	12.8	14.2	15.3	16.1	17.6	15.2	1.9	385
<u>NIGER</u>								
LT 25 YRS	12.7	13.6	14.4	14.9	15.9	14.3	1.3	69
25-34 YRS	13.0	13.5	14.4	15.4	15.9	14.4	1.8	135
GE 35 YRS	13.6	14.2	14.7	15.4	16.0	14.8	1.2	83
ALL AGES	13.0	13.8	14.5	15.3	15.9	14.5	1.5	287
<u>OGUN</u>								
LT 25 YRS	12.3	13.5	15.1	15.9	17.4	14.9	2.4	110
25-34 YRS	12.3	13.0	14.9	15.9	17.4	14.7	2.9	44
GE 35 YRS	12.5	13.5	15.2	15.7	16.6	14.9	2.2	82
ALL AGES	12.4	13.4	15.1	15.8	17.3	14.9	2.4	235
<u>ONDO</u>								
LT 25 YRS	12.7	13.6	14.6	15.5	16.8	14.6	1.9	117
25-34 YRS	12.7	14.1	15.0	15.9	18.4	15.0	1.7	158
GE 35 YRS	13.4	14.3	15.2	15.8	17.1	15.1	1.4	114
ALL AGES	12.9	14.1	14.9	15.8	17.4	14.9	1.7	389
<u>OYO</u>								
LT 25 YRS	13.0	14.3	15.5	16.4	18.0	15.4	2.1	126
25-34 YRS	12.4	13.4	15.2	16.0	17.7	14.9	2.5	134
GE 35 YRS	12.4	14.3	15.4	16.4	18.4	15.4	2.1	146
ALL AGES	12.5	14.0	15.4	16.3	18.0	15.2	2.3	406
<u>PLATEAU</u>								
LT 25 YRS	11.7	13.0	14.3	15.6	16.7	14.3	2.5	90
25-34 YRS	12.4	13.4	14.8	16.0	17.4	14.8	2.6	99
GE 35 YRS	13.0	14.1	15.6	17.0	18.6	15.6	2.9	54
ALL AGES	12.3	13.4	14.8	16.0	17.5	14.8	2.7	242
<u>RIVERS</u>								
LT 25 YRS	12.2	13.6	14.9	16.3	17.1	14.9	2.7	144
25-34 YRS	11.3	13.2	14.6	15.9	17.2	14.6	2.6	105
GE 35 YRS	12.6	14.1	15.3	17.5	18.9	15.6	3.4	93
ALL AGES	12.1	13.6	14.9	16.4	17.7	14.9	2.8	342
<u>SOKOTO</u>								
LT 25 YRS	13.7	14.5	15.2	15.8	17.0	15.2	1.3	160
25-34 YRS	13.7	14.4	15.2	15.9	16.8	15.2	1.5	159
GE 35 YRS	13.6	14.4	15.2	15.9	16.7	15.2	1.5	109
ALL AGES	13.7	14.4	15.2	15.9	16.8	15.2	1.4	429
<u>NIGERIA</u>								
LT 25 YRS	12.4	13.5	14.7	15.6	16.6	14.6	2.2	3811
25-34 YRS	12.3	13.3	14.6	15.6	16.7	14.5	2.3	3313
GE 35 YRS	12.5	13.6	14.9	15.8	17.2	14.8	2.2	2605
ALL AGES	12.4	13.4	14.7	15.7	16.8	14.6	2.3	9729

the rate of development and biological maturity of women and reduce their fecundity problems (Jain, 1969). It is therefore reasonable to expect age at menarche to be inversely related to modernization indices. Contrary to this expectation, not only women with, but also areas characterized by, higher degrees of modernization have higher, rather than lower, ages at menarche in the few instances where differences do occur. Thus, women without education are reported to precede educated women by six months on average in attaining puberty; moslem girls become sexually mature seven months before their catholic counterparts while women in the northeast are reported to reach menarche one full year earlier than women in the southeast on average.

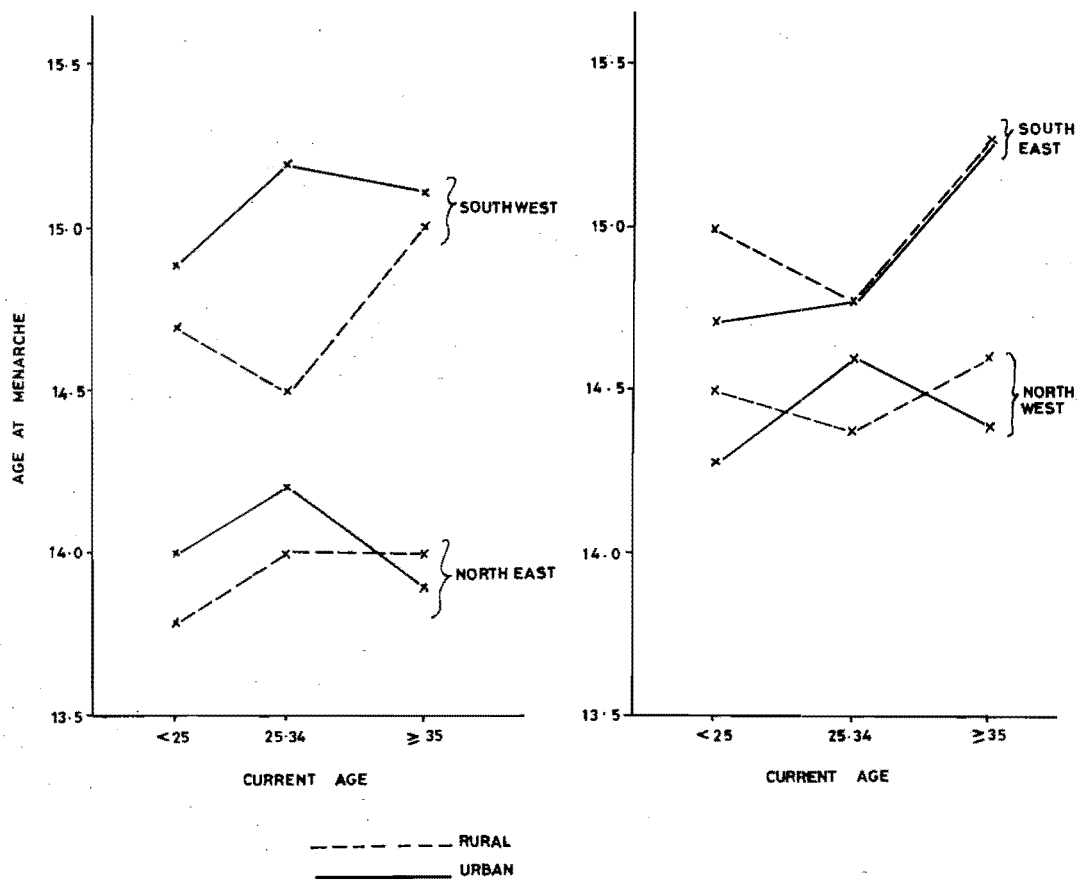
Moreover, in every age group, average age at menarche is generally later among the literate women and women married to literate husbands. In the youngest age category, illiterate women are reported to reach menarche seven months before literate women. Among the other age groups, literate and illiterate women's reported average ages at menarche are within six months of each other. The same trend is observable when the more discriminatory years of education are examined. Women with eight or more years of education reach menarche several months later than women with no education. This pattern is true for all age cohorts, with the middle age cohort recording the highest difference of ten months between the highest educated and the no education group. The youngest age cohort records the lowest difference of seven months. Furthermore, within each educational category, the oldest women always record the highest, and the youngest always the lowest, age at menarche.

The apparent lack of association between menarche and modernization is reinforced by the results of spatial analysis at two levels: place and region of residence and state. In Figure 8, the lower ages at which rural and urban women in the north are reported to reach menarche are clearly brought into sharp focus. Both the urban-rural differentials, measured by the distance between each pair of lines and the pattern of change in age at menarche over time, measured by the slopes of each pair of lines are very dissimilar among the regions. In the southwest, where the largest urban-rural differentials occur, urban women of all ages reach puberty later than rural women. The other regions do not produce such a clear-cut pattern.

The pattern at the lowest areal level is shown in Figure 9. The extreme ages are located in Gongola and Anambra states, with the former reporting a pattern of relatively early, and the latter relatively late, age at menarche. (It may be recalled that while the mean number of years of formal education is only 0.5 in Gongola state, it is 2.4 in Anambra). In general, the country can be divided into three broad zones of low, medium and high age at menarche. The first, with mean ages less than 14.5 years runs in a southwest-northeast direction, covering the eastern boarderlands, and spreading westwards into Kano and Kaduna states. Except the Cross-river state, this zone coincides with the savanna belt where cattle is raised. Even in the Cross-River state, there is the important Obudu ranch. In addition, density of population in this zone is low, except in Kano and Cross-River states.

The second zone, where mean ages fall between 14.5 and 14.9 years, occupies the middle belt as well as the southern states of Ogun, Ondo, Bendel and Rivers. While the middle belt falls within the derived savana belt, the other states in the zone are either wholly or partly in the forest belt.

Fig. 8. TRIMEAN AGE AT MENARCHE: PLACE AND REGION OF RESIDENCE



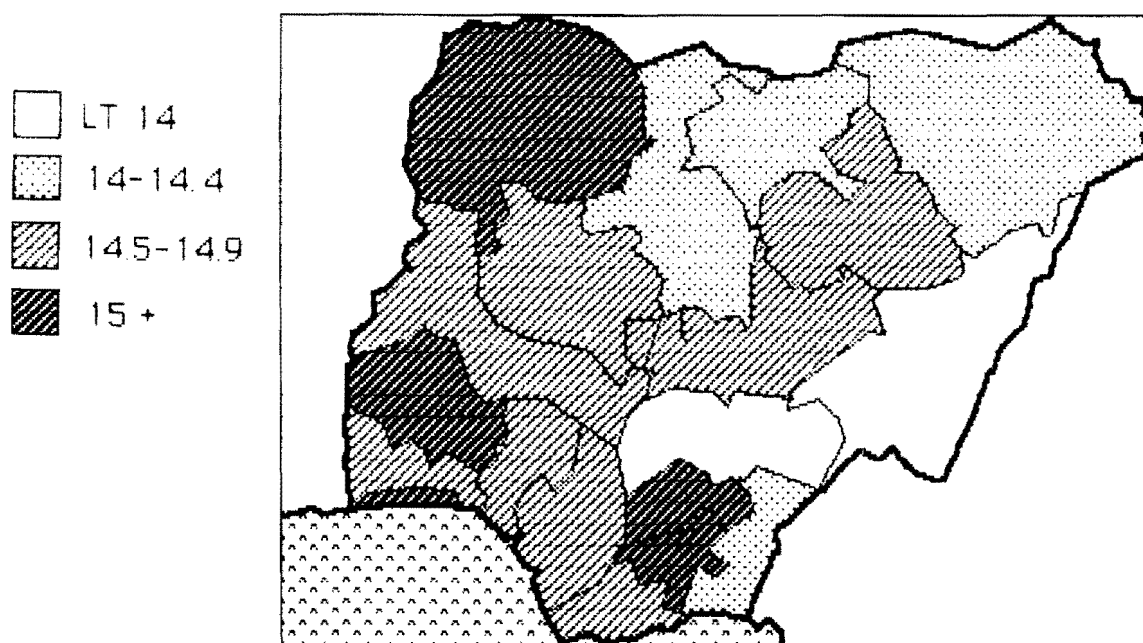


FIGURE 9 : AGE AT MENARCHE

The third zone is located mainly in the forested southern part of the country with an outlier in the northwest savana state of Sokoto. In this zone, age at menarche is late. Except Sokoto, population density is very high and the level of development is higher than in any other part of the country.

From this analysis it is tempting to infer that age at menarche is a function of the environment as much as it is of modernization. Early age at menarche is associated with the savana belt and a few coastal states where either cattle products or fish are important items of diet and, more important, where low density may contribute positively to health and growth. The precise causal sequence of this relationship is not known unambiguously. It requires far better data and significantly larger differences among variable categories to establish the link between menarche and environment. The stubborn persistence with which women of all ages in various subgroups do not fit into the modernization theory shows either that the theory needs a re-examination (with the possibility of overriding factors) or, more likely, that the data are not sufficiently trustworthy.

2.2.2 Age at first marriage

Marriage is one of the social institutions in which traditional norms have, with varying degrees, been resistant to changes in socio-economic conditions in the country. Where socio-economic progress has advanced, the traditional norms have been eroded. In a large section of the country, however, particularly in the rural and remote areas, they still persist in varying degrees of intensity. An understanding of some of the salient cultural norms critical to age at entry into sexual union and to premarital behaviour is necessary before presenting the results of the analysis.

The first issue is the concept of marriage. In traditional Nigerian society, marriage was an alliance between two kin groups. It was an act affecting many more than those being married. The relationship remained effective beyond the life-time of the individuals for whom the union was contracted. The parties involved were committed to the basic principles of marriage, one of which required that the girl be delivered as a virgin. With virtually no effective contraceptive methods available, pregnancy could be avoided only by self restraint on the part of the woman and by separation of the sexes. The bride's family, particularly her mother, was the guarantor of the self-restraint. This task was carried out by exhortation and strict supervision of the girl. As the girl approached menarche, however, the prospect of her being seduced and the problem of physically separating her from the opposite sex increased. In order not to provoke temptation and in order to prevent amorous contact that could result in unwanted conception, the girl was married off immediately she attained puberty. This step meant the loss of the service of the girl, and her contribution to the income of the family; but in the context of the social obligation of the family, the step was expedient for the preservation of communal harmony. In such a situation, marriage was early and the incidence of pre-marital pregnancies was reduced to the minimum.

The second element (indeed, an institution) is the payment of bridewealth. For an old man marrying his second or higher order wife, the payment might not be burdensome as he would have been financially strong before contemplating taking an additional wife. For a young man, the

burden was lightened by societal arrangements. The bridewealth was paid, not by the young groom, but by his parents and/or his extended family. The latter also provided all the support needed by the groom to start a family. Such an arrangement followed logically from the economic organization of the family. A child was not economically independent until after marriage. Indeed, several years after marriage, the couple might not be totally independent because they continued living in the family house and hardly formed an independent social unit. In such a situation, economic viability was not a necessary precondition for marriage and age at marriage was early.

It should be expected that since the context in which these norms/institutions prevailed were changing, the mechanism and the methods for handling them should also be changing. The colonial economic system marks the beginning of the change. Two features brought by the new system are relevant to age at marriage: monetization of the economy and the creation of employment outside the traditional home.

In order to run the colonial administration, tax was introduced. The tax had to be paid in the currency introduced by the British, not in the local currency. In addition to the tax, which was compulsory for adult males, payment in British-introduced currency was also required for the purchase of newly introduced imported consumer goods and for the payment of school fees. Where export (cash) crops were grown, the acquisition of cash to meet these needs was relatively easy. In some areas such as the middle belt, there was little by way of exportable crops. In other areas, particularly, northern Nigeria, transportation costs reduced the income from export crops and increased the price of imported consumer goods. In such areas, a proportion of that part of the bridewealth which used to be demanded in kind was commuted to cash. The additional cash was obtained by men offering their labour for cash in the booming export - crop economy of the south.

The export crops introduced into the south were both labour and land intensive. The labour situation was aggravated by the attendance of children in school. Fortunately, migrants from other parts of the country provided the labour required on the farm. But the hire of labour, together with the need to purchase new implements and insecticides, implied that some capital was now required to start or expand a farm. The new crops, being perennials, transformed land tenure from communal ownership to individual ownership. The change not only gave value to land, but also created land scarcity especially in densely settled areas such as eastern Nigeria. A pool of work-seekers was created and these people had to migrate to more prosperous regions of the country. Work was available for them either on farms as labourers or as tenant farmers, or on the railway or at other construction projects being undertaken by the government.

The ranks of people working outside their home grew as the products of missionary and government schools took up appointments in the expanding colonial administration, the missionary teaching service and the various commercial companies. Going pari passu with this development was the rise of self-employed artisans, who provided services for the emergent wage earners, and traders engaged in the distributive trade. As industrialization set in and urbanization grew, the ranks of each of these groups swelled.

The effects of this break with the traditional economy on the marriage process were tremendous. The new jobs, whether wage earning or

artisanal, required a longer process of learning, during which time the young adults involved could not marry. Furthermore, the removal of the place of work from the immediate home environment meant that children were free not only from the close supervision of their parents and the traditional mores regulating their amorous behaviour but also to choose their own partners. The corporate involvement of families in marriage was consequently redefined. It became only a matter of courtesy for families to know each other and perform such remaining traditional rites as delivery and receipt of the bride-wealth. The former obligation of delivering a girl as a virgin on the marriage day naturally lapsed and control over young men and women was relaxed.

The involvement of the young couple in marriage was not limited to the choice of partners. It was extended to financial obligations. The young man was expected to contribute to the payment of the bridewealth at a time when the payment demanded was increasing. The increase was due not only to the commutation of service (which could not be performed because the young man was no longer residing at home) to cash but also the basing of bridewealth on the amount invested on the girl, particularly on her education. In addition, the young couple now required a separate home, be it a room or a flat, and some possessions before marriage. A separate home, of course, gives rise to a nuclear household. That the nuclear household is gradually becoming a feature of Nigerian society is underscored by the distribution of household types in the NFS data. The data reveal that although the extended household still constitute 24% of all households in the sample, the nuclear one is gradually becoming more prominent, accounting for 56%.

In order to be able to fulfill their own financial obligations, young wage earners, who had probably spent several years in school, had to spend more years accumulating savings for their marriage project. The self-employed artisans and farmers had to accumulate enough savings to procure tools and implements needed for their trade before saving for marriage. All these developments caused delays in marriage for men. With the accelerated growth of employment outside family-related business in modern times, a larger section of the population joined the ranks of the wage-earners and self-employed group who had to acquire some possessions before establishing a household and for whom more tardy marriage developed.

It should therefore be expected that where the norm of virginity and the institution of bridewealth - exist in their pure form, the classic marriage pattern would predominate. Such areas will be the most isolated and traditionalist parts of the country. It is possible that a few remote parts of the country fall in this category. On the other hand, where the growth of wage-earning and artisan classes weakened the norms, there would be ample ground for postponing marriage and a new marriage pattern in which age at marriage would be high would come into existence. As the job market becomes tighter, the period of delays becomes longer. This situation will not be restricted to the urban areas of the country only.

Demographic measurements of nuptiality are obtained by three different methods. The first group of indices, estimated from life tables, are given in Tables 19 to 23 and in Figures 10 and 11. The second group of measures consists of proportions getting married at given ages: these are presented in Tables 24 and 25. Although the estimates from the two methods cover the whole sample, they are made less reliable by the inclusion of information provided by older women who systematically inflate their age at marriage. A third class of indicators, which avoids the problem of older

women by excluding them, is therefore employed to verify the results obtained by the first two methods. The third group of indices consists of the classical marital status data on proportions single among women aged 15-19 and 20-24. The indicators have two additional advantages. They measure the behaviour of the most recent cohorts of women and they are closely related to the Singulate Mean Age at Marriage (SMAM) to which demographers are accustomed. These indicators will be found in Table 26 to 28 and in Figure 12.

We have calculated SMAM not only for the date of interview (1982) but also (by projecting the population backward) for 5-year earlier (1977) and the difference between the two. However, because of the sensitivity and inadequacy of SMAM as a nuptiality measure in a situation where age of marriage is changing, fictitious cohort SMAM's are also presented. These represent the central tendency of the age pattern of marriage during the period 1977 and 1982 and utilize the characteristics of both the 1977 and the 1982 estimates. The 1977 estimates were obtained from proportions of women single and ever-married five years prior to the survey, assuming no change in the proportion ever married at ages 45-54.

In presenting the results, the various groups of tables are not treated as a water-tight compartments. Tables and figures from one group are freely used in discussing results of another group of measures if such illustrations throw more light on the issues.

We start our discussion with life-table estimates beginning with Table 19 and Figure 10. The table gives the proportion ever married by exact single years of age for five-year birth cohorts. The figures in the table underscore, once again, the poor quality of information given by the older women. Examining the figures for all the women including the older women, we find a trend towards early marriage. Thus, the proportion ever-married before reaching age 25 had increased from 92% among women currently in their 40's to 96% among women currently at ages 25-29.

However, if we restrict ourselves to women below 35 years old, a completely different picture emerges. Then, there is a clear trend towards later marriage, and a concomitant tendency for first marriage to become spread over a wider age range, as evidenced by the substantial decreases in the proportions of young marriages (Fig. 10). Although the proportion ever-married before reaching age 24 has decreased only slightly from 96% among women aged 30-34 to 93% among women in the age group 20-24, the proportions decline more rapidly for those marrying before younger ages. Thus, there is a 7 per cent point difference between the proportion of women in the age group 30-34 and those in the age group 20-24 marrying before reaching age 20.

The decline in teenage marriage is sharp. The proportion of women ever-married by age 18 was 78 per cent among the cohort currently aged 30-34. This proportion declined gradually with every succeeding cohort until it reached 55% among women currently aged 15-19. Early marriages have also declined. About 36% of the women 30-34 years old had entered first marriage before reaching age 14, whereas the figure was 22% for the age group 15-19.

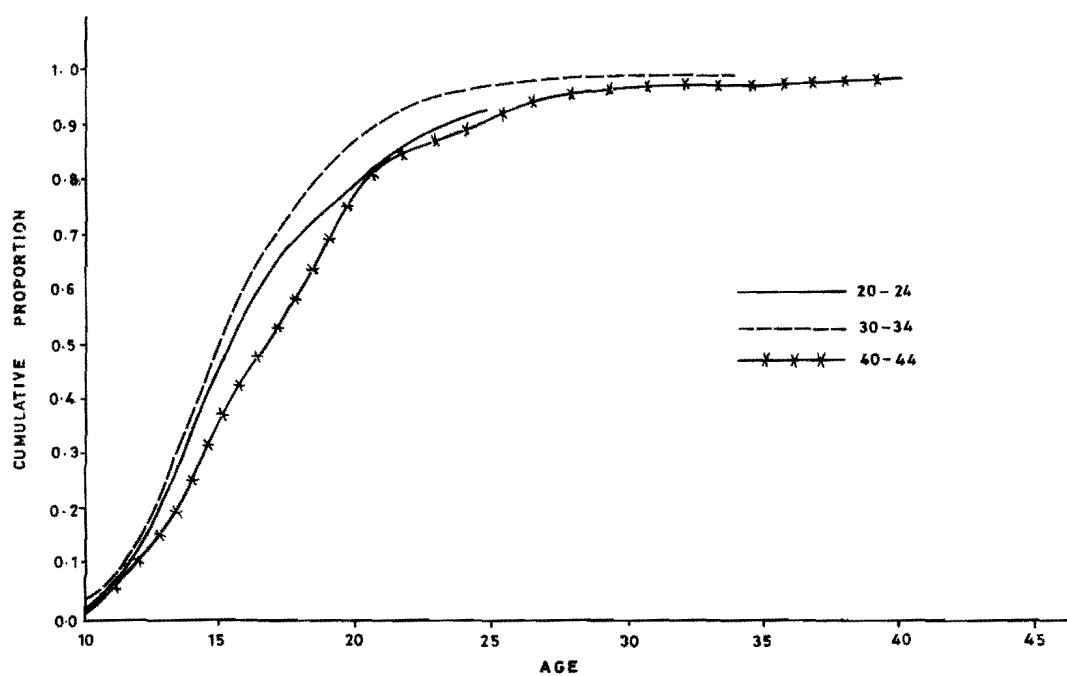
The decline in the proportion ever married at the young ages reflects changes taking place in the age pattern of first marriage. These changes expand the effective nuptiality span into a wider age range. This phenomenon is shown in Table 19 and Figure 11 both of which illustrate the

Table 19 : Age at First Marriage by Current Age of Woman : Nigeria

0.0 Estimation impossible.

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
15-19	13.3	15.3	18.4	0.0	0.0	0.0	0.0	2101
20-24	12.6	14.2	16.2	19.8	23.5	16.6	5.6	1710
25-29	12.3	14.0	16.0	18.9	22.9	16.2	4.9	1766
30-34	12.2	14.2	16.0	18.7	21.5	16.6	4.5	1547
35-39	12.6	14.3	16.2	19.3	22.1	16.5	5.0	1110
40-44	13.1	15.1	17.7	20.6	25.1	17.8	5.5	904
45+	13.2	14.7	17.4	20.8	25.0	17.5	6.1	591
ALL AGES	12.7	14.4	16.7	19.9	23.5	16.9	5.5	9729

Fig 10 CUMULATIVE PROPORTION EVER MARRIED AT SINGLE YEAR AGES
BY CURRENT AGE GROUP (WHOLE COUNTRY)



trends in the ages at which certain proportions of successive birth cohorts were married. The first column of the table shows that the first decile ranges from 12.2 to 13.2. If this decile is used as a measure of early marriage, then marriage of Nigerian women precedes (or follows closely after) puberty. Among the youngest cohorts (women aged 15-19), marriage came at slightly later ages than among the older cohorts. Indeed, judging by the medians and trimean ages (Fig. 11), it appears that marriage ages have been rising among only the youngest four age cohorts. This feature probably reflects the significant changes in the country during the decade of the 1970's. This was the period of the oil boom when the country experienced substantial economic growth rate and unprecedented industrialization. The effect is reflected in the high age at marriage of 20-24 group who reached the prime marriage age between 1973 and 1978. Of course, it is likely that marriage ages have also been rising for all cohorts but the rise across all the cohorts has been severely distorted by reporting errors in the oldest cohorts.

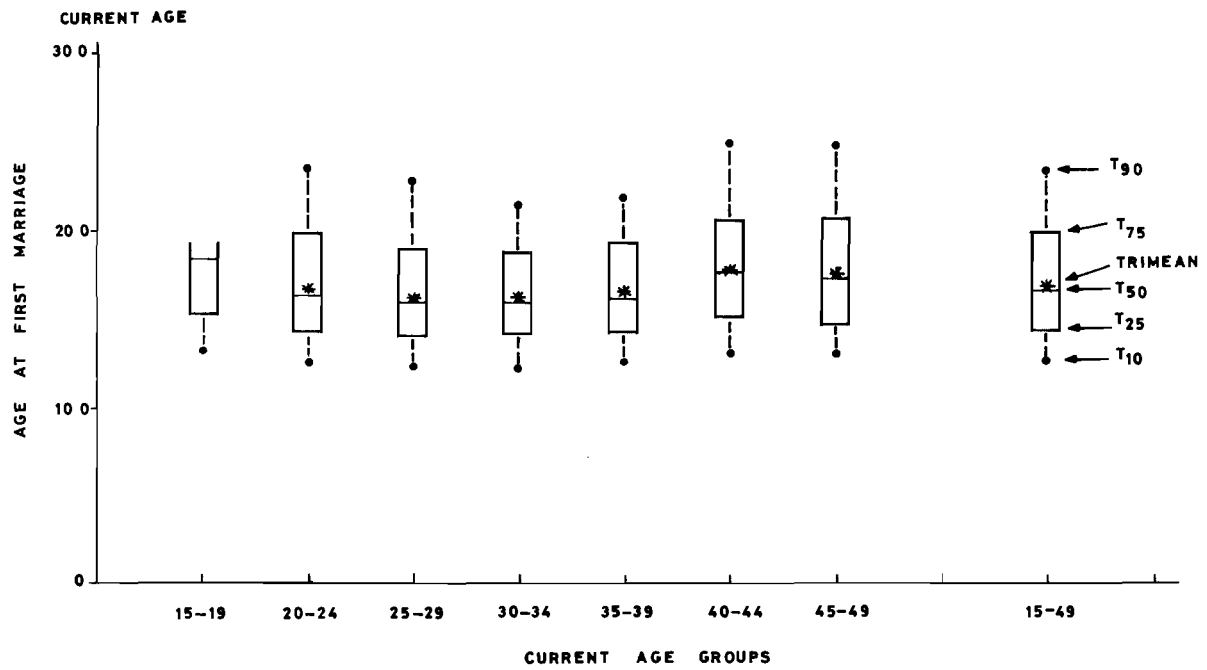
The narrow differentials between the youngest and oldest age at marriage displayed in the tenth percentile ages widen as the proportions of women getting married increase. The largest difference of 4.5 years is found at the age by which 90 per cent of women enter marriage. A quarter of the women in most of the age groups (20-39) were married at between 14.0 and 14.3 compared with 15.3% for the youngest age-group. Only in the 30-34 age cohort did 90 per cent of the women report getting married by about age 21. Among all cohorts, women in the 30-34 (and to a less extent, the 35-39) age group report their marriage over an exceptional narrow range of ages with only 9.3 years separating the 10th percentage point from the 90th percentage point. Marriage ages in other age groups were not as concentrated.

The areal patterns are shown in Table 20. Although at the national level, the age at which 10 per cent of women married was 12.7, the ages for the states range from 10.6 in Cross-River and Bauchi to 17.3 in Imo. In three states, Borno, Kaduna and Kano, the first decile precedes the first decile for puberty among all the age groups. Figures 12 and 13 bring into sharp relief the areal differentials in marriage patterns. The former map is based on all women whereas the latter is based on the youngest women. Although the number of women in the latter is substantially reduced (and sample error thus increased) the two maps are remarkably similar. There are cases of states crossing a classificatory boundary but these are few and they are not dramatic - they are confined to adjacent categories.

The sharp contrast between the early marriage patterns of the northern and the late marriage patterns of the southern parts of the country immediately becomes obvious from the maps. In particular, the gradient of the trimean ages at first marriage increases in a northeast-southwest direction from Borno (in the northeast) to Lagos (in the southwest). The pattern derives for the most part from several characteristics.

First, there is the biological factor. The pattern is similar to, though more marked than, the distribution of age at menarche. Since age at menarche is slightly higher in the south, it would follow that ages at marriage are also be slightly higher there. However, we are likely to face a case of reverse causation: with higher ages at marriage, southern women are also prone to report higher ages at menarche. And this may well be the main reason why the classic nutrition theory in accounting for ages

Fig.11: AGE AT FIRST MARRIAGE BY CURRENT AGE



0.0 Estimation impossible

[illegible]

Table 21: Age at First Marriage by Current Age of Woman, Region & Place of Residence

0.0 Estimation impossible

() Estimates based on less than 30 cases

Subgroup	MEDIAN				TRIMEAN				H-SPREAD				
(N of Cases)	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>													
Rural (1947)		15.3	15.4	15.8	15.5	15.3	15.6	16.1	15.6	3.5	4.3	5.4	4.3
Urban (396)		14.7	15.3	15.2	15.1	14.7	15.5	15.0	15.1	3.4	4.4	3.9	3.7
<u>Northwest</u>													
Rural (1875)		14.9	14.9	15.3	15.0	14.8	14.8	15.3	14.9	2.8	2.8	3.4	3.0
Urban (345)		13.9	13.9	14.4	14.0	13.9	13.9	14.4	14.1	2.7	2.9	3.1	2.9
<u>Southeast</u>													
Rural (2781)		20.4	16.9	17.4	18.1	0.0	17.0	17.5	18.2	0.0	5.0	4.8	5.6
Urban (358)		22.0	17.4	18.9	20.4	21.5	18.2	19.2	20.7	4.9	7.1	4.6	7.7
<u>Southwest</u>													
Rural (924)		19.0	17.9	19.7	18.9	19.0	17.8	19.5	18.8	4.6	4.9	4.9	4.9
Urban (1102)		20.0	19.7	20.0	20.0	20.0	19.6	19.8	19.9	4.6	6.0	4.9	5.1
<u>Rural</u>													
Northeast (1947)		15.3	15.4	15.8	15.5	15.3	15.6	16.1	15.6	3.5	4.3	5.4	4.3
Northwest (1875)		14.9	14.9	15.3	15.0	14.8	14.8	15.3	14.9	2.8	2.8	3.4	3.0
Southeast (2781)		20.4	16.9	17.4	18.1	0.0	17.0	17.5	18.2	0.0	5.0	4.8	5.6
Southwest (924)		19.0	17.9	19.7	18.9	19.0	17.8	19.5	18.8	4.6	4.9	4.9	4.9
<u>Urban</u>													
Northeast (396)		14.7	15.3	15.2	15.1	14.7	15.5	15.0	15.1	3.4	4.4	3.9	3.7
Northwest (345)		13.9	13.9	14.4	14.0	13.9	13.9	14.4	14.1	2.7	2.9	3.1	2.9
Southeast (358)		22.0	17.4	18.9	20.4	21.5	18.2	19.2	20.7	4.9	7.1	4.6	7.7
Southwest (1102)		20.0	19.7	20.0	20.0	20.0	19.6	19.8	19.9	4.6	6.0	4.9	5.1

Table 22 : Age at First Marriage by Current Age of Woman and by Various Subgroups

Subgroup	MEDIAN				TRIMEAN				H-SPREAD				
(N of Cases)	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Age
<u>Type of Place of Residence</u>													
- Rural (7527)		16.8	15.8	16.7	16.4	17.1	16.0	16.9	16.6	5.8	4.3	5.3	5.0
- Urban (1426)		19.1	16.5	18.2	18.1	19.0	17.0	18.2	18.2	6.6	6.6	5.5	6.4
- Large Urban (776)		18.0	17.4	17.9	17.8	18.0	17.6	17.8	17.8	6.2	5.9	7.7	6.6
<u>Literacy Status of Woman</u>													
- Can Read (2903)		20.8	18.3	19.2	19.9	20.8	18.5	19.2	20.0	6.2	6.1	6.0	6.5
- Cannot Read (6826)		15.3	15.5	16.6	15.7	15.3	15.7	16.9	15.9	3.5	4.2	5.3	4.5
<u>Literacy Status of Partner</u>													
- Can Read (3203)		15.9	16.8	17.0	16.5	16.0	17.0	17.4	16.7	3.9	5.6	5.6	5.0
- Cannot Read (4917)		14.8	15.5	16.8	15.6	14.7	15.7	17.0	15.8	2.8	4.1	5.3	4.3
<u>Religion</u>													
- Catholic (1648)		20.8	17.5	17.7	18.7	0.0	17.7	17.6	18.9	0.0	5.4	4.7	6.1
- Protestant (1194)		20.0	17.6	18.9	18.8	19.9	17.7	18.8	18.8	6.2	5.6	5.0	5.5
- Other Christian (1523)		19.6	17.3	18.3	18.4	19.5	17.5	18.2	18.5	5.4	5.8	6.2	5.9
- Moslem (4427)		15.1	15.1	15.7	15.3	15.2	15.2	16.0	15.4	3.7	3.8	5.2	4.1
- Traditional (570)		16.0	16.3	17.3	16.5	16.0	16.4	17.4	16.7	2.6	3.7	4.1	3.4
<u>Years of Education of Woman</u>													
- 0 yrs (6599)		15.1	15.5	16.6	15.6	15.1	15.7	16.8	15.8	3.4	4.2	5.3	4.4
- 1-4 yrs (752)		17.0	16.8	18.8	17.3	17.3	17.2	18.7	17.5	5.1	5.5	5.2	5.5
- 5-7 yrs (1222)		18.8	18.3	19.4	18.7	18.9	18.4	19.5	18.8	4.4	4.8	5.9	4.8
- 8+ yrs (1156)		23.8	21.4	23.5	23.3	0.0	21.4	23.3	23.3	0.0	7.6	5.0	5.9
<u>Region of Residence</u>													
- Northeast (2343)		15.2	15.4	15.7	15.4	15.2	15.6	16.0	15.6	3.5	4.3	5.2	4.3
- Northwest (2221)		14.7	14.8	15.1	14.8	14.6	14.7	15.2	14.8	2.8	2.6	3.4	3.0
- Southeast (3139)		20.7	17.0	17.5	16.3	20.8	17.2	17.6	18.5	7.7	5.2	4.9	5.9
- Southwest (2027)		19.6	18.7	19.8	19.4	19.6	18.7	19.6	19.4	4.4	5.5	4.9	5.0
<u>Years of Education of Partner</u>													
- 0 yrs (4058)		14.9	15.7	17.0	15.8	14.9	15.9	17.2	16.1	2.9	4.2	5.2	4.4
- 1-4 yrs (509)		15.9	16.1	17.5	16.4	15.9	16.3	17.5	16.5	3.2	4.3	3.7	4.0
- 5-7 yrs (1168)		16.5	17.5	17.6	17.1	16.6	17.6	17.9	17.3	4.0	5.0	5.8	4.9
- 8+ yrs (756)		16.8	18.7	19.2	17.7	16.8	18.9	19.2	18.0	3.9	6.7	6.3	5.5
<u>Last Work Status of Woman</u>													
- Family Farm (2349)		15.7	16.2	17.5	16.4	15.8	16.3	17.6	16.6	3.3	4.4	5.1	4.4
- Family Employed (146)		17.0	17.3	17.4	17.2	17.4	17.2	17.5	17.4	5.0	3.5	4.3	4.1
- Other Paid Cash (644)		20.4	19.0	18.4	19.4	20.5	19.4	18.3	19.7	6.5	7.5	6.5	7.1
- Other Employed (549)		19.2	15.9	17.7	17.7	19.5	16.3	17.8	17.7	7.1	5.5	5.0	5.3
- Self Employed (2634)		15.5	15.8	16.8	16.0	15.6	16.1	17.1	16.2	3.9	4.4	5.4	4.7
- Did Not Work (3407)		18.9	15.3	15.4	16.9	0.0	15.6	15.9	17.3	0.0	4.5	5.6	6.6

() Estimates based on less than 30 cases

Table 23 : Age at First Marriage by Current Age of Woman and by State

0.0 Estimation impossible.

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
<u>ANAMBRA</u>								
LT 25 YRS	13.6	15.6	18.0	22.5	0.0	18.5	6.9	319
25-34 YRS	13.6	15.0	16.1	18.2	20.7	16.4	3.2	231
GE 35 YRS	14.1	15.6	17.5	20.1	23.9	17.7	4.5	221
ALL AGES	13.8	15.4	17.2	19.9	24.1	17.4	4.6	770
<u>BAUCHI</u>								
LT 25 YRS	12.0	13.0	14.3	15.6	16.8	14.3	2.7	172
25-34 YRS	10.8	12.5	14.4	16.0	18.0	14.3	3.5	138
GE 35 YRS	11.0	13.2	14.6	16.0	18.4	14.6	2.8	71
ALL AGES	11.2	12.9	14.4	15.8	17.6	14.4	2.9	380
<u>BENDEL</u>								
LT 25 YRS	15.3	17.0	19.1	0.0	0.0	0.0	0.0	143
25-34 YRS	13.3	14.8	17.3	19.9	23.7	17.3	5.1	93
GE 35 YRS	13.9	16.3	18.7	21.0	25.1	18.6	4.7	68
ALL AGES	14.0	16.1	18.5	20.9	24.6	18.5	4.8	303
<u>BENUE</u>								
LT 25 YRS	13.1	14.5	16.6	18.2	19.5	16.5	3.7	122
25-34 YRS	12.4	13.5	15.0	17.0	18.8	15.1	3.5	125
GE 35 YRS	13.1	14.4	16.0	18.4	20.6	16.2	4.1	104
ALL AGES	12.7	14.1	15.9	17.8	19.8	15.9	3.7	351
<u>BORNO</u>								
LT 25 YRS	11.7	12.9	14.6	16.5	18.9	14.6	3.5	256
25-34 YRS	11.6	13.1	14.5	16.4	20.7	14.7	3.4	248
GE 35 YRS	11.2	12.7	14.6	17.4	20.8	14.8	4.7	217
ALL AGES	11.5	12.9	14.6	16.7	20.6	14.7	3.8	721
<u>CROSS RIVER</u>								
LT 25 YRS	14.2	16.1	19.5	21.8	23.8	19.2	5.7	251
25-34 YRS	10.6	13.4	16.0	18.9	24.3	16.1	5.4	217
GE 35 YRS	12.2	13.5	15.4	18.9	27.8	15.8	5.4	160
ALL AGES	12.3	14.3	16.9	20.8	27.4	17.2	6.5	628
<u>GONGOLA</u>								
LT 25 YRS	12.5	14.3	15.6	17.4	19.1	15.7	3.1	211
25-34 YRS	12.8	14.9	17.3	19.2	20.9	17.2	4.3	272
GE 35 YRS	13.6	15.1	17.5	20.1	23.6	17.5	5.0	164
ALL AGES	12.9	14.7	16.6	18.9	20.9	16.7	4.2	648
<u>IMO</u>								
LT 25 YRS	17.3	20.2	23.0	0.0	0.0	0.0	0.0	654
25-34 YRS	13.8	15.8	18.6	21.6	25.5	18.6	5.8	363
GE 35 YRS	14.4	15.8	18.3	20.8	24.1	18.3	4.9	382
ALL AGES	15.1	17.2	20.0	23.1	26.7	20.1	5.9	1399
<u>KADUNA</u>								
LT 25 YRS	11.6	13.0	14.5	15.9	18.0	14.5	2.9	197
25-34 YRS	11.4	12.8	14.3	15.7	17.7	14.3	2.9	247
GE 35 YRS	11.7	13.2	14.6	15.8	19.1	14.5	2.6	157
ALL AGES	11.5	12.9	14.4	15.7	17.9	14.4	2.8	601
<u>KANO</u>								
LT 25 YRS	11.5	12.7	14.0	15.3	16.7	14.0	2.7	383
25-34 YRS	11.3	12.7	14.0	15.3	17.1	14.0	2.6	323
GE 35 YRS	12.1	12.8	13.9	15.8	21.8	14.1	3.0	199
ALL AGES	11.6	12.7	14.0	15.4	17.5	14.0	2.7	904

Table 23 : Continued

0.0 Estimation impossible

AGE GROUPS	T10	T25	T50	T75	T90	TRIMEAN	H-SPREAD	N OF CASES
<u>KWARA</u>								
LT 25 YRS	14.4	16.6	18.8	20.9	22.6	18.8	4.3	121
25-34 YRS	14.5	16.0	17.9	20.5	23.4	18.0	4.5	110
GE 35 YRS	14.7	15.6	17.1	20.1	21.2	17.4	4.5	78
ALL AGES	14.6	15.9	17.9	20.5	22.8	18.0	4.6	309
<u>LAGOS</u>								
LT 25 YRS	15.8	17.5	19.7	21.9	23.3	19.7	4.4	166
25-34 YRS	13.8	15.8	19.1	23.8	27.5	19.4	7.9	113
GE 35 YRS	14.1	17.8	21.1	24.3	27.4	21.1	6.5	105
ALL AGES	14.9	17.1	20.1	23.7	26.9	20.3	6.6	385
<u>NIGER</u>								
LT 25 YRS	14.5	15.2	15.8	16.7	17.5	15.8	1.5	69
25-34 YRS	14.1	15.0	15.7	16.5	17.5	15.7	1.5	135
GE 35 YRS	15.1	15.7	16.6	17.8	18.8	16.7	2.1	83
ALL AGES	14.4	15.2	15.9	16.9	18.0	16.0	1.7	287
<u>OGUN</u>								
LT 25 YRS	15.5	17.1	18.9	21.3	22.4	19.1	4.2	110
25-34 YRS	15.1	17.2	19.5	22.2	23.7	19.6	5.0	44
GE 35 YRS	15.7	18.2	20.0	21.9	27.4	20.0	3.8	82
ALL AGES	15.4	17.5	19.6	21.8	25.3	19.6	4.3	235
<u>ONDO</u>								
LT 25 YRS	16.0	18.1	20.6	22.4	0.0	20.4	4.3	117
25-34 YRS	14.2	16.6	19.4	22.0	24.5	19.4	5.4	158
GE 35 YRS	15.6	17.6	20.3	22.9	27.1	20.3	5.3	114
ALL AGES	15.1	17.4	20.0	22.4	26.0	19.9	5.0	389
<u>OYO</u>								
LT 25 YRS	16.3	17.9	20.2	22.5	23.7	20.2	4.5	126
25-34 YRS	14.4	16.1	19.1	21.1	23.7	18.8	5.0	134
GE 35 YRS	15.5	17.9	19.8	21.8	25.8	19.8	3.9	146
ALL AGES	15.2	17.3	19.7	21.7	24.7	19.6	4.4	406
<u>PLATEAU</u>								
LT 25 YRS	12.7	14.1	15.9	17.6	20.2	15.9	3.5	90
25-34 YRS	12.4	14.6	16.3	18.9	22.5	16.5	4.2	99
GE 35 YRS	13.7	16.1	18.1	20.2	24.5	18.1	4.2	54
ALL AGES	12.9	14.6	16.6	19.2	22.4	16.7	4.6	242
<u>RIVERS</u>								
LT 25 YRS	13.4	15.3	17.9	20.3	0.0	17.9	5.1	144
25-34 YRS	11.4	13.9	16.4	17.9	20.1	16.2	4.0	105
GE 35 YRS	13.2	15.2	17.1	18.7	21.5	17.0	3.5	93
ALL AGES	12.7	15.0	17.1	19.1	21.9	17.1	4.1	342
<u>SOKOTO</u>								
LT 25 YRS	13.2	14.5	15.8	17.2	18.1	15.8	2.7	160
25-34 YRS	12.4	14.3	15.7	17.4	19.8	15.8	3.1	159
GE 35 YRS	13.5	14.7	16.3	19.0	21.7	16.6	4.4	109
ALL AGES	13.2	14.5	15.9	17.6	19.8	16.0	3.1	429
<u>NIGERIA</u>								
LT 25 YRS	12.9	14.7	17.3	20.9	24.3	17.5	6.2	3811
25-34 YRS	12.3	14.1	16.0	18.8	22.1	16.2	4.7	3313
GE 35 YRS	12.9	14.6	16.9	20.1	23.8	17.1	5.5	2605
ALL AGES	12.7	14.4	16.7	19.9	23.5	16.9	5.5	9729

at menarche does not hold.

Second, there are several cultural and socio-economic factors. The configuration of development in the country declines from south to north. Southerners spend more years in schools and are found more in wage employment. The differential involvement of the north and the south in wage employment is a result of different external influence: while the north has been much influenced by Islam, the south has been influenced by Christianity. In terms of the traditional norms discussed above there is no difference between the two religions: the custom of bridewealth is similar. However, western education introduced by Christianity and embraced by southerners is a passport to employment in the modern sector. In this way, Christianity promoted a break away from the traditional setting in the context discussed above – employment away from home and change from an extended to a nuclear family. The low age at marriage observed for the north is therefore evidence of the survival of the traditional culture.

The two states with the highest trimean ages at marriage are located in the south but they have different characteristics. Lagos, with the highest trimean, is the hub of Nigerian economic activities and has been the destination of young and single migrants. The high age at marriage in the state is no doubt the direct consequence of rapid economic and social change in the metropolis of Lagos, a sizeable percentage of the population of which is due to in-migration of single females. On the other hand, Imo state is a net exporter of migrants. Yet, it has shown a major, sustained shift towards later marriage than any other state. Three factors are probably responsible. It is possible that the sex-ratio of marriageable males and females was affected by out-migration since most of the migration streams were largely composed of single men. Excess male out-migration connotes excess of marriageable females, a phenomenon that might enhance a rise in the age at marriage.

The second factor is the high bridewealth in the state – it is there that the highest bridewealth in the country is paid. Girls might have to delay marriage in order to allow their prospective husbands to amass savings sufficient to pay the bridewealth. Thirdly, delayed marriage, to a degree, complements out-migration as a response to rural population pressure. Rural density, declining farm sizes and rising pressure on resources imply a decrease in income and a long period for accumulating bridewealth. Furthermore, the age at marriage had to remain high to prevent further formation of households with its attendant fragmentation of land.

The marriage patterns among the subgroups are as expected (Tables 21 and 22). Urban women have higher trimean ages at marriage than rural women. It is also urban women under 35 who are delaying marriage most. The trimean age at marriage among the younger cohorts is about two years higher than among the older women in urban centres. In the rural areas, the difference is just one year while in cities the difference is less than 0.4 year. Among women of all ages in urban areas, 17.3 per cent married at age 20 and above compared with only 9.3 per cent in rural areas. Among the recently married urban women, 24.1 per cent married after their 20th birthday as against 12.7 per cent among rural women. Furthermore, the percentage of urban women who married at or before age 15 dropped from 57.1 per cent among women who married over 19 years ago (20+ years) to 44.5 per cent among those who married recently – a 28 per cent point decline. Comparable figures for rural women are 69.6 and 60 per cent – a 14.5 per

Table 24 : Percentage of Women Married at Given Ages by Years since 1st Marriage

Region and Place	Years since first marriage											
	At or before age 15				Between age 16 and 20				At age 20 and over			
	<10	10-19	20+	0-20+	<10	10-19	20+	0-20+	<10	10-19	20+	0-20+
<u>Northeast</u>												
Rural	68.5	68.5	76.1	70.3	24.1	26.7	20.9	24.3	7.3	4.9	3.0	5.3
Urban	75.6	81.5	90.4	81.0	17.3	13.5	7.4	13.8	7.1	5.0	2.2	5.3
<u>Northwest</u>												
Rural	81.5	84.8	86.9	84.1	16.5	9.8	12.6	12.9	2.0	5.4	0.5	3.1
Urban	82.0	93.6	88.9	88.0	13.2	4.7	10.5	9.3	4.8	1.7	0.7	2.6
<u>Southeast</u>												
Rural	41.9	53.8	63.0	52.8	36.7	34.6	30.2	33.9	21.4	11.6	6.8	13.3
Urban	25.5	57.3	38.9	39.4	41.7	27.4	39.1	36.1	32.9	15.3	22.0	24.5
<u>Southwest</u>												
Rural	28.9	41.2	37.5	35.9	39.0	39.6	45.9	40.9	22.1	19.2	16.6	23.2
Urban	21.5	32.9	38.8	28.6	44.3	41.7	42.7	43.2	34.2	25.4	18.6	28.2
<u>Rural</u>												
Northeast	68.5	68.5	76.1	70.3	24.1	26.7	20.9	24.3	7.3	4.9	3.0	5.3
Northwest	81.5	84.8	86.9	84.1	16.5	9.8	12.6	12.9	2.0	5.4	0.5	3.1
Southeast	41.9	53.8	63.0	52.8	36.7	34.6	30.2	33.9	21.4	11.6	6.8	13.3
Southwest	28.9	41.2	37.5	35.9	39.0	39.6	45.9	40.9	22.1	19.2	16.6	23.2
<u>Urban</u>												
Northeast	75.6	81.5	90.4	81.0	17.3	13.5	7.4	13.8	7.1	5.0	2.2	5.3
Northwest	82.0	93.6	88.9	88.0	13.2	4.7	10.5	9.3	4.8	1.7	0.7	2.6
Southeast	25.5	57.3	38.9	39.4	41.7	27.4	39.1	36.1	32.9	15.3	22.0	24.5
Southwest	21.5	32.9	38.8	28.6	44.3	41.7	42.7	43.2	34.2	25.4	18.6	28.2
Nigeria	55.5	64.6	67.8	62.0	28.9	25.6	25.7	26.8	15.6	9.8	6.5	11.2

Yrs since 1st marriage	At or before age 15	Between age 16 and 20	At age 20 and over
<5	50.3	30.3	19.4
5- 9	60.2	27.6	12.2
10-14	63.3	27.1	9.6
15-19	66.2	23.6	10.2
20-24	61.2	30.0	8.8
25-29	71.2	23.1	5.7
30+			

Table 25 : Percentage of Women Married at Given Ages by Years since 1st Marriage

	Years since 1st marriage											
	At or before age 15				Between age 16 and 20				At age 20 and over			
	<10	10-19	20+	0-20+	<10	10-19	20+	0-20+	<10	10-19	20+	0-20+
<u>Type of Place of Residence</u>												
- Rural	60.0	65.6	69.6	64.6	27.2	25.6	25.1	26.1	12.7	8.8	5.3	9.3
- Urban	44.5	63.0	57.1	54.0	31.5	24.2	30.8	28.7	24.1	12.8	12.1	17.3
- Large Urban	39.3	55.8	66.2	49.2	36.8	27.4	22.9	31.2	23.9	16.8	10.9	19.1
<u>Literacy Status of Woman</u>												
- Can Read	36.0	50.9	60.5	43.4	39.9	36.2	23.5	37.0	24.2	12.9	16.0	19.6
- Cannot Read	64.1	67.5	68.5	66.7	24.0	23.3	25.9	24.3	11.8	9.2	5.6	9.1
<u>Literacy Status of Partner</u>												
- Can Read	47.0	61.4	70.2	56.1	33.5	26.7	22.5	29.2	19.4	11.8	7.3	14.7
- Cannot Read	64.2	66.4	66.9	65.8	24.1	24.9	26.9	25.3	11.7	8.7	6.2	8.9
<u>Religion</u>												
- Catholic	36.8	52.3	55.5	46.9	38.7	37.2	34.6	37.1	24.6	10.6	9.9	16.0
- Protestant	38.5	48.4	47.8	44.4	37.2	35.3	39.7	37.1	24.4	16.3	12.5	18.5
- Other Christian	35.4	51.0	63.2	48.2	37.8	33.5	27.1	33.5	26.8	15.5	9.7	18.3
- Moslem	71.6	76.0	79.5	75.1	20.7	17.0	17.8	18.5	7.8	7.0	2.8	6.3
- Traditional	58.8	58.9	56.9	58.3	30.9	34.7	34.7	33.6	10.3	6.5	8.4	8.1
<u>Years of Education of Woman</u>												
- 0 yrs	65.4	67.8	68.6	67.2	24.0	23.3	25.7	24.2	10.7	8.9	5.7	8.6
- 1-4 yrs	47.4	58.4	59.0	53.8	28.6	31.8	29.1	30.0	23.7	9.8	11.9	16.1
- 5-7 yrs	37.6	48.4	59.2	42.5	43.9	38.8	25.7	41.0	18.5	12.8	15.1	16.5
- 8+ yrs	17.9	37.1	61.6	25.0	39.7	35.1	8.6	36.9	42.4	27.9	29.8	38.1
<u>Region of Residence</u>												
- Northeast	69.8	70.7	78.2	72.1	22.9	24.4	19.0	22.6	7.3	4.9	2.9	5.3
- Northwest	81.6	86.1	87.3	84.7	15.9	9.0	12.2	12.3	2.4	4.9	0.5	3.0
- Southeast	39.8	54.1	61.6	51.5	37.4	33.9	30.7	34.1	22.9	11.9	7.7	14.3
- Southwest	24.5	37.4	38.1	32.1	42.1	40.6	44.3	42.1	33.4	22.0	17.5	25.8
<u>Years of Education of Partner</u>												
- 0 yrs	59.6	62.9	64.2	62.4	25.2	27.2	28.7	27.1	15.1	9.9	7.1	10.5
- 1-4 yrs	50.2	63.2	64.4	58.4	32.0	29.6	32.5	31.1	17.8	7.1	3.2	10.5
- 5-7 yrs	40.9	52.6	64.7	48.9	41.5	32.9	27.1	36.1	17.6	14.5	8.2	14.9
- 8+ yrs	35.0	51.4	59.0	42.1	35.3	33.2	20.2	33.3	29.7	15.4	20.8	24.6
<u>Last Work Status of Woman</u>												
- Family Farm	56.3	58.4	59.1	58.0	28.8	30.9	31.6	30.5	14.8	10.7	9.3	11.4
- Family Employed	52.8	54.8	57.0	54.4	27.2	32.0	37.7	31.1	20.0	13.2	5.3	14.6
- Other Paid Cash	22.2	38.4	67.6	36.2	38.4	41.5	22.5	36.4	39.4	20.0	9.9	27.4
- Other Employed	45.8	53.9	61.6	53.6	33.4	36.2	32.2	34.2	20.8	9.8	6.1	12.1
- Self Employed	53.5	65.2	69.6	62.3	31.1	25.0	24.3	26.9	15.4	9.8	6.1	10.8
- Did Not Work	65.8	80.9	82.0	73.8	24.4	12.9	16.2	19.1	9.8	6.2	1.8	7.2

cent point decline.

Education has a powerful influence on the timing of marriage. Age at marriage increases systematically from 15.8 years for women with no education through 17.5 years for women with 1-4 years of schooling to 23.3 years for those with more than 7 years of education. This increase is found in all birth cohorts. Age at marriage is higher than age at graduation from either primary or secondary school, a feature which shows that educated women take up activities which are conducive to higher age at marriage. There is a clear trend in age at marriage among literate women. Excluding the oldest age group, age at marriage has increased in recent years among all educational categories except among illiterates. Further evidence of different trends among illiterate and literate women is provided again by Table 25. Among women who married 10 years ago, just 10.7 per cent of illiterate women married by age 20 and over, while 42.4 per cent of those with 8 or more years of education married by that age. Similarly, while there is a 68 percentage point decline in the proportion of literates who married before age 15, comparing those who married twenty or more years ago with those who married ten years ago, there is only 6.9 per cent decline among illiterates.

The religious subgroups fall into two neat groups: Christians who marry late and whose age at marriage has been increasing and Moslems plus traditional religion who marry early and whose age at marriage has either been static or declining. Catholics and Protestants marry about three and a half years later than Moslems. Women under 35 years show a similar pattern. The median age of marriage for Catholics increases from 17.5 for those age 25-34 to 20.8 for those under 25 whereas there is no change in the median age for Moslem girls. However, it would appear from the Table that the percentage of Moslem women marrying before reaching their fifteenth birthday has declined in recent years although the rate of decline is very small compared with that of Christians.

The regional pattern shows that women in the more urbanized southwest marry, on average, about four years later than women in the northeast and four and a half years later than those in the northwest. The difference in the trimean age at marriage between women in the south and those in the northeast and northwest is 2.9 and 3.7 years respectively. The northwest, though more urbanized and industrialized than the northeast, has a lower mean at marriage for each of the age categories. While the trimean age at marriage has been increasing in the south, it has been declining in the north. The highest increase of 3.6 years between the older and younger cohort is reported by women in the southeast while the largest decline of about 5 months is reported in the northeast. However, there are indications that recently, fewer women than before have been marrying at younger ages in the north. Although about 82 per cent of the recently married women in the northwest married before attaining the age of 15, over 87 per cent of women in the region married before that age, twenty or more years ago (Table 24). The figures for the northeast is about 70 per cent for recently married women and a little over 78 per cent for women married in the past.

We hesitate to comment on the pattern of age at marriage according to labour-force participation. The variable "Most recent work" has little to do with the age at which a woman married. Nonetheless, the estimates to indicate that there may be a relationship between timing of marriage of a woman and the current location of her job with respect to the modern and traditional sectors. Women currently employed in the modern

sector of the economy married a little over three years later than those who work in the traditional sector. Women who are either paid in kind or unpaid record a similar age at marriage whether they work for the family or for non-family members. Again, their mean age at marriage is higher than that of family farm workers by one year. While women without a job married fairly late, those currently self-employed tend to have married at quite an early age.

So far, the findings of the analysis based on information covering the entire sample (or a large part of it) have fitted our theoretical expectations. Not only have the results established a pattern of association among variables, they have also confirmed our worst fears – the poor quality of information given by the older women. In some respects the inadequacies raise serious questions about some measures. Accordingly, we present in Tables 26–28 measures based on the youngest cohorts of women – those aged 15–24. The last three columns of the tables contain indices which, though based on the entire sample, are obtained by a completely different procedure. The indices will therefore serve as a further check on the adequacy and validity of the measures obtained by the life table techniques.

The information relating to geographical patterns of current (1982) nuptiality in Table 26 has been mapped and reported in Figure 13 which had already been discussed along with Figure 12. The other salient features of the table relate to the percentage of young single women (15–24) in 1977 and to the changes that had occurred in age at marriage between 1977 and 1982. The proportions single among the 15–19-year-olds have been classified into three categories. The first consists of early marriage regimes. In this group, the percentage of women single is below 30. In the second, intermediate, class, 30–60% of the women remained single. The late marriage pattern group consists of women, over 60% of whose members were single.

Applying this classification to the table, we find the following patterns:

- (1) Early marriage regimes are found exclusively in the far north of the country. Here, Islam is the dominant religion and education of most women is restricted to koranic education only. The states in this group are Bauchi, Borno, Kaduna, Kano and Plateau.
- (2) Late marriage patterns are found almost exclusively in southern Nigeria. The relatively high level of education has weakened the cultural props of early marriage. In this group are all the states in the southeast (except Bendel) and one, Imo, in the southeast. The location of Kwara (a predominantly Moslem state but inhabited by Yorubas) in this group suggests that the state, by 1977, had advanced in educating its women beyond Koranic schooling.
- (3) In the remaining states, marriage patterns are intermediate between early and late. In this group of medium nuptiality regime are found states which are diverse in culture and socio-economic conditions: the predominantly Moslem Sokoto state where educational level is low, the educationally advanced and mainly Christian states of Anambra, Bendel, Rivers and Cross-River and the educationally disadvantaged states of Gongola, Niger and Benue, all of which have substantial Christian populations.

Table 26 : Percentage of Single Women at Ages 15-24 and Singulate Mean Age at Marriage by Region and Place of Residence

	Percentage Single				SMAM			
	15 - 19		20 - 24		1982	Change, 1977-1982	Fictitious cohort 1977-1982	
	1977	1982	1977	1982				
<u>Northeast</u>								
Rural	28.5 (344)	30.8 (364)	6.1 (369)	3.5 (344)	16.8	-0.1	16.7	
Urban	21.6 (74)	22.5 (71)	11.8 (106)	0.9 (74)	17.0	-0.3	16.2	
<u>Northwest</u>								
Rural	24.5 (339)	18.3 (338)	3.8 (396)	1.6 (339)	16.0	-0.4	16.0	
Urban	11.9 (61)	12.7 (71)	0.0 (65)	0.0 (61)	15.6	-0.02	15.6	
<u>Southeast</u>								
Rural	55.4 (462)	84.9 (704)	20.0 (435)	30.2 (462)	21.1	+2.1	22.2	
Urban	82.9 (86)	86.1 (116)	33.9 (67)	44.0 (86)	22.3	+1.4	23.8	
<u>Southwest</u>								
Rural	66.1 (126)	80.8 (181)	10.1 (138)	14.2 (126)	19.8	+0.6	19.9	
Urban	74.7 (219)	82.7 (257)	30.1 (190)	21.6 (219)	20.3	-0.4	20.5	
<u>Rural</u>								
Northeast	28.5 (344)	30.8 (364)	6.1 (369)	3.5 (344)	16.8	-0.1	16.7	
Northwest	24.5 (339)	18.3 (338)	3.8 (396)	1.6 (339)	16.0	-0.4	16.0	
Southeast	55.4 (462)	84.9 (704)	20.0 (435)	30.2 (462)	21.1	+2.1	22.2	
Southwest	66.1 (126)	80.8 (181)	10.1 (138)	14.2 (126)	19.8	+0.6	19.9	
<u>Urban</u>								
Northeast	21.6 (74)	22.5 (71)	11.8 (106)	0.9 (74)	17.0	-0.3	16.2	
Northwest	11.9 (61)	12.7 (71)	0.0 (65)	0.0 (61)	15.6	-0.02	15.6	
Southeast	82.9 (86)	86.1 (116)	33.9 (67)	44.0 (86)	22.3	+1.4	23.8	
Southwest	74.7 (219)	82.7 (257)	30.1 (190)	21.6 (219)	20.3	-0.4	20.5	

() Number of observations

Although data on women aged 15-19 are discussed, the same story would have been told had data on women aged 20-24 been used. There is a strong positive correlation between percentage single 15-19 and percentage single 20-24 ($r=0.73$).

Changes in ages at marriage have occurred among the populations. For most northern states, age at marriage had declined between 1977 and 1982. Decreases in the order of one year or more are found in Gongola, Niger and Sokoto states. The decline in Ogun and Lagos states, where levels of education for women are well above the national averages, is surprising but age and marital status specific migration is a major disturbing factor. In the other southern states, an increase in age at marriage evidently occurred in the 5 years before the survey. In the north, rural women aged 15-19 and 20-24 are much more likely than urban women to remain single. In 1982, 30.8% and 18.3% of rural women (15-19) in the northeast and the northwest respectively were single. Comparable figures for the urban women are 22.5% and 12.7% respectively. In the south, the reverse is the case, although the differences are quite small. In the southwest, for example, the region with the highest urbanization index, the percentage of urban women single (15-19) is only 1.9% greater than the percentage of their rural counterparts. Comparable percentage difference for the southeast is only 1.2.

The conclusion that rural women in the north marry later than urban women while the reverse is the case in the south is supported further by SMAM. In the southeast and southwest rural women marry on the average about 12 and 6 months respectively before urban women. In the northeast, urban SMAM is slightly higher than the rural one while in the northwest the expected higher rural SMAM holds. But again, SMAM-values are affected by age and marital status selective migration patterns. These effects cannot be ascertained.

Table 27 confirms the relationship between indices of socio-economic modernization and those of marriage variables observed in life table analysis. The relationship is the same for the various indices of marriage given in the tables: the proportion of women single (15-19 or 20-24) in 1977 and 1982. Restricting our discussion to the 1982 data and to women 15-19 years old, we find that in every subgroup, substantially more women with a relatively higher index of modernization are single. Among the educational subgroup, for example, only 22.2% of illiterate women were single. This percentage increases systematically with increasing levels of education, reaching 95.2% among women with 8 or more years of education. Among the religious sub-group, the highest percentage single is in the category of women whose level of education is high: 85% of Catholics compared with 31% of Moslems. Also, women who have moved away from the traditional economy have a higher proportion of their members remaining single: 77% for women employed by others compared with 33% for family farm workers.

The patterns of association between indices of modernization and early marriage are generally the same as those between the indices and SMAM. The average ages at marriage (SMAM) vary systematically by level of education. Women with eight or more years of education married four years later than women without education. Among religious groups, Christians married, on the average, two and a half years later than Moslems and traditional religionists. Women in the modern sector married three years later than family farm workers.

Table 27 : Percentage of Single Women at Ages 15-24 and Singulate Mean Age at Marriage by Subgroups

Subgroup	Percentage Single				SMAM		
	15 - 19		20 - 24		1982	Change, 1977-1982	Fictitious cohort 1977-1982
	1977	1982	1977	1982			
<u>Type of Place of Residence</u>							
- Rural	40.9 (1270)	57.8 (1586)	10.4 (1338)	13.7 (1270)	18.7	+1.0	19.1
- Urban	59.5 (262)	69.0 (350)	21.9 (293)	23.3 (262)	20.0	+0.7	20.8
- Large Urban	57.6 (178)	58.1 (165)	20.9 (134)	14.1 (178)	18.6	-0.8	18.7
<u>Literacy Status of Woman</u>							
- Can Read	69.7 (680)	84.3 (1179)	29.8 (461)	34.0 (680)	21.2	+0.7	22.0
- Cannot Read	29.6 (1031)	28.3 (922)	7.2 (1305)	2.8 (1031)	16.6	-0.3	16.6
<u>Religion</u>							
- Catholic	63.5 (315)	84.9 (504)	21.8 (267)	34.6 (315)	21.1	+1.7	22.0
- Protestant	61.3 (223)	78.0 (277)	21.4 (213)	28.1 (223)	20.8	+1.1	21.4
- Other Christian	58.8 (294)	82.8 (329)	21.1 (249)	21.8 (294)	20.8	+1.2	21.3
- Moslem	28.4 (743)	31.2 (875)	6.3 (876)	2.9 (743)	16.8	-0.03	16.8
- Traditional	37.2 (94)	33.6 (56)	7.6 (94)	0.9 (94)	16.9	-0.5	16.7
<u>Years of Education of Woman</u>							
- 0 yrs	28.1 (983)	22.2 (825)	6.4 (1272)	2.1 (984)	16.2	-0.7	16.2
- 1-4 yrs	40.0 (170)	70.9 (131)	19.9 (167)	8.2 (170)	19.2	+1.0	19.5
- 5-7 yrs	64.0 (270)	73.0 (503)	26.9 (203)	16.6 (270)	19.9	-0.7	19.8
- 8+ yrs	91.3 (287)	95.2 (642)	49.6 (125)	63.1 (287)	20.3	+0.2	24.6
<u>Region of Residence</u>							
- Northeast	27.3 (417)	29.4 (435)	7.4 (475)	3.1 (417)	16.8	-0.1	16.7
- Northwest	22.6 (400)	17.3 (409)	3.3 (461)	1.3 (400)	15.9	-0.3	15.9
- Southeast	59.8 (548)	85.1 (820)	21.9 (502)	32.3 (548)	21.2	+1.9	22.2
- Southwest	71.7 (345)	81.9 (437)	21.6 (328)	18.9 (345)	20.1	+0.1	20.3
<u>Last Work Status of Woman</u>							
- Family Farm	33.5 (324)	33.0 (209)	6.1 (441)	1.3 (324)	16.9	-0.3	16.7
- Family Employed	51.1 (27)	54.2 (45)	17.9 (17)	1.2 (27)	18.4	-0.1	17.9
- Other Paid Cash	75.5 (173)	60.5 (59)	38.0 (164)	37.0 (173)	20.7	-0.8	20.1
- Other Employed	53.2 (82)	76.7 (117)	11.4 (85)	23.6 (82)	18.8	+1.6	20.7
- Self Employed	37.9 (465)	19.1 (248)	8.6 (541)	2.7 (465)	16.2	-1.4	16.0
- Did Not Work	47.8 (640)	69.5 (1422)	16.0 (571)	25.1 (640)	19.9	+5.1	21.0

() Number of observations

* Less than 30 cases

Table 28 : Percentage of Single Women at Ages 15-24 and Singulate Mean Age at Marriage by State

State	Percentage Single				SMAM		
	15 - 19		20 - 24		1982	Change, 1977-1982	Fictitious cohort 1977-1982
	1977	1982	1977	1982			
Anamabra	46.5 (162)	71.5 (157)	6.5 (105)	19.8 (162)	20.0	+1.9	22.0
Bauchi	19.2 (98)	7.8 (74)	2.8 (79)	0.0 (98)	15.4	-0.8	15.4
Bendel	59.6 (59)	79.2 (84)	14.6 (38)	26.9 (59)	20.5	+1.3	21.2
Benue	32.1 (66)	50.2 (56)	5.9 (71)	3.9 (66)	17.7	+0.8	17.8
Borno	18.8 (94)	35.5 (162)	8.3 (141)	0.0 (94)	17.4	+0.7	16.8
Cross-River	44.4 (95)	84.5 (156)	17.8 (132)	13.9 (95)	20.0	+1.8	20.4
Gongola	41.5 (105)	14.9 (107)	11.1 (137)	9.5 (105)	16.2	-1.7	15.9
Imo	79.9 (234)	95.2 (420)	37.8 (204)	53.1 (234)	22.9	+1.9	23.9
Kaduna	16.9 (102)	17.1 (95)	3.6 (140)	0.0 (102)	15.6	-0.2	15.9
Kano	13.9 (170)	16.9 (212)	3.0 (170)	1.9 (170)	16.1	+0.2	16.1
Kwara	70.5 (42)	77.0 (78)	21.0 (64)	9.0 (42)	19.3	-0.3	19.3
Lagos	70.1 (86)	86.0 (80)	28.3 (58)	21.0 (86)	20.7	-0.5	20.9
Niger	32.3 (47)	7.2 (22)	3.8 (71)	0.0 (47)	15.4	-1.4	15.4
Ogun	82.0 (41)	72.0 (69)	7.8 (27)	9.4 (41)	19.5	-1.1	19.1
Ondo	76.4 (54)	90.0 (63)	25.9 (70)	26.7 (54)	20.1	+0.3	21.2
Oyo	74.7 (62)	89.2 (64)	21.6 (72)	14.4 (62)	20.4	+0.5	20.5
Plateau	23.2 (55)	57.9 (35)	3.6 (47)	0.6 (55)	18.2	+1.5	18.0
Rivers	40.2 (58)	62.1 (86)	3.8 (61)	13.6 (58)	18.6	+1.4	19.5
Sokoto	42.4 (81)	21.4 (79)	2.8 (80)	2.5 (81)	16.2	-1.1	16.1
Nigeria	45.5 (1710)	59.7 (2101)	13.1 (1766)	15.2 (1710)	18.9	+0.8	19.3

() Number of observations

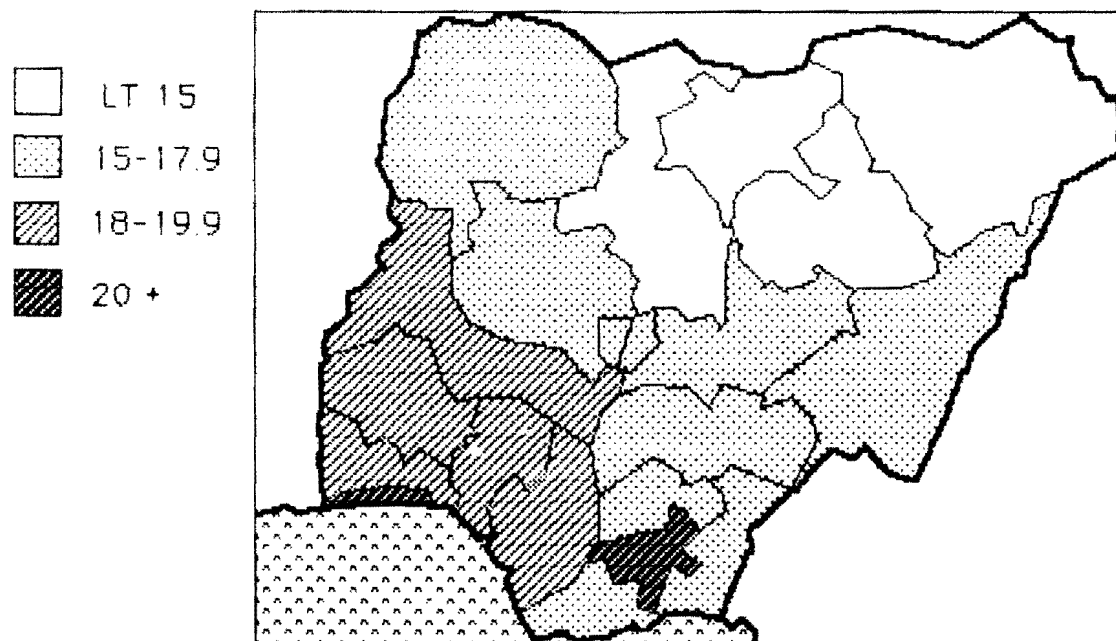


FIGURE 12 : FEMALE AGE AT FIRST MARRIAGE

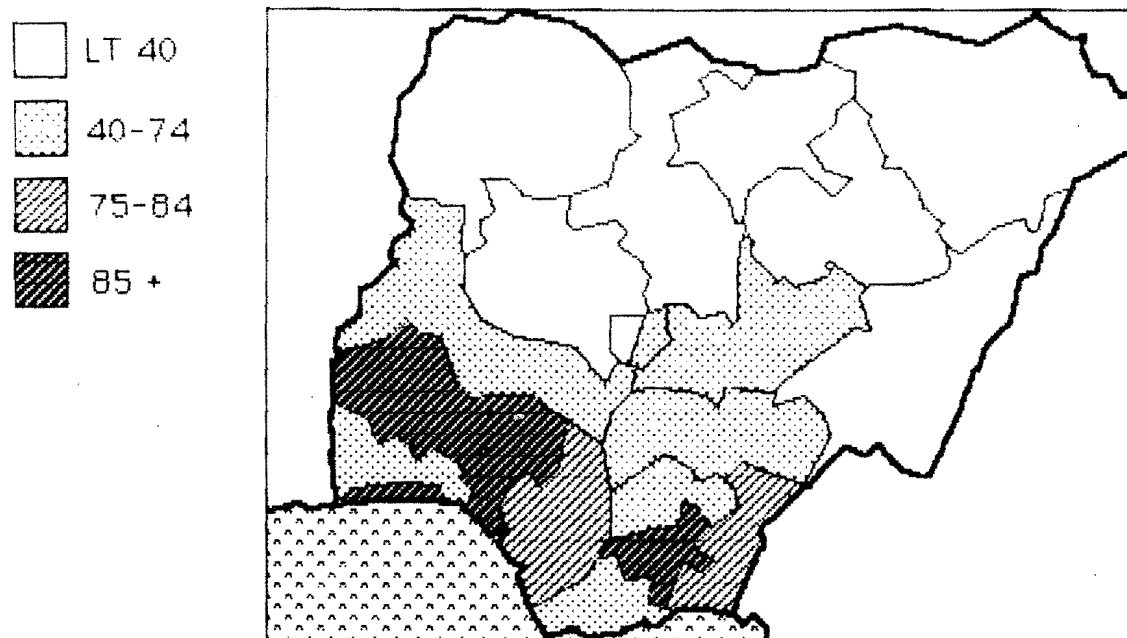


FIGURE 13 : PERCENTAGE WOMEN 15-19 SINGLE

The results of the changes in age at marriage over the five year period, 1977-1982, show no general pattern of association between the degree of modernization and either the direction or amount of change. For example, increases in SMAM occurred among women with 1-4 and 8 or more years of education whereas declines occurred among women with 5-7 years of education and illiterates. Among the occupational category, the greatest change of 5 years occurred among women who did not work whereas women employed by others reported 1.6 years increase. Changes in age at marriage were positive and relatively large among Christians while they are negative and small among other religious groups.

In summary, there appears to be a general trend towards later marriage. Urbanization and region of residence, higher education, Christianity and employment in the modern sector of the economy are important factors delaying marriage. With an increase in urbanization and in the number of women receiving education one can expect delayed marriage to become more widespread in southern Nigeria.

2.2.3. Premarital births

Premarital pregnancy in traditional Nigerian society was once a major social stigma. Anthropological evidence shows that this taboo ensured that antenuptial chastity was highly cherished (Basdan, 1966; Talbot, 1926). A newly-wed who was not found to be a virgin lost her honour and pride. She was held in contempt and became an object of derision for the most part of the rest of her life. Such a woman who could not discipline herself when she was required to do so legally and morally was ill-prepared for the great task of matrimony and motherhood. It was believed that she would be wayward, promiscuous and prone to extra-marital sex. This moral laxity would jeopardize the sound moral upbringing of her daughters as the society expected her to train her daughters in the virtues of womanhood.

It should not be expected that traditions such as the premarital sex taboo would withstand, for long, the onslaught of economic and social modernization. Important products of modernization are the relaxation of social control, increased freedom and hedonism. Consequently, modernization is often associated with looser sexual behaviour which may lead to an increase in the rate of premarital births. A positive correlation between levels of modernization and premarital births should therefore be expected.

When the taboo bowed to the onslaught of change in the country is not clear. What is obvious is that the change is by no means universal throughout the country. The degree of change depends mainly on the extent to which a society has been opened to the influence of modernization. In particular, employment outside the family-related business or away from home is critical to a change (see section 2.2.2 above). As noted above, the wage sector economy was inaugurated quite early in the colonial era (Railway construction started in 1901, soon after the completion of the pacification of the country) but was not pervasive until after the second world war. If the wage sector economy is an agent of the destruction of the premarital taboo, then very few women in the south can be said to belong to the "no pre-marital taboo" group because the oldest of them in the sample was born in 1933 and reached menarche just as the war was ending. Moreover, women in our oldest age category (45-49), who were born between 1933 and 1938, reached menarche at the end of the war, and they are known to mis-report events. We therefore have no reliable base line to use

in order to compare behaviour over time to see whether the incidence of premarital birth has increased or decreased. The valid comparison that can be made will be among various subgroups whose socio-economic characteristics place them in the modern and westernized category (interpreted here as reflecting the modern pattern) or the traditional category.

For the first group, it has become a fashion for women to prove their fecundity before marriage is contracted. This attitude to pre-marital sex is not unconnected with young adults' autonomy in initiating heterosexual relationship as a result of the gradual breaking down of the role of the extended family in marital affairs. As pointed out above, the independence was accompanied by heavy financial involvement of the groom. There is thus economic logic in ensuring that the woman on whom such a heavy investment is to be spent will yield a handsome dividend. This dividend is children because the main purpose of marriage among all categories of Nigerians is procreation.

But by also giving licence for premarital sex among young people who have no intention of marriage, the practice has gone too far. The growing number of abandoned children from unwanted pregnancies, of legal and illegal abortions by unmarried adolescents and the increasing prevalence of sexually transmitted diseases have, of recent, made pre-marital cohabitation, and hence pre-marital birth, an object of national scrutiny and growing concern. The public concern was demonstrated in 1983 when a huge mass protest was organized by all religious groups and feminist organizations against a bill to legalize abortion. The argument of the opponents of the bill was that it would increase pre-marital sex which, according to them, should in fact be outlawed. The thrust of the debate in the National Assembly showed that legislators from all parts of the country saw the issue of premarital sex as a major social problem which was a disgrace to Nigerian womanhood. Needless to say, the bill was overwhelmingly defeated. In what follows, some of the results of the analysis on premarital births tabulated in Tables 29 to 35 and drawn in Figures 14 and 15 are discussed.

The relationship between dates recorded for the first marriage and for the first live birth, shown in Table 29, reveals that 12 per cent of all ever-married women had at least one birth before marriage. This proportion is midway between the high and low values obtained for other African countries. The incidence is high in Nigeria compared with the proportions reported for Ghana (7.9%) and Senegal (8.8%) but it is lower than those recorded for Benin (15.2%), the Ivory Coast (16.7%), Cameroon (17.9%) and Kenya (19.5%) (Eelens & Donné, 1984). Another 13.5 per cent of ever-married Nigerian women were already pregnant before marriage. Again, this proportion is mid-way between the high and the low recorded for other African countries: Senegal (4.9%), Ghana (11.9%), Cameroon (11.5%), Ivory Coast (14.1%), Kenya (18.6%), Benin (18.7%). Similarly, of all the women (whether ever- or never-married) who had ever had a baby, 10.5 per cent had their first birth before marriage and another 11.3% had their first birth within the first nine months of marriage. Comparable figures for other African countries are as follows: Senegal, 4.6 and 4.3; Ghana, 7.4 and 9.6; Benin, 14.1 and 16.7; Cameroon, 18.2 and 10.2; Ivory Coast, 18.6 and 12.2 and Kenya, 20.0 and 14.4.

In Table 30, an attempt was made to investigate whether or not the incidence of premarital births is a new phenomenon to the cohorts under study, given the fact that the oldest was born in 1933. However, the

Table 29 : Relationship between Dates Recorded for 1st Marriage and for 1st Live Birth : Nigeria.

		Parous Women			Total	Nulliparous Women	All Women
		First birth before marriage	1st birth < 9 months after marriage	1st birth > 9 months after marriage			
		(%)	(%)	(%)	(%)	(%)	(%)
All Ages	<u>Ever-married</u>						
	Married < 9 months	24 (12.5)	19 (9.9)	-	43 (22.5)	146 (77.5)	189 (100)
	Married > 9 months	953 (12.0)	1079 (13.6)	5139 (64.8)	7171 (90.4)	760 (9.6)	7932 (100)
	Total	977 (12.0)	1098 (13.5)	5139 (63.3)	7214 (88.8)	906 (11.2)	8121 (100)
	<u>Never Married</u>	46 (2.8)	-	-	46 (2.8)	1563 (97.2)	1609 (100)
<u>All Women</u>		1022 (10.5)	1098 (11.3)	5139 (52.8)	7959 (74.6)	2470 (25.4)	9729 (100)
< 25	<u>Ever-married</u>						
	Married < 9 months	23 (13.5)	15 (8.8)	-	38 (22.4)	132 (77.6)	170 (100)
	Married > 9 months	234 (11.0)	295 (13.9)	1194 (56.1)	1723 (81.0)	404 (19.0)	2127 (100)
	Total	257 (11.2)	310 (13.5)	1194 (52.0)	1761 (76.7)	536 (23.3)	2297 (100)
	<u>Never Married</u>	33 (2.2)	-	-	33 (2.2)	1482 (97.8)	1515 (100)
<u>All Women</u>		290 (7.6)	310 (8.1)	1194 (31.3)	1794 (47.1)	2018 (52.9)	3811 (100)
25-34	<u>Ever-married</u>						
	Married < 9 months	1 (5.4)	4 (20.9)	-	5 (26.3)	14 (73.8)	19 (100)
	Married > 9 months	399 (12.4)	435 (13.5)	2198 (68.2)	3032 (94.1)	191 (5.9)	3223 (100)
	Total	400 (12.3)	439 (13.5)	2198 (67.8)	3037 (93.7)	205 (6.3)	3242 (100)
	<u>Never Married</u>	6 (9.0)	-	-	6 (9.0)	65 (91.0)	71 (100)
<u>All Women</u>		406 (12.3)	439 (13.2)	2198 (66.3)	3043 (91.9)	270 (8.1)	3313 (100)
35+	<u>Ever-married</u>						
	Married < 9 months	-	-	-	-	-	-
	Married > 9 months	320 (12.4)	350 (13.5)	1748 (67.7)	2418 (93.6)	166 (6.4)	2582 (100)
	Total	320 (12.4)	350 (13.5)	1748 (67.7)	2418 (93.6)	166 (6.4)	2582 (100)
	<u>Never Married</u>	6 (28.1)	-	-	6 (28.1)	16 (71.9)	23 (100)
<u>All Women</u>		326 (12.5)	350 (13.4)	1748 (67.1)	2424 (93.0)	182 (7.0)	2605 (100)

Table 30 : Relationship between Dates Recorded for 1st Marriage and for 1st Live Birth by 5 yr. Age Groups

		Parous Women			Total	Nulliparous Women	All Women
		First birth before marriage	1st birth < 9 months after marriage	1st birth > 9 months after marriage			
		(%)	(%)	(%)	(%)	(%)	(%)
15-19	Ever-married						
	Married < 9 months	10 (7.8)	7 (5.9)	-	17 (13.7)	108 (86.3)	125 (100)
	Married > 9 months	56 (7.7)	68 (9.4)	354 (49.0)	478 (66.2)	244 (33.8)	722 (100)
	Total	66 (7.8)	75 (8.9)	354 (41.8)	495 (58.4)	352 (41.6)	847 (100)
	Never Married	24 (1.9)	-	-	24 (1.9)	1231 (98.1)	1254 (100)
	All Women	89 (4.2)	76 (3.6)	354 (16.8)	519 (24.7)	1583 (75.3)	2102 (100)
20-24	Ever-married						
	Married < 9 months	13 (28.8)	7 (16.4)	-	20 (45.2)	25 (54.8)	45 (100)
	Married > 9 months	179 (12.7)	227 (16.2)	840 (59.8)	1246 (88.6)	160 (11.4)	1405 (100)
	Total	192 (13.2)	234 (16.1)	840 (57.9)	1266 (87.3)	185 (12.7)	1450 (100)
	Never Married	9 (3.6)	-	-	9 (3.6)	251 (96.4)	261 (100)
	All Women	201 (11.8)	234 (13.7)	840 (49.1)	1275 (74.5)	435 (25.5)	1710 (100)
25-29	Ever-married						
	Married < 9 months	1 (6.2)	4 (24.2)	-	5 (30.4)	11 (69.6)	16 (100)
	Married > 9 months	207 (12.2)	203 (12.0)	1168 (69.0)	1578 (93.2)	115 (6.8)	1694 (100)
	Total	208 (12.2)	207 (12.1)	1168 (68.3)	1583 (92.6)	126 (7.4)	1710 (100)
	Never Married	5 (9.2)	-	-	5 (9.2)	51 (90.8)	56 (100)
	All Women	214 (12.1)	207 (11.7)	1168 (66.1)	1589 (90.0)	177 (10.0)	1766 (100)
30-34	Ever-married						
	Married < 9 months	-	-	-	-	3 (100)	3 (100)
	Married > 9 months	192 (12.5)	231 (15.1)	1030 (67.4)	1453 (95.0)	76 (5.0)	1529 (100)
	Total	192 (12.5)	231 (15.1)	1030 (67.2)	1453 (94.8)	79 (5.2)	1532 (100)
	Never Married	1 (8.2)	-	-	1 (8.2)	14 (91.8)	15 (100)
	All Women	193 (12.5)	231 (14.9)	1030 (66.6)	1454 (94.0)	92 (6.0)	1547 (100)
35-39	Ever-married						
	Married < 9 months	-	-	-	-	-	-
	Married > 9 months	134 (12.1)	138 (12.5)	772 (70.2)	1044 (94.8)	57 (5.2)	1100 (100)
	Total	134 (12.1)	138 (12.5)	772 (70.2)	1044 (94.8)	57 (5.2)	1100 (100)
	Never Married	1 (11.8)	-	-	1 (11.8)	9 (88.2)	10 (100)
	All women	135 (12.1)	138 (12.4)	772 (69.5)	1045 (94.1)	66 (5.9)	1110 (100)
40-44	Ever-married						
	Married < 9 months	-	-	-	-	-	-
	Married > 9 months	107 (12.0)	136 (15.2)	590 (66.0)	833 (93.1)	62 (6.9)	895 (100)
	Total	107 (12.0)	136 (15.2)	590 (66.0)	833 (93.1)	62 (6.9)	895 (100)
	Never Married	4 (41.3)	-	-	4 (41.3)	5 (58.7)	9 (100)
	All Women	111 (12.3)	136 (15.0)	590 (65.3)	837 (92.6)	67 (7.4)	904 (100)
45-49	Ever-married						
	Married < 9 months	-	-	-	-	-	-
	Married > 9 months	79 (13.4)	76 (12.9)	386 (65.7)	541 (92.0)	47 (8.0)	588 (100)
	Total	79 (13.4)	76 (12.9)	386 (65.7)	541 (92.0)	47 (8.0)	588 (100)
	Never Married	2 (42.3)	-	-	2 (42.3)	2 (57.7)	4 (100)
	All Women	80 (13.6)	76 (12.9)	386 (65.3)	543 (91.7)	49 (8.3)	591 (100)
15-49	Ever-married						
	Married < 9 months	24 (12.5)	19 (9.9)	-	43 (22.5)	146 (77.5)	189 (100)
	Married > 9 months	953 (12.0)	1079 (13.6)	5139 (64.8)	7171 (90.4)	760 (9.6)	7932 (100)
	Total	977 (12.0)	1098 (13.5)	5139 (63.3)	7214 (88.8)	906 (11.2)	8121 (100)
	Never Married	46 (2.8)	-	-	46 (2.8)	1563 (97.2)	1609 (100)
	All Women	1022 (10.5)	1098 (11.3)	5139 (52.8)	7260 (74.6)	2470 (25.4)	9729 (100)

investigation is better restricted to women in their middle reproductive ages (25-34) for two reasons. First, some of the younger women who are single and childless may yet have a child before marriage. Second, the older women's data are characterized by misreporting of the date of marriage or first birth. The relevant data (for women aged 25-34) will be found in panels three and four of the table. Of the 2313 parous women in the category, 12.3 had a birth before marriage and another 13.5 per cent had their first birth within 9 months of marriage: in other words, over a quarter of them either already had a child or were already pregnant before marriage.

The regional pattern is reported in Tables 31 and 32 and Figure 14. The cases in some of the cells containing data on never-married women are too small for meaningful comparison. Our analysis is therefore restricted to ever-married women and to all women irrespective of their marital experience. The data on ever-married women seem to suggest the existence of higher rates of premarital births in the south than in the north. However, the data on all women also show that neither the north nor the south are homogeneous. Nearly as many states in the south (5) as in the north (6) have less than 10% of their women having a birth before marriage.

Figures 14 and 15 bring into sharp relief the pattern of premarital births and prenuptial conception among all women. The state with the highest proportion of women having a birth before marriage is Sokoto. The state is the bastion of Islam, but the women have apparently not behaved like Moslems in other states. The three other states recording over 15 per cent of women as having a birth before marriage are located in the south: Oyo and Ondo in the southwest have a strong Moslem population and Rivers in the East has a strong Catholic tradition.

The same story of heterogeneity in the north and the south is told by the distribution of women with negative pregnancy interval (Figure 15), although here, some pattern is discernible. There are zones of high, medium and low negative pregnancy intervals. In the first, second and third zone respectively, more than 15 per cent, 10-15 per cent and less than 10 per cent of the women are pregnant before marriage. The first and highest zone forms a solid block in the southwestern Yoruba-states while the third and lowest zone is located across the middle belt, with outliers in the south. The location of these two contrasting zones fits to some extent our modernization hypothesis. The second "zone" is dispersed throughout the country. There is an eastern wedge running from the coast to the Benue River and separating the two areas of low negative pregnancy interval of the south; a western wedge separates the first zone and the outliers of the third zone in the south; and an 'island' is located in the third zone in the north. This heterogeneous picture dictates caution in attributing the incidence of pre-marital or early post-marital birth to one cause.

There seems to be a division among the subgroups along the line of traditionalism and modernity especially when the pre-marital births and marital pregnancies proportions are combined. The more traditional groups, whose members marry early and thereby stem premarital fertility, reported lower proportions of their members as having negative intervals between marriage and first pregnancy. There are some important exceptions to this generalization, however. Thus, Tables 33 and 34 show that the percentage of women with a negative first birth interval is high among women in urban centres of the northeast (as expected) but it is low among women in urban

Table 31 : Relationship between Dates recorded for 1st Marriage and for 1st Live Birth by States

		Parous Women			Nulliparous Women	All Women
		First birth before marriage (%)	1st birth < 9 months after marriage (%)	1st birth > 9 months after marriage (%)		
				Total (%)	(%)	(%)
ANAMBRA	Ever-married					
	Married < 9 months	-	1 (11.2)	1 (11.2)	6 (88.8)	7 (100)
	Married > 9 months	60 (9.8)	109 (17.9)	401 (65.8)	40 (6.5)	610 (100)
	Total	60 (9.7)	110 (17.8)	401 (65.0)	46 (7.5)	617 (100)
	Never Married	5 (3.3)	-	5 (3.3)	149 (96.7)	154 (100)
	All Women	65 (8.4)	110 (14.3)	401 (52.0)	195 (25.3)	771 (100)
BAUCHI	Ever-married					
	Married < 9 months	-	-	-	5 (100)	5 (100)
	Married > 9 months	31 (8.4)	53 (14.3)	247 (66.8)	39 (10.5)	369 (100)
	Total	31 (8.3)	53 (14.2)	247 (66.0)	44 (11.8)	374 (100)
	Never Married	1 (10.8)	-	1 (10.8)	5 (89.2)	6 (100)
	All Women	32 (8.3)	53 (13.9)	247 (64.9)	49 (13.0)	380 (100)
BENDEL	Ever-married					
	Married < 9 months	2 (19.4)	0 (4.2)	-	2 (23.6)	8 (100)
	Married > 9 months	15 (6.9)	30 (14.2)	157 (74.3)	10 (4.5)	212 (100)
	Total	17 (7.7)	30 (13.6)	157 (71.4)	16 (7.3)	220 (100)
	Never Married	1 (1.5)	-	-	82 (98.5)	83 (100)
	All Women	17 (5.8)	31 (10.1)	157 (51.9)	98 (32.2)	303 (100)
BENUE	Ever-married					
	Married < 9 months	-	0 (11.1)	-	0 (11.1)	3 (100)
	Married > 9 months	40 (12.6)	42 (13.1)	220 (69.3)	16 (5.0)	317 (100)
	Total	40 (12.5)	42 (13.1)	220 (68.5)	19 (5.9)	320 (100)
	Never Married	0 (1.5)	-	-	30 (98.5)	31 (100)
	All Women	40 (11.5)	42 (11.9)	220 (62.7)	49 (13.9)	351 (100)
BORNO	Ever-married					
	Married < 9 months	-	-	-	10 (100)	10 (100)
	Married > 9 months	55 (8.6)	32 (5.0)	463 (72.6)	88 (13.8)	638 (100)
	Total	55 (8.5)	32 (4.9)	463 (71.5)	98 (15.1)	648 (100)
	Never Married	1 (0.9)	-	-	72 (99.1)	73 (100)
	All women	56 (7.7)	32 (4.4)	463 (64.2)	170 (23.6)	721 (100)
CROSS-RIVER	Ever-married					
	Married < 9 months	2 (32.8)	-	-	5 (67.2)	7 (100)
	Married > 9 months	48 (10.6)	61 (13.4)	324 (71.0)	23 (5.0)	457 (100)
	Total	50 (10.8)	61 (13.2)	324 (70.0)	28 (6.0)	464 (100)
	Never Married	8 (5.0)	-	-	155 (95.0)	163 (100)
	All Women	59 (9.4)	61 (9.8)	324 (51.7)	183 (29.1)	628 (100)
GONGOLA	Ever-married					
	Married < 9 months	-	3 (15.9)	-	3 (84.1)	19 (100)
	Married > 9 months	49 (8.2)	40 (6.6)	412 (68.4)	101 (16.8)	603 (100)
	Total	49 (7.9)	43 (6.9)	412 (66.3)	117 (18.8)	622 (100)
	Never Married	6 (24.0)	-	-	20 (76.0)	26 (100)
	All Women	56 (8.6)	43 (6.6)	412 (63.6)	137 (21.2)	648 (100)
IMO	Ever-married					
	Married < 9 months	6 (36.0)	1 (4.8)	-	7 (40.8)	16 (100)
	Married > 9 months	82 (9.9)	171 (20.5)	522 (62.8)	57 (6.8)	832 (100)
	Total	88 (10.4)	172 (20.3)	522 (61.6)	66 (7.8)	848 (100)
	Never Married	1 (0.2)	-	-	550 (99.8)	551 (100)
	All Women	89 (6.4)	171 (12.2)	522 (37.3)	616 (44.0)	1399 (100)

Table 31 : Continued.

		Parous Women			Total	Nulliparous Women	All Women
		First birth before marriage	1st birth < 9 months after marriage	1st birth > 9 months after marriage			
		(%)	(%)	(%)	(%)	(%)	()
KADUNA	Ever-married						
	Married < 9 months	2 (16.6)	1 (7.6)	-	3 (24.3)	9 (75.7)	12 (100)
	Married > 9 months	43 (7.5)	60 (10.5)	380 (66.7)	483 (84.7)	87 (15.3)	570 (100)
	Total	45 (7.7)	61 (10.5)	380 (65.3)	486 (83.5)	96 (16.5)	582 (100)
	Never Married	2 (9.4)	-	-	2 (9.4)	17 (90.6)	18 (100)
	All Women	47 (7.8)	61 (10.1)	380 (63.3)	488 (81.2)	113 (18.8)	601 (100)
KANO	Ever-married						
	Married < 9 months	-	-	-	-	18 (100)	18 (100)
	Married > 9 months	126 (15.0)	78 (9.3)	494 (58.7)	698 (83.0)	143 (17.0)	841 (100)
	Total	126 (14.7)	78 (9.1)	494 (57.5)	698 (81.3)	161 (18.7)	859 (100)
	Never Married	-	-	-	-	44 (100)	44 (100)
	All Women	126 (14.0)	78 (8.7)	494 (54.6)	698 (77.2)	206 (22.8)	904 (100)
KWARA	Ever-married						
	Married < 9 months	3 (31.4)	1 (12.5)	-	4 (43.9)	5 (56.1)	9 (100)
	Married > 9 months	42 (18.0)	56 (23.9)	129 (54.7)	227 (96.6)	8 (3.4)	236 (100)
	Total	45 (18.4)	57 (23.4)	129 (52.9)	231 (94.7)	13 (5.3)	245 (100)
	Never Married	-	-	-	-	64 (100)	64 (100)
	All Women	45 (14.7)	57 (18.6)	129 (41.7)	231 (75.0)	77 (25.0)	309 (100)
LAGOS	Ever-married						
	Married < 9 months	1 (8.0)	4 (33.0)	-	5 (41.0)	6 (59.0)	11 (100)
	Married > 9 months	44 (15.7)	59 (20.9)	160 (56.7)	263 (93.2)	19 (6.8)	283 (100)
	Total	45 (15.4)	63 (21.4)	160 (54.4)	268 (91.5)	25 (8.5)	294 (100)
	Never Married	1 (1.1)	-	-	1 (1.1)	90 (98.9)	91 (100)
	All Women	46 (12.0)	63 (16.3)	160 (41.7)	269 (69.9)	116 (30.1)	385 (100)
NIGER	Ever-married						
	Married < 9 months	-	-	-	-	4 (100)	4 (100)
	Married > 9 months	21 (7.3)	13 (4.5)	207 (73.3)	241 (85.1)	42 (14.9)	282 (100)
	Total	21 (7.3)	13 (4.5)	207 (72.1)	241 (84.0)	46 (16.0)	286 (100)
	Never Married	-	-	-	-	2 (100)	2 (100)
	All women	21 (7.2)	13 (4.4)	207 (71.9)	241 (83.5)	47 (16.5)	287 (100)
OGUN	Ever-married						
	Married < 9 months	1 (4.4)	3 (25.6)	-	4 (30.0)	9 (70.0)	13 (100)
	Married > 9 months	21 (12.7)	56 (33.3)	85 (50.9)	162 (97.0)	5 (3.0)	167 (100)
	Total	22 (12.2)	59 (32.8)	85 (47.2)	166 (92.2)	14 (7.8)	180 (100)
	Never Married	-	-	-	-	55 (100)	55 (100)
	All Women	22 (9.3)	59 (25.1)	85 (36.2)	166 (70.6)	69 (29.4)	235 (100)
ONDO	Ever-married						
	Married < 9 months	1 (48.6)	0 (25.7)	-	1 (74.3)	0 (25.7)	2 (100)
	Married > 9 months	72 (23.0)	54 (17.1)	178 (56.5)	304 (96.6)	11 (3.4)	314 (100)
	Total	73 (23.1)	54 (17.1)	178 (56.3)	305 (96.5)	11 (3.5)	316 (100)
	Never Married	1 (1.5)	-	-	1 (1.5)	72 (98.5)	73 (100)
	All Women	74 (19.1)	54 (13.9)	178 (45.6)	306 (78.6)	83 (21.4)	389 (100)
OYO	Ever-married						
	Married < 9 months	-	4 (37.7)	-	4 (37.7)	7 (62.3)	11 (100)
	Married > 9 months	64 (19.6)	65 (19.8)	188 (57.7)	317 (97.1)	9 (2.9)	326 (100)
	Total	64 (19.0)	69 (20.5)	188 (55.8)	321 (95.3)	16 (4.7)	337 (100)
	Never Married	1 (1.4)	-	-	1 (1.4)	68 (98.6)	69 (100)
	All Women	65 (16.0)	69 (16.9)	188 (46.4)	322 (79.3)	84 (20.7)	406 (100)

Table 31 : Continued.

		Parous Women			Total	Nulliparous Women	All Women
		First birth before marriage	1st birth < 9 months after marriage	1st birth > 9 months after marriage			
		(%)	(%)	(%)	(%)	(%)	(%)
PLATEAU	<u>Ever-married</u>	-	-	-	-	6 (100)	6 (100)
	Married < 9 months	17 (8.1)	16 (7.7)	171 (79.5)	204 (95.3)	10 (4.7)	215 (100)
	Married > 9 months	17 (7.7)	16 (7.3)	171 (77.7)	204 (92.7)	16 (7.3)	221 (100)
	<u>Total</u>						
	<u>Never Married</u>	-	-	-	-	22 (100)	22 (100)
	<u>All Women</u>	17 (7.2)	16 (6.8)	171 (70.4)	204 (84.4)	38 (15.6)	242 (100)
RIVERS	<u>Ever-married</u>	-	-	-	-	3 (47.1)	7 (100)
	Married < 9 months	3 (52.9)	-	-	3 (52.9)	3 (47.1)	7 (100)
	Married > 9 months	33 (12.3)	48 (17.8)	178 (65.9)	259 (96.0)	11 (4.0)	271 (100)
	<u>Total</u>	36 (13.0)	48 (17.4)	178 (64.5)	262 (94.9)	14 (5.1)	278 (100)
	<u>Never Married</u>	17 (26.6)	-	-	17 (26.6)	47 (73.4)	64 (100)
	<u>All Women</u>	54 (15.8)	48 (14.1)	178 (52.2)	280 (81.1)	61 (17.9)	342 (100)
SOKOTO	<u>Ever-married</u>	-	-	-	-	17 (83.5)	20 (100)
	Married < 9 months	3 (16.5)	-	-	3 (16.5)	17 (83.5)	20 (100)
	Married > 9 months	88 (22.6)	37 (9.4)	223 (57.2)	348 (89.2)	42 (10.8)	390 (100)
	<u>Total</u>	91 (22.2)	37 (9.0)	223 (54.4)	351 (85.6)	59 (14.4)	410 (100)
	<u>Never Married</u>	-	-	-	-	19 (100)	19 (100)
	<u>All Women</u>	91 (21.3)	37 (8.6)	223 (51.9)	351 (81.8)	78 (18.2)	429 (100)

Table 32 : Percentage of Women with a Negative 1st Birth and Pregnancy Interval by State

	First Birth	Negative First Pregnancy	N of cases
Anambra	8.4	14.3	770
Bauchi	8.3	13.9	380
Bendel	5.8	10.1	303
Benue	11.5	11.9	351
Borno	7.7	4.4	721
Cross River	9.4	9.8	628
Gongola	8.6	6.6	648
Imo	6.4	12.2	1399
Kaduna	7.8	10.1	601
Kano	14.0	8.7	904
Kwara	14.7	18.6	309
Lagos	12.0	16.3	385
Niger	7.2	4.4	287
Ogun	9.3	25.1	235
Ondo	19.1	13.9	389
Oyo	16.0	16.9	406
Plateau	7.2	6.8	242
Rivers	15.8	14.1	342
Sokoto	21.3	8.6	429
Nigeria	10.5	11.3	9729

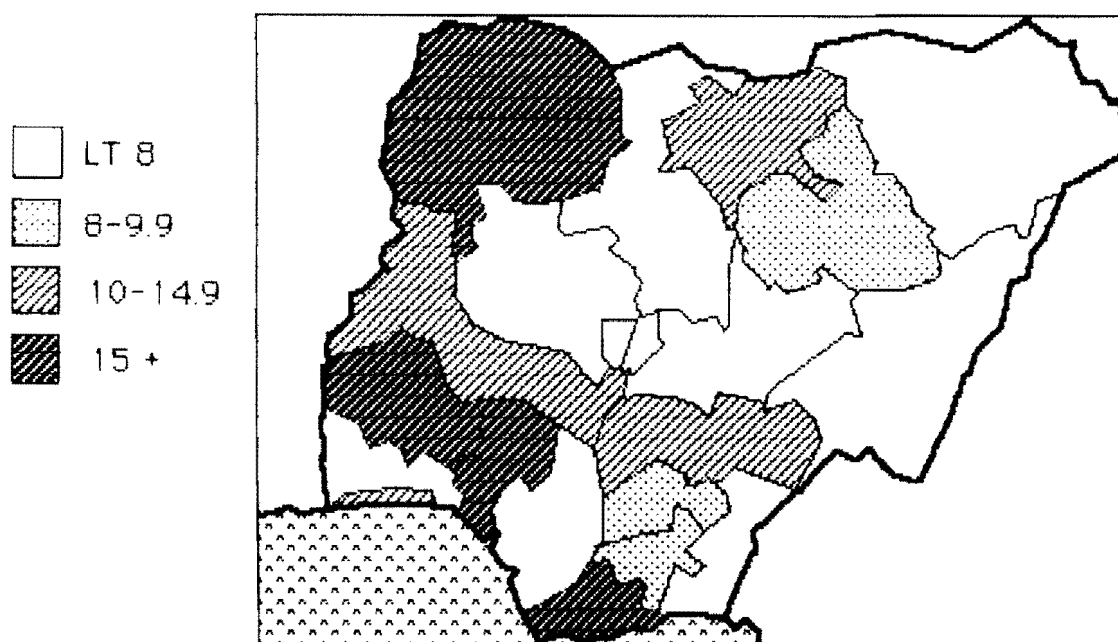


FIGURE 14 : PERCENTAGE REPORTING A NEGATIVE FIRST BIRTH INTERVAL

Table 33 : Percentage of Women with a Negative First Birth Interval by Place and Region of Residence

Age of Woman at Time of Interview	%				N of Cases			
	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>								
Rural	5.1	12.3	6.3	8.1	707	714	526	1947
Urban	10.4	10.1	13.2	10.9	145	168	83	396
<u>Northwest</u>								
Rural	15.9	12.0	14.7	14.1	677	736	462	1875
Urban	2.5	7.8	8.8	6.0	132	128	86	345
<u>Southeast</u>								
Rural	5.0	11.3	11.2	8.6	1166	821	795	2781
Urban	6.3	11.1	5.4	7.4	202	95	61	358
<u>Southwest</u>								
Rural	7.4	18.0	16.6	14.0	307	310	308	924
Urban	7.1	12.9	21.9	12.7	476	342	284	1102
<u>Rural</u>								
Northeast	5.1	12.3	6.3	8.1	707	714	576	1947
Northwest	15.9	12.0	14.7	14.1	677	736	462	1875
Southeast	5.0	11.3	11.2	8.6	1166	821	795	2781
Southwest	7.4	18.0	16.6	14.0	307	310	308	924
<u>Urban</u>								
Northeast	10.4	10.1	13.2	10.9	145	168	83	396
Northwest	2.5	7.8	8.8	6.0	132	128	86	345
Southeast	6.3	11.1	5.4	7.4	202	95	61	358
Southwest	7.1	12.9	21.9	12.7	476	342	284	1102

Table 34 : Percentage of Women with a Negative First Pregnancy Interval by Place and Region of Residence^a

	%				N of Cases			
	Age of Woman at Time of Interview	LT 25y. 25-34y.	GE 35y.	All Ages	LT 25y. 25-34y.	GE 35y.	All Ages	
Northeast								
Rural	8.2	7.8	8.3	8.0	707	714	526	1947
Urban	12.7	5.4	2.6	7.5	145	168	83	396
Northwest								
Rural	7.8	8.4	7.2	7.9	677	736	462	1875
Urban	15.5	12.6	4.4	11.7	132	128	86	345
Southeast								
Rural	5.8	16.8	18.6	12.7	1166	821	795	2781
Urban	5.9	16.2	17.4	10.6	202	95	61	358
Southwest								
Rural	9.2	18.0	18.1	15.1	307	310	308	924
Urban	11.0	25.4	18.7	17.5	476	342	284	1102
Rural								
Northeast	8.2	7.8	8.3	8.0	707	714	526	1947
Northwest	7.8	8.4	7.2	7.9	677	736	462	1875
Southeast	5.8	16.8	18.6	12.7	1166	821	795	2781
Southwest	9.2	18.0	18.1	15.1	307	310	308	924
Urban								
Northeast	12.7	5.4	2.6	7.5	145	168	83	396
Northwest	15.5	12.6	4.4	11.7	132	128	86	345
Southeast	5.9	16.2	17.4	10.6	202	95	61	358
Southwest	11.0	25.4	18.7	17.5	476	342	284	1102

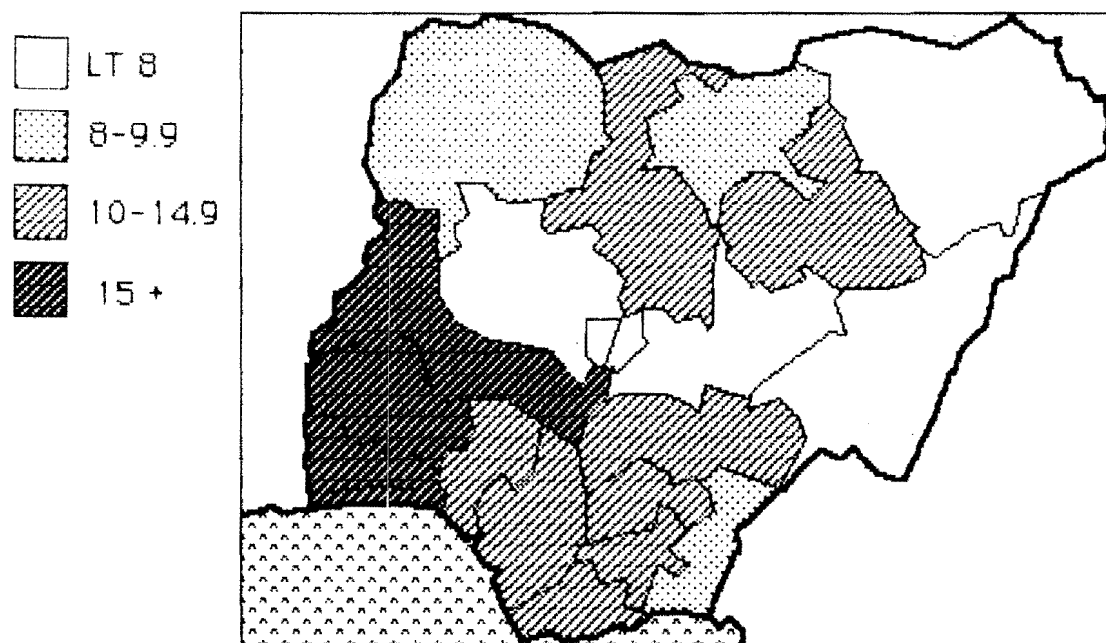


FIGURE 15 : PERCENTAGE REPORTING A NEGATIVE FIRST PREGNANCY INTERVAL

centres of the other regions. On the other hand, more urban women than rural women had early post-marital births (as expected) while fewer urban women than rural women in the northeast and the southeast had their first birth within the first nine months of marriage. Combining the information from the two tables, we find that while urban areas of the northeast and southwest have higher rates than rural areas, but that the opposite holds in the north-west and the southeast.

A few violations of the generalization are also noticeable in Tables 35 and 36. The percentage of illiterates and women with some primary education having negative first birth intervals is higher than the percentage of literates reporting the same event. In two cases, religion and last work status, the dichotomy is difficult to sustain. Among the religious groups, Catholics, with their modernity attributes, record the lowest incidence of premarital conception and birth - a result of Catholic's insistence on chastity as a condition for marital rites - whereas the traditional religionists, well noted for traditionalism on other scores, have the second highest incidence of premarital conception and birth. It is only the Moslems, with a proportion of 20.8%, Protestants and other Christians with proportions of 26.3% and 31.1% respectively, who behave as expected. The Moslems with low education, smaller representation in wage sector employment and greater parental control, behave to type. When each of two negative intervals are considered separately, the Catholics maintain their low incidence on both but the Moslems record a higher incidence than "other Christians" with respect to negative first birth intervals. This feature implies that Christians are more prone to legitimise their prenuptial conception through shotgun marriages.

The same picture of divergent patterns is exhibited by work-status categories. Women reported as not working, who are expected to have high incidence because of their above average education, recorded the lowest incidence whereas the self-employed women recorded the highest. What has probably happened is that the educated women in each of these categories pulled up the rate while the rural women pulled it down, the final outcome depending on which pull was stronger.

This analysis has shown that assigning a central place to economic and social modernization in explaining levels and trends of pre-marital births needs major qualifications. Premarital births were sometimes found to be more frequent in the northern (less modernized) than in the southern (more modernized) parts of the country. The incidence was also high among some subgroups without attributes of modernization.

It does appear that premarital births are likely to characterize both modern and traditional segments of the population. The current concern of Nigerian society, implying that the present generation is an epoch of considerable immorality and the pre-1950 was an era of great virtue, seems unfounded. It could be that the absolute number of premarital births is large but there are many more unmarried women in the fecund age now than in the past. Furthermore, marriage is later now than in the past when girls were married off either immediately after they attained puberty or when they were suspected of having a pregnancy. It is also possible that pre-marital sex has increased but the increased practice and effectiveness of contraception has prevented the translation into premarital fertility of such practice. However, it is the group characterized by traditionalism who are not likely to use contraceptive that are found, in important instances, to have a low incidence of premarital births. When members of these traditional groups enter the wage

Table 35 : Percentage of Women with a Negative First Birth Interval by Subgroup

Subgroup	%				N of Cases			
	Age of Woman at Time of Interview	LT 25y. 25-34y.	GE 35y.	All Ages	LT 25y. 25-34y.	GE 35y.	All Ages	
<u>Type of Place of Residence</u>								
- Rural	7.9	12.6	11.6	10.5	2857	2580	2091	7527
- Urban	7.0	10.1	16.2	10.3	612	474	340	1426
- Large Urban	6.4	13.0	16.6	10.9	343	259	174	776
<u>Literacy Status of Woman</u>								
- Can Read	4.3	12.4	12.7	7.3	1858	741	304	2903
- Cannot Read	10.8	12.2	12.5	11.9	1953	2572	2302	6826
<u>Literacy Status of Partner</u>								
- Can Read	10.6	13.2	12.5	12.1	1106	1318	779	3203
- Cannot Read	11.7	11.8	12.3	12.0	1190	1924	1803	4917
<u>Religion</u>								
- Catholic	3.8	11.2	10.7	7.4	818	463	367	1648
- Protestant	7.5	16.2	15.0	12.2	500	359	335	1194
- Other Christian	6.3	10.5	10.4	8.7	623	488	412	1523
- Moslem	9.3	12.0	13.0	11.3	1617	1659	1151	4427
- Traditional	14.8	13.8	13.3	13.9	150	215	205	570
<u>Years of Education of Woman</u>								
- 0 yrs	10.8	12.2	12.4	11.9	1809	2508	2283	6599
- 1-4 yrs	7.4	10.9	12.9	9.9	301	301	150	752
- 5-7 yrs	6.6	14.8	16.4	9.8	773	319	130	1222
- 8+ yrs	2.2	10.5	3.0	3.5	929	185	42	1156
<u>Region of Residence</u>								
- Northeast	6.0	11.9	7.3	8.6	852	882	609	2343
- Northwest	13.7	11.4	13.8	12.8	809	864	548	2221
- Southeast	5.2	11.3	10.8	8.5	1368	916	856	3139
- Southwest	7.3	15.3	19.1	13.3	782	652	592	2027
<u>Years of Education of Partner</u>								
- 0 yrs	11.5	12.3	12.1	12.1	851	1581	1626	4058
- 1-4 yrs	12.6	10.9	5.2	9.8	144	224	141	509
- 5-7 yrs	11.5	13.0	10.6	11.9	415	468	286	1168
- 8+ yrs	8.1	11.7	10.3	10.1	293	336	127	756
<u>Last Work Status of Woman</u>								
- Family Farm	7.7	11.9	11.3	10.7	533	923	893	2349
- Family Employed	6.1	15.0	8.6	8.8	73	32	41	146
- Other Paid Cash	7.7	12.5	13.2	10.9	232	265	147	644
- Other Employed	7.1	12.6	11.4	10.2	199	179	171	549
- Self Employed	14.1	12.6	15.1	13.8	712	1048	874	2634
- Did Not Work	5.4	12.1	10.5	7.8	2062	865	480	3407

Table 36 : Percentage of Women with a Negative First Pregnancy Interval by Subgroup

Subgroup	%				N of Cases			
Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Type of Place of Residence</u>								
- Rural	7.2	12.1	13.4	10.6	2857	2580	2091	7527
- Urban	9.6	15.7	13.9	12.4	612	474	340	1426
- Large Urban	13.0	21.7	12.8	15.9	343	259	174	776
<u>Literacy Status of Woman</u>								
- Can Read	6.3	17.4	15.8	10.2	1858	741	304	2903
- Cannot Read	9.8	12.0	13.1	11.8	1953	2572	2302	6826
<u>Literacy Status of Partner</u>								
- Can Read	16.2	15.8	15.6	15.9	1106	208	779	3203
- Cannot Read	11.0	12.0	12.7	12.0	1190	1924	1803	4917
<u>Religion</u>								
- Catholic	5.2	20.1	17.3	12.1	818	463	367	1648
- Protestant	10.5	13.7	19.8	14.1	500	359	335	1194
- Other Christian	7.9	14.7	16.4	12.4	623	488	412	1523
- Moslem	8.7	10.5	9.2	9.5	1617	1659	1151	4427
- Traditional	13.8	12.1	15.8	13.9	150	215	205	570
<u>Years of Education of Woman</u>								
- 0 yrs	9.9	11.6	12.5	11.4	1809	2508	2283	6599
- 1-4 yrs	11.8	19.3	20.1	16.4	301	301	150	752
- 5-7 yrs	9.1	17.6	16.5	12.1	773	319	130	1222
- 8+ yrs	2.8	17.8	31.0	6.2	929	185	42	1156
<u>Region of Residence</u>								
- Northeast	9.0	7.3	7.4	7.9	852	882	609	2343
- Northwest	9.1	9.0	6.8	8.5	809	864	548	2221
- Southeast	5.8	16.8	18.5	12.5	1368	916	856	3139
- Southwest	10.3	21.9	18.4	16.4	782	652	592	2027
<u>Years of Education of Partner</u>								
- 0 yrs	11.6	12.0	12.8	12.2	851	1581	1626	4058
- 1-4 yrs	18.1	12.3	21.9	16.6	144	224	141	509
- 5-7 yrs	16.5	18.2	16.8	17.2	415	468	286	1168
- 8+ yrs	18.6	20.4	24.8	20.4	293	336	127	155
<u>Last Work Status of Woman</u>								
- Family Farm	12.5	13.9	14.7	13.9	533	923	893	2349
- Family Employed	9.9	24.3	25.5	17.5	73	32	41	146
- Other Paid Cash	13.3	18.3	20.1	17.0	232	265	147	644
- Other Employed	4.3	10.0	10.4	8.1	199	179	171	549
- Self Employed	15.7	15.4	12.5	14.5	712	1048	874	2634
- Did Not Work	4.1	8.5	10.7	6.2	2062	865	480	3407

sector economy, their immunity from pre-marital birth is likely to be either removed or weakened.

2.2.4. Contraception before the first live birth

Given the high value placed on children, the strong belief that the sole purpose of marriage is reproduction rather than love or companionship, and the prevalence of pre-marital births, it seems unlikely that many Nigerian women would consciously delay the arrival of their first baby by the use of contraceptives. There are no direct data on timing of contraceptive use. For some information on the use of contraception before the first live birth, we must resort to indirect data. This information is presented in Table 37 showing the proportions who have ever used contraception among nulliparous women. These proportions are likely to overstate contraceptive use because non-contraceptors tend to be selected out of women who have not yet had a birth.

The table shows that no nulliparous single women above age 34 had used contraceptive to delay her first live birth. Among women under 35, between 8 and 18 per cent of all nulliparous women ever used contraception. From age 20, the incidence of contraceptive use decreases as the age of the women increases, suggesting that contraceptive use is probably a new development just gaining ground among younger women who have probably not been in any union and who would probably marry late. These women are likely to be highly educated women who are delaying the arrival of their first birth either until the completion of their education or until they have worked for some time before embarking on a child-bearing career. This suspicion is reinforced by two pieces of information. First, most of the users under 30 report use of the efficient methods. The use of effective forms of birth control must be rare among uneducated nulliparous women. Second, when the analysis is restricted to ever-married women, the proportions reporting ever having used contraception are lower, not higher and the ratios of efficient users decrease rather than increase.

It would appear, therefore, that those who marry relatively late are more likely to use contraception to prevent a pregnancy that could result from pre-marital sexual cohabitation. However, the very low percentage of users (which can be put at roughly 10 and 5 per cent among all and ever-married nulliparous women respectively) shows that, in the country and at the present time, contraception has only a limited impact on fertility through delaying the first birth.

2.2.5. Sterility

While the use of contraceptives to delay a woman's first live birth is undertaken voluntarily, her first live birth may also be delayed involuntarily by the existence of pathological sterility. In a society like Nigeria, where marriage is not only universal but also early, where contraceptive use is low and where childlessness is a source of chagrin, the incidence of primary sterility can be operationalized through the proportion of ever-married women with enough exposure who never had a baby or a pregnancy, and that of early secondary sterility by the proportion who have not progressed beyond two live births. Three exposure requirements have been imposed: a duration of at least five, ten and fifteen years since first marriage. As the duration requirement becomes more stringent, the number of observations decreases, but the measure becomes more efficient. The increased effectiveness of the measure is due to the fact that in most natural fertility populations that do not have pathological sterility, a

Table 37 : Percentage Ever-Used Contraception by Current Age, for Nulliparous Women, Nigeria

Current Age	All Women				Ever-married			
	Never Used	Used		N	Never Used	Used		N
		Inefficient Method	Efficient Method			Inefficient Method	Efficient Method	
(Abstinence regarded as an inefficient method of contraception)								
15-19	85.4	6.5	8.2	495	96.0	2.9	1.1	352
20-24	82.6	10.4	7.0	278	90.1	5.7	4.2	184
25-29	87.3	3.9	8.8	153	96.3	1.9	1.8	126
30-34	92.5	6.5	1.0	87	94.9	5.1	0.0	79
35-39	100.0	0.0	0.0	63	100.0	0.0	0.0	57
40-44	100.0	0.0	0.0	64	100.0	0.0	0.0	62
45-49	100.0	0.0	0.0	48	100.0	0.0	0.0	47
15-49	87.7	6.1	6.2	1189	95.5	3.0	1.5	907

Tabel 38 : Percentage of Currently Married Women, Married for at least 5 Years without a Live Birth and Without a Pregnancy :
Place and Region of Residence

Place & Region	Never Pregnant		No Live Birth	
	%	N	%	N
<u>Northeast</u>				
Rural	7.6	1479	8.2	1479
Urban	6.0	284	6.1	283
<u>Northwest</u>				
Rural	10.8	1473	12.1	1473
Urban	11.3	269	12.6	269
<u>Southeast</u>				
Rural	1.7	1484	1.7	1484
Urban	3.7	136	3.5	136
<u>Southwest</u>				
Rural	1.6	622	1.7	622
Urban	1.4	585	1.6	585
<u>Rural</u>				
Northeast	7.6	1479	8.2	1479
Northwest	10.8	1473	12.1	1473
Southeast	1.7	1484	1.7	1484
Southwest	1.6	622	1.7	622
<u>Urban</u>				
Northeast	6.0	284	6.1	283
Northwest	11.3	269	12.6	269
Southeast	3.7	136	3.5	136
Southwest	1.4	585	1.6	585

Table 39 : Percentage of Currently Married Women Married for at least 5 Years without a Live Birth and without a Pregnancy : Subgroups

Subgroup	Never Pregnant		No Live Births	
	%	N	%	N
<u>Type of Place of Residence</u>				
- Rural	6.0	5057	6.6	5057
- Urban	5.1	820	5.6	820
- Large Urban	4.1	453	4.2	453
<u>Literacy Status of Woman</u>				
- Can Read	2.0	1052	2.4	1052
- Cannot Read	6.5	5278	7.1	5278
<u>Literacy Status of Partner</u>				
- Can Read	3.4	2315	3.9	2315
- Cannot Read	7.2	4015	7.7	4015
<u>Religion</u>				
- Catholic	1.6	798	1.7	798
- Protestant	1.3	669	1.3	669
- Other Christian	1.9	871	1.9	871
- Moslem	9.1	3331	10.1	3331
- Traditional	3.7	423	4.2	423
<u>Years of Education of Woman</u>				
- 0 yrs	6.8	5202	7.4	5202
- 1-4 yrs	0.7	495	0.7	495
- 5-7 yrs	1.9	464	1.9	464
- 8+ yrs	0.0	169	0.7	169
<u>Region of Residence</u>				
- Northeast	7.3	1762	7.9	1762
- Northwest	10.9	1742	12.2	1742
- Southeast	1.8	1619	1.8	1619
- Southwest	1.5	1207	1.6	1207
<u>Years of Education of Partner</u>				
- 0 yrs	6.7	3334	7.1	3334
- 1-4 yrs	1.1	398	1.8	398
- 5-7 yrs	2.0	830	2.1	830
- 8+ yrs	2.2	469	3.1	469
<u>Last Work Status of Woman</u>				
- Family Farm	3.1	1892	3.3	1892
- Family Employed	8.4	84	8.4	84
- Others Paid Cash	4.1	354	4.4	354
- Others Employed	11.2	339	11.7	339
- Self Employed	5.5	2058	6.0	2058
- Did Not Work	8.4	1604	9.5	1604
Nigeria	5.8	6330	6.3	6330

Table 40 : Percentage of Women with Sufficient Exposure (married at least 10 Years or aged 30+) who have no Live Birth and who have not progressed beyond 2 Live Births : Place and Region

Place & Region	Currently Married				Ever Married			
	No live birth	Married at least 10 Years 1-2 births	< 2 births	N of Cases	No live birth	Current Age 30-49 1-2 births	< 2 births	N of Cases
<u>Northeast</u>								
Rural	7.0	18.1	25.1	1112	9.1	18.7	27.8	868
Urban	5.8	26.4	32.2	204	7.4	19.4	26.8	139
<u>Northwest</u>								
Rural	10.0	23.2	33.2	1132	10.0	20.5	30.5	802
Urban	10.3	18.5	28.8	197	13.2	18.2	31.4	148
<u>Southeast</u>								
Rural	1.5	6.0	7.5	1156	2.5	7.1	9.6	1157
Urban	3.4	10.3	13.7	103	8.0	8.2	16.2	86
<u>Southwest</u>								
Rural	1.2	12.0	13.2	471	2.1	16.0	18.1	478
Urban	1.8	8.3	10.1	409	2.2	10.8	13.0	436
<u>Rural</u>								
Northeast	7.0	18.1	25.1	1112	9.1	18.7	27.8	868
Northwest	10.0	23.2	33.2	1132	10.0	20.5	30.5	802
Southeast	1.5	6.0	7.5	1156	2.5	7.1	9.6	1157
Southwest	1.2	12.0	13.2	471	2.1	16.0	18.1	478
<u>Urban</u>								
Northeast	5.8	26.4	32.2	204	7.4	19.4	26.8	139
Northwest	10.3	18.5	28.8	197	13.2	18.2	31.4	148
Southeast	3.4	10.3	13.7	103	8.0	8.2	16.2	86
Southwest	1.8	8.3	10.1	409	2.2	10.8	13.0	436

Table 41 : Percentage of Women with Sufficient Exposure (married at least 10 Years or aged 30+) who have no Live Births and who have not progressed beyond 2 Live Births : Subgroups

Subgroups	Currently Married Married at least 10 Years				Ever Married Current Age 30-49			
	No live birth	1-2 births	< 2 births	N of Cases	No live birth	1-2 births	< 2 births	N of Cases
<u>Type of Place of Residence</u>								
- Rural	5.5	15.2	20.7	3781	6.0	14.7	20.7	3304
- Urban	5.1	16.3	21.4	604	6.3	13.8	20.1	514
- Large Urban	3.6	11.9	15.5	310	4.7	12.6	17.3	296
<u>Literacy Status of Woman</u>								
- Can Read	1.9	7.9	9.8	670	2.7	11.3	14.0	577
- Cannot Read	5.7	16.3	22.0	4114	6.5	14.9	21.4	3537
<u>Literacy Status of Partner</u>								
- Can Read	2.7	11.1	13.8	1602	2.8	11.2	14.0	1349
- Cannot Read	6.7	17.2	23.9	3183	7.5	16.0	23.5	2765
<u>Religion</u>								
- Catholic	1.4	8.8	10.2	583	2.8	10.0	12.8	558
- Protestant	0.7	7.7	8.4	504	1.4	9.8	11.2	476
- Other Christian	1.6	8.8	10.4	644	2.7	10.6	13.3	636
- Moslem	8.6	19.9	28.5	2516	9.0	18.7	27.7	1932
- Traditional	3.6	13.2	16.8	343	4.6	10.5	15.1	324
<u>Years of Education of Woman</u>								
- 0 yrs	6.2	16.3	22.5	4060	6.9	14.9	21.8	3488
- 1-4 yrs	0.7	8.4	9.1	339	1.0	7.8	8.8	282
- 5-7 yrs	1.2	6.3	7.5	287	1.4	10.9	12.3	245
- 8+ yrs	0.0	17.7	17.7	99	3.7	24.2	27.9	99
<u>Region of Residence</u>								
- Northeast	6.8	19.4	26.2	1316	8.8	18.8	27.6	1007
- Northwest	10.0	22.5	32.5	1329	10.5	20.1	30.6	950
- Southeast	1.6	6.4	8.0	1259	2.9	7.2	10.1	1243
- Southwest	1.5	10.3	11.8	881	2.2	13.5	15.7	913
<u>Years of Education of Partner</u>								
- 0 yrs	6.4	16.9	23.3	2682	7.2	16.0	23.2	2413
- 1-4 yrs	0.9	13.0	13.9	291	1.4	9.2	10.6	251
- 5-7 yrs	1.7	9.2	10.9	567	1.5	11.4	12.9	498
- 8+ yrs	2.0	8.8	10.8	284	3.6	10.5	14.1	245
<u>Last Work Status of Woman</u>								
- Family Farm	2.8	12.1	14.9	1524	3.7	11.2	14.9	1366
- Family Employed	8.7	16.4	25.1	48	6.9	14.9	21.8	56
- Others Paid Cash	5.4	11.5	16.9	245	8.7	16.1	24.8	245
- Others Employed	9.2	20.7	29.9	269	9.1	23.0	32.1	259
- Self Employed	5.5	13.0	18.5	1569	5.9	12.5	18.4	1372
- Did Not Work	7.5	21.7	29.2	1114	8.0	19.8	27.8	815
Nigeria	5.4	15.1	20.5	4785	5.9	14.4	20.3	4114

Table 42 : Percentage of Women with Sufficient Exposure (Married at least 15 Years or aged 35+) who have no Live Births and who have not progressed beyond 2 Live Births : Place and Region

Place and Region	Currently Married Married at least 15 years (1+2)				Ever Married Current Age 35-49 (1+2)			
	1 No live birth	2 1-2 births	3 < 2 births	4 N of Cases	1 No live birth	2 1-2 births	3 < 2 births	4 N of Cases
<u>Northeast</u>								
Rural	7.9	15.2	23.1	695	10.2	20.7	30.9	529
Urban	7.4	16.6	24.0	103	10.0	16.5	26.5	83
<u>Northwest</u>								
Rural	8.6	20.8	29.4	704	10.6	18.8	29.4	462
Urban	13.7	19.2	32.9	140	15.2	22.1	37.3	86
<u>Southeast</u>								
Rural	1.1	4.7	5.8	782	3.4	6.1	9.5	779
Urban	4.8	5.5	10.3	59	9.7	8.2	17.9	59
<u>Southwest</u>								
Rural	0.9	9.5	10.4	315	1.3	12.7	14.0	306
Urban	1.8	7.9	9.7	258	2.0	7.8	9.8	284
<u>Rural</u>								
Northeast	7.9	15.2	23.1	695	10.2	20.7	30.9	529
Northwest	8.6	20.8	29.4	704	10.6	18.8	29.4	462
Southeast	1.1	4.7	5.8	782	3.4	6.1	9.5	779
Southwest	0.9	9.5	10.4	315	1.3	12.7	14.0	306
<u>Urban</u>								
Northeast	7.4	16.6	24.0	103	10.0	16.5	26.5	83
Northwest	13.7	19.2	32.9	140	15.2	22.1	37.3	86
Southeast	4.8	5.5	10.3	59	9.7	8.2	17.9	59
Southwest	1.8	7.9	9.7	258	2.0	7.8	9.8	284

small proportion of women still have their second births as late as 5, 10 or even 15 years after marriage. Although the results obtained for each of the requirements are presented, we restrict our discussion to the middle requirement, which is ten years of marital life (or 25 years of age), and to primary sterility, which is most relevant to the starting pattern of family formation. The long exposure requirement raises the problem of mis-reporting of events in the remote past because of memory lapse. It is unlikely that a woman will omit a child if only a few were born and, in particular, when forgetting would move the reporting woman to the wrong side of the critical "no child - at least one child" dichotomy. Therefore, the measures should be relatively reliable.

The results are presented in Tables 38 to 45. In general, a high incidence of sterility tends to be associated with women who have traditional characteristics, while the incidence declines as women move into the modern society. The expected relationship follows naturally from the advantageous position modern women occupy with respect to medical facilities, and the lower incidence of pregnancy in early adolescence and its attendant risk. It is not unlikely, though, that other concomitants of modernization may intervene to produce an opposite effect. For example, it is possible that the large population of prostitutes in many cities may fuel a high incidence of sterility in these cities even though the characteristics of city dwellers are modern. This spectre emerges only when the most stringent measure is applied and only within the place of residence categories (Tables 42 and 44). The incidence of childlessness is generally higher in urban than in rural areas. Among other subgroups in Table 43, and in all other tables except those reporting place and region of residence, the expected pattern holds. Since the patterns are remarkably similar in all the tables, the following discussion will draw heavily on Tables 44 and 45 which depict, in addition to level, the apparent trend of sterility.

At the national level, the incidence of sterility declined systematically up to the last but one cohort. Cohorts born before 1937 and who were procreating in the 1950's recorded 8.0 per cent childness. The next cohort reduced this incidence slightly to 6.9 per cent. The largest reduction occurred among the cohorts born after 1942 but before 1952 and who were procreating in the 1960's and early 1970's. They had a percentage childless of only 5.

The results for the subgroups (Table 45) show two patterns. First, in general, the trend in each of the categories is similar to that of the nation. Starting with the oldest cohort and working down, the proportions childless tend to diminish. Second, in details, the incidence of childlessness varies to a remarkable degree. Urban women tend to have higher proportions of childlessness among the cohorts born before 1942. For younger cohorts, the incidence of sterility is higher in the rural than in the urban areas. Similarly, a comparison of women in each of the educational categories shows that the proportions childless are higher among the illiterates above age 34 whereas they are lower for illiterate women below age 35. Among religious categories, Catholics and Protestants stand out with very small proportions of childless women particularly among the women over 30 years old. In those age groups, the percentage of childless Moslem women is very high.

The most prominent feature among the regions is the extra-ordinarily high percentage of childless women reported for the two northern regions, a feature closely akin to the sterility zone of northern

Table 43 : Percentage of Women with Sufficient Exposure (married) at least 15 Years or aged 35+) who have no Live Births and who have not progressed beyond 2 Live Births : Subgroups

Subgroups	Currently Married Married at least 15 Years (1+2)				Ever Married Current Age 35-49 (1+2)			
	1 No live birth	2 1-2 births	3 < 2 births	4 N of Cases	1 No live birth	2 1-2 births	3 < 2 births	4 N of Cases
<u>Type of Place of Residence</u>								
- Rural	5.1	12.8	17.9	2496	6.4	13.6	20.0	2071
- Urban	6.6	12.8	19.4	371	7.2	12.5	19.7	338
- Large Urban	5.2	10.7	15.9	190	4.8	10.0	14.8	173
<u>Literacy Status of Woman</u>								
- Can Read	2.1	6.6	8.7	340	1.9	8.6	10.5	299
- Cannot Read	5.7	13.4	19.1	2717	7.0	13.8	20.8	2283
<u>Literacy Status of Partner</u>								
- Can Read	2.2	8.1	10.3	944	2.2	8.7	10.9	779
- Cannot Read	6.7	14.7	21.4	2113	8.2	15.2	23.4	1803
<u>Religion</u>								
- Catholic	0.9	6.6	7.5	365	2.7	9.7	12.4	362
- Protestant	1.0	5.6	6.6	327	0.9	7.6	8.5	333
- Other Christian	1.5	9.0	10.5	434	3.4	8.2	11.6	403
- Moslem	8.6	17.2	25.8	1571	9.8	18.1	27.9	1149
- Traditional	4.8	5.8	10.6	225	6.3	9.5	15.8	203
<u>Years of Education of Woman</u>								
- 0 yrs	5.9	13.6	19.5	2680	7.1	14.0	21.1	2265
- 1-4 yrs	0.8	4.9	5.7	188	1.4	5.7	7.1	149
- 5-7 yrs	1.3	4.3	5.6	142	2.0	10.4	12.4	129
- 8+ yrs	0.0	17.4	17.4	45	0.0	9.0	9.0	40
<u>Region</u>								
- Northeast	7.8	15.4	23.2	798	10.2	20.2	30.4	606
- Northwest	9.5	29.6	30.1	844	11.3	19.3	30.6	548
- Southeast	1.4	4.7	6.1	841	3.8	6.2	10.0	839
- Southwest	1.3	8.8	10.1	573	1.6	10.4	12.0	590
<u>Years of Education of Partner</u>								
- 0 yrs	6.4	13.7	20.1	1810	7.5	15.3	22.8	1626
- 1-4 yrs	0.9	6.8	7.7	178	1.8	6.1	7.9	141
- 5-7 yrs	0.9	8.5	9.4	330	1.0	8.7	9.7	286
- 8+ yrs	3.3	5.9	9.2	139	3.6	5.4	9.0	127
<u>Last Work Status of Woman</u>								
- Family Farm	2.9	8.5	11.4	998	4.5	9.7	14.2	890
- Family Employed	7.2	16.7	23.9	41	7.2	17.5	24.7	41
- Others Paid Cash	5.7	11.7	17.4	139	9.9	9.2	19.1	146
- Others Employed	9.0	19.7	28.7	180	9.9	23.4	33.3	166
- Self Employed	5.4	11.5	16.9	1018	5.7	12.1	17.8	866
- Did Not Work	7.4	18.5	25.9	680	8.9	19.2	28.1	473
Nigeria	5.3	12.6	17.9	3056	6.4	13.2	19.6	2582

Table 44 : Percentage of Ever-married Women without a Live Birth by Age, Duration since First Marriage and Place & Region of Residence

	Age and Birth Cohort						Duration since First Union					
	45-49 1932-36	40-45 1937-41	35-39 1942-46	30-34 1947-51	25-29 1952-56	20-24 1957-61	30+	25-29	20-24	15-19	10-14	5-9
<u>Northeast</u>												
Rural	7.4	13.1	9.5	7.4	7.1	11.9	8.1	10.5	10.6	6.7	5.9	12.0
Urban	(15.3)	(18.6)	5.1	3.6	3.4	10.5	(16.5)	(26.5)	3.7	0.8	3.0	8.8
<u>Northwest</u>												
Rural	11.8	12.4	8.3	9.2	10.5	20.2	11.9	11.2	9.8	6.0	12.3	19.3
Urban	(28.1)	14.4	8.9	10.4	5.0	14.6	(28.5)	(21.9)	4.5	12.6	2.9	19.1
<u>Southeast</u>												
Rural	8.0	0.5	2.5	0.7	7.0	9.1	2.7	4.8	2.9	0.8	2.2	3.9
Urban	(18.9)	(14.1)	(0.0)	(4.3)	14.7	8.4	(0.0)	(0.0)	(13.0)	9.5	1.4	3.9
<u>Southwest</u>												
Rural	0.0	2.4	0.8	3.5	2.3	4.1	(0.0)	1.7	2.4	0.3	1.7	3.5
Urban	2.0	3.4	0.5	2.7	6.7	13.3	(7.0)	2.3	1.8	0.2	1.7	1.8
Nigeria	8.0	6.9	5.2	5.1	7.4	12.7	7.9	8.3	6.0	4.0	5.5	9.8
<u>Rural</u>												
Northeast	7.4	13.1	9.5	7.4	7.1	11.9	8.1	10.5	10.6	6.7	5.9	12.0
Northwest	11.8	12.4	8.3	9.2	10.5	20.2	11.9	11.2	9.8	6.0	12.3	19.3
Southeast	8.0	0.5	2.5	0.7	7.0	9.1	2.7	4.8	2.9	0.8	2.2	3.9
Southwest	0.0	2.4	0.8	3.5	2.3	4.1	(0.0)	1.7	2.4	0.2	1.7	3.5
<u>Urban</u>												
Northeast	(15.3)	(18.6)	5.1	3.6	3.4	10.5	(16.5)	(26.5)	3.7	0.8	3.0	8.8
Northwest	(28.1)	14.4	8.9	10.4	5.0	14.6	(28.5)	(21.9)	4.5	12.6	2.9	19.1
Southeast	(18.9)	(14.1)	(0.0)	(4.3)	14.7	8.4	(0.0)	(0.0)	(13.0)	9.5	1.4	3.9
Southwest	2.0	3.4	0.5	2.7	6.7	13.3	(7.0)	2.3	1.8	0.2	1.7	1.8

Table 45 : Percentage of Ever-Married Women without a Live Birth by Age, by Duration since First Marriage and by Subgroups

Subgroup	Age and Birth Cohort						Duration since First Union					
	45-49 1932-36	40-44 1937-41	35-39 1942-46	30-34 1947-51	25-29 1952-56	20-24 1957-61	30+	25-29	20-24	15-19	10-14	5-9
<u>Type of Place of Residence</u>												
- Rural	7.5	6.5	5.8	5.3	7.6	12.8	6.5	7.6	6.6	3.7	6.3	10.7
- Urban	9.0	10.0	3.9	4.7	6.5	12.7	11.3	13.1	5.1	6.1	2.9	8.0
- Large Urban	(13.6)	5.4	0.9	4.6	7.2	11.6	(22.0)	8.6	1.1	3.2	1.0	5.8
<u>Literacy of Woman</u>												
- Can Read	3.6	2.7	1.1	3.5	9.1	11.3	(6.6)	(6.3)	1.3	1.3	1.7	4.9
- Cannot Read	8.3	7.3	5.9	5.5	6.8	13.3	8.0	8.3	6.6	4.4	6.4	11.5
<u>Literacy Status of Partner</u>												
- Can Read	2.9	2.1	2.1	3.6	8.0	10.6	2.9	4.5	0.9	1.8	3.6	7.3
- Cannot Read	9.9	8.8	6.7	6.0	6.9	14.8	9.6	9.7	8.1	5.1	6.6	12.0
<u>Religion</u>												
- Catholic	8.0	0.0	1.8	3.0	5.5	11.7	0.0	1.1	4.6	0.9	2.0	2.4
- Protestant	1.1	1.2	0.4	2.7	7.2	8.0	0.0	3.4	0.3	0.5	0.9	6.9
- Other Christian	4.5	4.1	2.1	1.5	6.8	9.7	2.9	6.4	1.1	2.0	1.9	2.6
- Moslem	11.6	12.4	7.0	7.9	8.6	15.5	14.6	12.7	7.7	6.3	8.7	14.7
- Traditional	11.7	2.2	7.4	1.6	1.0	10.3	(7.3)	7.4	4.8	4.0	1.1	6.7
<u>Years of Education of Woman</u>												
- 0 yrs	8.3	7.7	5.9	6.0	7.0	13.4	8.3	8.4	6.7	4.7	6.7	12.2
- 1-4 yrs	(2.3)	0.0	1.9	0.7	0.0	8.2	(4.0)	(0.0)	0.0	1.3	0.6	0.6
- 5-7 yrs	(7.0)	0.0	2.0	0.7	13.8	9.3	(0.0)	(12.5)	1.4	0.3	1.1	5.9
- 8+ yrs	(0.0)	(0.0)	(0.0)	6.3	11.2	20.1	(0.0)	(0.0)	(0.0)	0.0	0.0	3.4
<u>Region of Residence</u>												
- Northeast	8.0	13.8	8.8	6.8	6.3	11.7	8.7	13.0	9.5	6.0	5.3	11.4
- Northwest	14.3	12.7	8.4	9.4	9.7	19.3	15.4	12.6	8.9	7.2	11.2	19.3
- Southeast	8.7	1.5	2.3	0.9	7.9	9.0	2.6	4.6	3.6	1.5	2.1	3.9
- Southwest	1.0	2.8	0.7	3.1	4.8	9.7	4.5	2.0	2.1	0.3	1.7	2.6
<u>Years of Education of Partner</u>												
- 0 yrs	9.2	7.3	6.5	6.6	6.2	14.1	7.4	9.2	7.6	5.2	6.4	10.2
- 1-4 yrs	0.0	1.0	2.9	0.9	4.0	7.7	(0.0)	(0.0)	0.6	1.2	0.8	4.2
- 5-7 yrs	0.0	1.2	1.2	2.2	7.6	8.5	0.0	2.5	0.0	1.2	3.4	4.6
- 8+ yrs	(1.8)	5.6	3.1	3.6	12.0	12.4	(15.2)	(10.2)	2.9	0.8	0.7	5.1
<u>Last Work Status of Woman</u>												
- Family Farm	6.2	4.1	3.6	2.1	3.2	7.1	2.6	4.8	5.1	2.0	2.5	5.1
- Family Employed	(0.0)	(22.1)	(0.0)	(6.0)	(4.5)	(22.2)	(0.0)	(0.0)	(20.7)	(0.0)	(11.3)	(7.1)
- Other Paid Cash	(6.4)	9.3	11.3	6.9	10.3	13.8	(14.5)	(5.8)	13.5	4.9	4.7	2.3
- Other Employed	7.3	11.9	10.0	7.6	15.9	20.7	(6.5)	(4.1)	10.0	10.4	10.3	21.6
- Self Employed	10.4	6.8	2.1	6.1	6.6	11.0	10.5	11.9	2.1	4.2	5.7	8.7
- Did Not Work	9.0	8.7	9.0	6.7	9.8	16.1	15.0	9.3	9.1	4.6	7.6	14.5
Nigeria	8.0	6.9	5.2	5.1	7.4	12.7	7.9	8.3	6.0	4.0	5.5	9.8

() Estimates based on less than 30 cases

Cameroon, with which the northeast shares a boundary. This observation remains unchanged with more liberal indicators of definitive childlessness. Among the occupational categories, women employed in the family farm record the lowest proportions childless.

This general pattern is confirmed by the right-hand panel of Table 45 in which the data are presented by duration since first marriage. Women with more than 29 years of exposure would have embarked on their marital career in 1952. Since the difference between the mean age at marriage and the mean age at birth is about three years, these women would have started childbearing in 1955. At that time, they had a sterility level of about 8 per cent. The level was almost the same for the preceding marriage cohort whose members were procreating in the early 1950's. There is a 2 to 4 percentage point decrease in the level of childlessness to women who were contributing their fertility in the 1960's and early 1970's. Thereafter, the incidence of childlessness appears to start increasing again reaching 9.8 per cent for those married between 5 and 10 years, but this figure will undoubtedly drop as this marriage promotion proceeds to longer exposure. It is hence too early to speculate about a possible trend reversal.

To sum up, an incidence of sterility of less than 10 per cent is low when compared with what one obtains in the high infecundity zone of Central and East Africa. It is, however, fairly high when compared with other West African countries where childlessness hovers around 3-5 per cent. The main reason for this is that the Central African sterility belt cuts across Northern Cameroon into northern Nigeria, a feature which earlier authors have pointed out.

2.3. Conclusion

The data presented in this chapter show that childbearing is started at a relatively early average age of 19.8 years. There is a gap of about 5 years between trimean age at menarche and trimean age at first birth. This gap is attributable to two main factors, the individual contribution of which cannot be quantified because of the nature of the data. There is the biological factor operating through the delay between menarche and the onset of regular ovulation. There is the behavioural factor attributable in part to delay entry into a sexual union. There seems very little attempt to delay first births by the use of contraception. Indeed, a significant number of women enter marriage after either a birth or a pregnancy. It is also noticed that the incidence of sterility is still low by African standards, except in the northern regions.

The differentiation among the various categories of the subgroups points to the role of socio-economic factors in dividing the women along the line of traditionalist and modern. Women with high levels of education, who are employed in the modern sector of the economy or who are living in relatively more developed parts of the country, are leading the way in changing the attitudes that can positively bring down fertility. They are marrying later and thereby delaying the arrival of their first baby.

A concomitant of the new freedom is the higher prevalence of pre-marital pregnancies and births among the modern compared to the traditional women. But the incidence of premarital births is significantly affected by religion. Both Catholics and Moslems are relatively little

affected by the trend. In all religions, the traditional teaching on sexual morality forbids premarital sex. But while members of other religions appear to have dissented from this teaching, Catholics and Moslems have not, a situation which suggests a stronger social control. This is not unexpected for Moslems whose level of education and degree of involvement in wage employment are lower and whose early age at marriage tends to preclude premarital pregnancies and births. Yet, the higher incidence of premarital births in Sokoto is puzzling.

The control apparently being exercised over Catholic girls is also surprising because of the modern attributes of Catholic youths. Of the women with primary education, 30.4 per cent are Catholics compared with 14.3 per cent Moslems; and of those with secondary or more education 39.2 per cent are Catholics against 12.8 per cent Moslems. It is probable that it was not only parental and school control that was at work, but the need to uphold an aspect of Vatican orthodoxy on sexual ethics in order to qualify for church marriage. Since marriage licences were granted under a papal charter that forbid premarital pregnancy, Catholic girls who desired church marriage must prevent pre-marital pregnancy, if not sex, through the use of contraception. Although the number of users was small, Catholic women led other women in the use of effective birth control methods forbidden by Rome. As long as many of them desire church marriage the incidence of pre-marital births will be low but the use of contraceptives will increase. If one were to judge by the rise in fundamentalist doctrine in Islam, one can say that for a long time to come, fertility among Moslems would remain within the framework of marriage.

It must be stressed that the conclusions reached here with respect to association between demographic and socio-economic variables are not based on multivariate analytic techniques. The disadvantage is that the results may be affected when many explanatory variables are introduced simultaneously. The approach here enables one to see in detail, the specific correlates which shape reproductive behaviour and provides an idea of which variables to include in a multivariate analysis.

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CHAPTER 3

BIRTH SPACING PATTERNS

3.1. Introduction

Child-spacing, operating through prolonged breastfeeding and post-partum abstinence, has been the most important strategy by which the various Nigerian societies regulate their reproductive capacity. The rationale lies in the health function of prolonged breastfeeding and post-partum abstinence.

For the child, the advantages of breastfeeding are many. Firstly, breastfeeding provides partial immunological protection which guards the child against infection. The concentration of active agents providing the protection is highest in the colostrum, the high-protein fluid secreted during the first post-partum days when the child's immune system is most immature (Pitt, 1979). In an environment where morbidity (and hence mortality) rates, particularly those of gastroenteritis and diarrhoeal diseases, are high, this protective action of maternal milk improves the health of the child. Secondly, the nutrients contained in human milk ensure that all the very young child's nutritional needs are satisfied. It is an important source of protein especially in those parts of the country that rely heavily on protein-deficient diets. Thirdly, when such breastfeeding is prolonged, it protects the child against precipitous weaning and adverse consequences, particularly the risk of mortality which short durations of breastfeeding portend (Hobcraft et al, 1983).

For the woman, a long breast-feeding duration allows her to recover physically from one pregnancy before beginning the next. In Nigeria, where contraceptive use is low among a significant proportion of the population, long breastfeeding durations prolong the birth-intervals by extending the post-partum amenorrhoea period, thereby contributing to both maternal and child health.

The long post-partum abstinence is achieved through several mechanisms all of which are designed to create a large psychological and social distance between wives and their husbands as well as forbid sexual intercourse for a nursing mother.

The first of these mechanisms is polygyny. In all Nigerian societies, polygyny is intimately bound with economic and family life and is supported nearly as much by women as by men for economic, social and cultural reasons. Women are prime economic assets. In the agricultural sector, wives constitute a significant part of the working capital of their husband. The larger the number of farm hands, the bigger the land that can be cultivated, the larger the income of the household and the greater the power and the prestige that accrue to the head of the household. In the commercial sector, women are engaged in trading. Their involvement in the exchange economy enables them to generate substantial independent incomes, a situation which allows them to contribute to household and child care expenses. The appropriation of the productive capacity of women is thus the economic rationale for the institution of polygyny not only in Nigeria, but also in other parts of Africa (Phillips, 1953).

The social and demographic bases are equally strong. In many Nigerian societies, sons constitute the greatest wealth of the lineage.

Sons are required not only to perpetuate the name of the lineage but also to perform some rituals believed to be critical to the survival of the lineage. Polygyny is an insurance against both sub-fecundity and a succession of daughters. Furthermore, the surplus of women brought about by higher mortality amongst them, together with the large differential marriage age between the sexes fuels polygyny. The system also provides an efficient marriage net for widows and divorcees through fast remarriage.

The approval which culture bestows on the practice of polygyny is demonstrated by the honour which society confers on a polygynous husband. He is respected and may be conferred a chieftaincy title for his success in life, such success being measured by the number of wives. The honour extends to the senior wife or wives whose stout support for the practice is due partly to enlightened self-interest. The senior wives enjoy a lot of privileges in matters of worship and family administration. As in other African societies the additional wives, by providing an emotional outlet for husbands during the long years of breast-feeding and post-partum abstinence, save the nursing woman from sexual demands from her husband. Furthermore, among a number of communities, a woman undergoing a period of post-partum confinement is ritually unclean and cannot, therefore, move close to her husband; neither can she handle anything he is to use. Another wife is required to perform these functions until the parturient woman is declared "clean" again (Basden, 1966, Meek, 1971, Temple, 1965).

The second mechanism is geographical separation of the nursing woman from her husband. The distance and period involved in such a separation vary from society to society. Long distance and period are involved when the woman returns to her lineage at confinement and stays there throughout the period of breastfeeding. Relatively short distance and time go with sequestration. A special hut is built for the breastfeeding woman in the compound of her husband. There, she remains sequestered with her child until the period of abstinence is over. The shortest distance and period entail a separate sleeping arrangement for the nursing mother until such a time as tradition requires before resumption of sexual intercourse. The extent to which distance and period of separation correlate cannot be ascertained in the absence of quantifiable data. What is obvious is that the relocation of the woman makes for stricter enforcement of the post-partum rule.

As in other parts of the world, increasing modernization has brought about a redefinition of internalised values. Such a redefinition is subject to individual rationalization of the child-spacing traditional norms. Consequently, many of the institutional supports that once upheld these time-honoured methods of child-spacing have been eroded. While no single factor of modernization provides a sufficient condition for the breakdown of normative behaviour, education has been found to be a critical element (Lesthaeghe, Page and Adegbola, 1981 and Caldwell and Caldwell, 1977). Since education as a measure of modernization/westernization is closely associated with other important determinants of child-spacing (such as type of employment, place of residence), it should be expected that the impact of modernization on child-spacing variables increases not only with increased schooling but also with the degree of employment in the modern sector and with the size of place of residence. By the same token, the impact should also be greater among Christian women and women residing in the southern regions by virtue of their possession of higher education. Thus, women with these attributes of modernization should be expected to have shorter durations of each of the proximate determinants of birth spacing intervals. On the other hand, Moslems, rural dwellers, traditional

- sector workers and northerners would be little affected by social change eroding traditional child-bearing and child-rearing practice. In what follows, the post-partum non-susceptible period and its determinants are examined.

3.2. The post-partum Non-susceptible Period and Its Determinants

3.2.1. The post-partum variables

The post-partum variable critical to birth-intervals is the non-susceptible period, made up of not only the duration of amenorrhoea but also that of post-partum abstinence. Although a woman is susceptible after lactational amenorrhoea has ended, any part of the post-partum abstinence period that occurs after lactational amenorrhoea has ceased is often treated as part of the non-susceptible period for analytical and conceptual conveniences: both post-partum amenorrhoea and post-partum abstinence start at the moment of delivery, they cover partially overlapping time periods and the data take the same basic form.

The duration of post-partum amenorrhoea depends on the duration of frequent and intense breastfeeding. Amenorrhoea varies from about 1.5 to 2 months post-partum on average in the complete absence of breastfeeding to more than 18 months when frequent and unsupplemented breastfeeding is prolonged.

Just as nature links amenorrhoea with breast-feeding, so also does tradition link post-partum abstinence with breastfeeding. As pointed out above, a lactating mother is forbidden from having sexual relation with her husband. The post-partum sexual abstinence is essentially a means of maximising the duration of breast-feeding by avoiding another pregnancy that could otherwise come too soon.

If the period of abstinence is shorter than the period of amenorrhoea, it has no separate impact on fertility. Where it is longer, it adds to the birth interval. The overall non-susceptible period (nsp) can therefore be defined for individual woman as whichever is longer, the period of lactational amenorrhoea or the period of post-partum abstinence. The mean length of the nsp is not equal to the mean duration of abstinence nor to the mean of amenorrhoea: nor is it equal to whichever of the two means is longer. It is always longer than either of them. This holds even in cases where women have short abstinence durations, for it is enough to have one woman with abstinence longer than amenorrhoea for the mean duration of nsp to exceed that of amenorrhoea.

The unit of observation used here for the measurement of these variables is the birth rather than the woman. The measures obtained give estimates of the mean durations of amenorrhoea, breastfeeding (including partial as well as full breastfeeding), full breastfeeding, post-partum abstinence and overall nsp following recent births. The measures are estimated as prevalence-incidence ratios described in detail in chapter 1.

3.2.2. Post-partum amenorrhoea and breast-feeding

It is important to stress that the estimates presented here are slightly biased not only for the oldest but also for the youngest cohort. The bias, which is in opposite directions for the two cohorts, is brought about by the lack of a constant stream of births, a situation which violates the stationarity assumption. Only the central age groups can be

Table 46 : Prevalence-Incidence Ratios for Various Events by Age of Woman : The Whole Country

Age group	P/I					N of Cases				
	Breast-feeding	Full Breast-feeding	Amenorrhoea	Abstinence	Non-Susceptible Period	Breast-feeding	Full Breast-feeding	Amenorrhoea	Abstinence	Non-Susceptible Period
15-19	20.7	6.7	13.6	16.5	19.0	359	351	349	356	346
20-24	20.3	4.8	13.3	17.1	19.3	789	775	769	783	768
25-29	19.4	4.8	14.2	16.2	18.9	869	865	859	866	852
30-34	19.8	4.7	13.8	17.7	19.8	620	606	604	613	597
35-39	22.0	5.6	14.9	17.6	20.9	312	309	301	300	287
40-44	20.7	5.8	13.2	17.8	19.6	144	138	141	144	141
45-49	25.1	5.4	16.8	22.0	23.1	45	44	45	45	45
All ages	20.3	5.2	13.9	17.1	19.5	3143	3091	3070	3112	3040

N refers to the number of births in the two years preceding the survey.

() Estimation based on less than 30 observations.

safely assumed to meet all the stationarity assumptions and it is on them that attention should be focussed.

Table 46 (fourth column) shows that the mean duration of amenorrhoea for the country is 13.9 months. The lack of clear-cut pattern among the age groups reflects the bias pointed out above. Values for the middle age groups (20-39) show some general trend towards lower duration of amenorrhoea for the younger cohorts although the trend is not systematic. This pattern points to the fact that relatively young women are much more closely associated with modernization than their older counterparts. This relationship is clearly observable within subgroups (Tables 47 and 48). In most of these subgroups, younger cohorts are associated with shorter durations of amenorrhoea. Notable exceptions include Moslems, northwesterners and rural north-westerners among whom older women record the shortest durations.

The marked differences that occur among the subgroups follow the traditional-modern dichotomy. As expected, women with traditional attributes tend to have longer durations. Concentrating on women in the central age groups, we observe the following pattern: Women in rural areas with a duration of 14.5 months are clearly differentiated from urban and city women who have durations of 13.6 and 10.8 months respectively. This pattern is exhibited in all the regions except in the northwest where the duration of amenorrhoea is almost two and a half months higher among urban than rural women (Table 48). Duration decreases with educational level, the difference between women with no education and those with more than seven years of education being nearly 6 months. Within the religious subgroups, Christians of all denominations have shorter durations than Moslems and traditional religionists. Among the regions the northwest alone has a particularly long duration while the durations for the southeast is only 0.2 months shorter than that of the northeast. Rather surprisingly, the duration is longer in the southeast than in the northeast even though women in the former score higher on the modernization attributes than those in the latter. Of the categories with sufficient number of cases in the "work status"-subgroups, women employed in the modern sector of the economy ("other paid cash") alone have a particularly short duration while the farm workers (traditional sector workers), have a particularly long one.

The areal pattern displayed in Figure 16 shows that the durations differ considerably among the states, ranging from 8.3 to 17.2 months. The longest durations of over 17 months are found among women in Kano and Sokoto while the shortest durations are recorded for Bendel and Plateau states. In general, the pattern shows a north-south dichotomy with the south having short durations and the north long durations. Within the north, the eastern section has a shorter duration than the western and the middle belt sections. In the south, Bendel forms a trough between the relatively long-duration zones of east and west.

The results for breastfeeding (both breastfeeding in general and full breastfeeding in particular) are presented in columns two and three of Table 46 and in Tables 50-56. The national mean duration of breast-feeding of 20.3 months is fairly long. The duration is shortest among women in the central age group (25-34). Full breastfeeding is also quite short among these cohorts although the short duration extends to the age group 20-24. One of the striking features of the age patterns of the three variables - amenorrhoea, breastfeeding in general and full breastfeeding - is their relationship to one another. The ranking of the age groups according to

Table 47 : Prevalence-Incidence Ratios, Amenorrhoea by Age of Woman and by Various Subgroups

Subgroup	P/I				N of Cases				
	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Type of Place of Residence</u>									
- Rural	14.0	14.5	14.7	14.3	857	1121	386	2365	
- Urban	12.3	13.6	13.5	13.1	142	217	66	426	
- Large Urban	10.8	10.8	15.2	11.3	119	124	34	278	
<u>Literacy Status of Woman</u>									
- Can Read	10.8	10.9	10.9	10.8	376	378	88	843	
- Cannot Read	14.7	15.1	15.4	15.0	742	1085	399	2227	
<u>Literacy Status of Partner</u>									
- Can Read	11.1	12.7	13.4	12.1	595	673	196	1465	
- Cannot Read	16.3	15.2	15.3	15.6	505	788	291	1584	
<u>Religion</u>									
- Catholic	11.0	12.8	13.9	12.2	167	227	55	450	
- Protestant	12.1	13.5	17.4	13.8	136	191	79	407	
- Other Christians	10.0	11.3	11.9	10.9	196	252	87	536	
- Moslem	15.4	15.6	14.4	15.3	540	653	204	1398	
- Traditional	14.6	17.1	17.7	16.5	53	94	34	182	
<u>Years of Education of Woman</u>									
- 0 yrs	14.9	14.9	15.1	15.0	693	1039	398	2131	
- 1-4 yrs	11.7	14.0	14.9	13.2	137	168	34	340	
- 5-7 yrs	11.3	11.1	10.1	11.1	213	174	48	436	
- 8+ yrs	8.4	9.0	(12.0)	8.8	75	80	6	162	
<u>Region of Residence</u>									
- Northeast	13.3	13.3	14.0	13.4	318	398	131	849	
- Northwest	16.2	17.4	15.4	16.6	282	272	77	632	
- Southeast	12.6	13.1	14.3	13.1	324	442	136	903	
- Southwest	10.8	13.5	14.9	13.1	193	350	142	686	
<u>Years of Education of Partner</u>									
- 0 yrs	14.9	15.1	15.1	15.1	330	669	287	1287	
- 1-4 yrs	12.7	10.3	(14.8)	11.7	80	111	26	219	
- 5-7 yrs	11.9	13.8	12.0	12.7	265	243	81	590	
- 8+ yrs	8.5	11.4	(13.1)	10.2	175	187	29	391	
<u>Last Work Status of Woman</u>									
- Family Farm	13.7	14.1	16.9	14.6	252	441	173	866	
- Family Employed	(11.3)	14.1	15.9)	13.0	10	13	6	38	
- Other Paid Cash	8.7	8.7	13.8	9.2	77	121	23	222	
- Other Employed	13.7	13.4	(11.3)	13.0	40	72	28	141	
- Self Employed	13.7	15.1	14.7	14.5	330	430	161	922	
- Did Not Work	13.9	14.6	11.2	13.9	400	383	94	879	

N refers to the number of births in the two years preceeding the survey

() Estimations based on less than 30 observations

Table 4.8 : Prevalence-Incidence Ratios, Amenorrhoea by Age of Woman, by Region and Place of Residence

Subgroup	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>									
Rural		13.5	13.7	13.0	13.5	260	326	113	701
Urban		12.6	11.2	(20.1)	12.9	57	71	18	147
<u>Northwest</u>									
Rural		16.3	17.0	15.8	16.5	238	229	63	530
Urban		15.6	19.4	(13.2)	16.9	44	43	13	101
<u>Southeast</u>									
Rural		13.0	13.3	15.1	13.5	284	403	129	817
Urban		9.9	10.5	(0.8)	9.3	39	38	7	85
<u>Southwest</u>									
Rural		12.0	15.4	15.5	14.6	73	162	80	316
Urban		10.1	12.0	14.2	11.7	120	188	61	370
<u>Rural</u>									
Northeast		13.5	13.7	13.0	13.5	260	326	113	701
Northwest		16.3	17.0	15.8	16.5	238	229	63	530
Southeast		13.0	13.3	15.1	13.5	284	403	129	817
Southwest		12.0	15.4	15.5	14.6	73	162	80	316
<u>Urban</u>									
Northeast		12.6	11.2	(20.1)	12.9	57	71	18	147
Northwest		15.6	19.4	(13.2)	16.9	44	43	13	101
Southeast		9.9	10.5	(0.8)	9.3	39	38	7	85
Southwest		10.1	12.0	14.2	11.7	120	188	61	370

() Estimation based on less than 30 observations

N refers to the number of births in the two years preceeding the survey.

duration shows that the groups take different ranks for each of the variables. Only the age groups 35-39 and 45-49 retain their ranks. The age groups occupying the last four ranks in breastfeeding in general take the first four positions in full breastfeeding.

The seeming lack of association between amenorrhoea and breastfeeding in general is clearly brought out when Figures 16 and 17 are compared. Instead of the north-south division observed in Figure 16, there is an east-west dichotomy. The eastern half of the country forms a solid zone of short breastfeeding duration. For five states, the duration of breastfeeding is less than 17 months whereas the duration is over 22 - well above the national average - for seven states.

It thus seems that a knowledge of breastfeeding need not accurately predict the duration of amenorrhoea. By contrast, the length of full breastfeeding can predict, very roughly, the duration of amenorrhoea. Figure 18 exhibits almost the same north-south dichotomy as Figure 16 shows for amenorrhoea with the boundary of short full breastfeeding duration shifting further north to include Kwara and Benue states. Most states where women have long average periods of amenorrhoea are also states where children are fully breastfed for a rather long time: Sokoto and Kano states record the longest period of both amenorrhoea and full breastfeeding followed by Kaduna, Gongola, Borno and Bauchi. Also, states which record short amenorrhoea durations tend to report short durations of full breastfeeding. Exceptions to this pattern are Kwara, Benue, Ogun and Ondo states where women have relatively long periods of amenorrhoea but relatively short periods of full breastfeeding. It thus appears that, in general, the intensity of full breastfeeding is critical to a strong relationship between amenorrhoea and breastfeeding.

Although the relationship between overall breastfeeding in general and full breastfeeding is rather weak, it appears that the duration of breastfeeding in general is affected in several states by the timing of stopping full breastfeeding. In general, women with short durations of full breastfeeding tend to have longer periods of overall breastfeeding and vice-versa. Women in six states who stopped fully breastfeeding their children after 2.4 months (a relatively short period) breastfed them in general for a total of 22 months (long period). On the other hand, in another six states, 5 or more months (a relatively short period) of full breastfeeding is extended by supplemented breastfeeding to a total period of between 11.5 and 15.9 months (short period). In only one state, Sokoto, is an exceptionally long period of full breastfeeding (10.6 months) associated with a remarkably long total period of breastfeeding (28.8 months). In most of the remaining states, short durations of full-breastfeeding (2.5 - 4.3 months) are associated with average durations of overall breastfeeding (15.2 to 16.8 months).

Some relationship between amenorrhoea and breastfeeding is also noticeable among the subgroups even though such a relationship exists only between amenorrhoea and full breastfeeding at the national and state level. A comparison of Table 47 with Tables 51 and 52 and of Table 48 with Tables 54 and 55 shows that the duration of amenorrhoea is generally quite consistent with that of breastfeeding, both overall and full. The patterns of difference among subgroups are identical in both variables. Women with traditional attributes breastfeed their children longer than women with modern characteristics. The exception to this general pattern is the place-of-residence subgroup. Here, a short duration of breastfeeding is not very common and rural residents are hardly differentiated from urban

Table 49 : Prevalence-Incidence Ratios Amenorrhoea by Age of Woman and by States

States	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
Anambra		15.2	16.5	15.6	15.8	102	101	36	240
Bauchi		18.6	12.1	(4.7)	13.4	70	86	29	186
Bendel		9.2	7.5	(8.8)	8.3	35	47	19	101
Benue		12.6	18.1	18.9	16.2	54	62	31	148
Borno		14.6	12.9	17.1	14.2	84	90	31	206
Cross-River		13.2	12.3	(12.2)	12.6	84	125	15	225
Gongola		12.3	13.2	(13.9)	13.0	70	113	25	209
Imo		11.2	12.0	11.8	11.7	76	150	63	289
Kaduna		15.2	18.0	(12.6)	16.3	80	103	25	209
Kano		17.6	18.0	(12.1)	17.2	133	68	20	222
Kwara		(14.5)	16.0	(20.3)	16.5	19	64	20	104
Lagos		7.8	12.9	(12.3)	10.9	47	53	26	128
Niger		(10.1)	16.0	(17.4)	14.8	18	46	11	77
Ogun		(12.3)	(17.2)	(17.9)	15.6	28	26	20	76
Ondo		(11.9)	16.5	(17.5)	15.8	28	93	25	147
Oyo		12.4	10.4	(13.3)	11.6	33	64	29	128
Plateau		3.8	9.8	(16.1)	8.3	38	45	13	97
Rivers		9.2	11.7	(20.6)	12.0	61	64	21	147
Sokoto		16.1	16.4	(21.3)	17.1	49	53	18	122

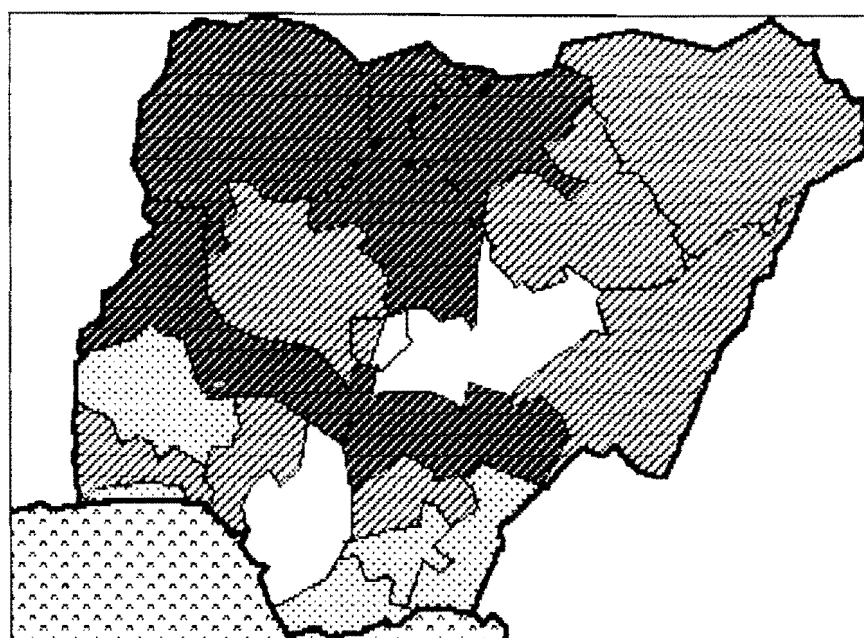
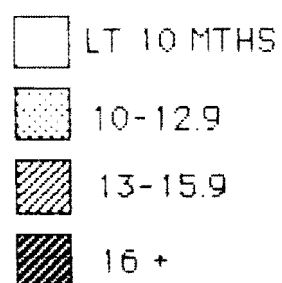


FIGURE 16 : MEAN LENGTH OF POSTPARTUM AMENORRHOEA
(PREVALENCE-INCIDENCE RATIO)

Table 50 : Prevalence-Indicence Ratios Breastfeeding by Age of Woman and by State

States	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
Anambra		19.4	20.0	22.4	20.1	103	105	36	245
Bauchi		21.0	16.9	(15.3)	18.2	70	87	29	187
Bendel		15.1	15.8	(18.4)	16.0	35	46	19	100
Benue		18.0	20.8	20.3	19.7	55	64	34	154
Borno		19.2	21.3	18.4	20.0	86	92	32	211
Cross-River		18.1	14.6	(15.1)	16.0	85	127	16	230
Gongola		16.6	16.4	(15.8)	16.4	71	115	25	212
Imo		17.2	16.3	17.2	16.8	81	147	68	297
Kaduna		21.6	21.3	(17.4)	20.9	82	106	25	214
Kano		22.1	18.3	(19.2)	20.6	134	70	20	225
Kwara		(28.0)	21.9	(22.9)	23.3	22	69	20	111
Lagos		22.9	24.0	(27.7)	24.3	48	53	27	130
Niger		(23.1)	21.2	(27.5)	22.8	24	52	14	91
Ogun		(27.4)	(29.0)	(36.6)	30.4	29	27	20	77
Ondo		(20.7)	24.4	(27.2)	24.2	29	93	25	148
Oyo		29.1	27.1	(32.2)	28.8	34	64	29	129
Plateau		19.9	16.0	(18.4)	17.9	38	45	13	97
Rivers		16.6	11.6	(21.5)	15.2	64	64	21	150
Sokoto		27.6	27.9	(34.3)	28.8	50	56	18	125

() Estimation based on less than 30 observations.

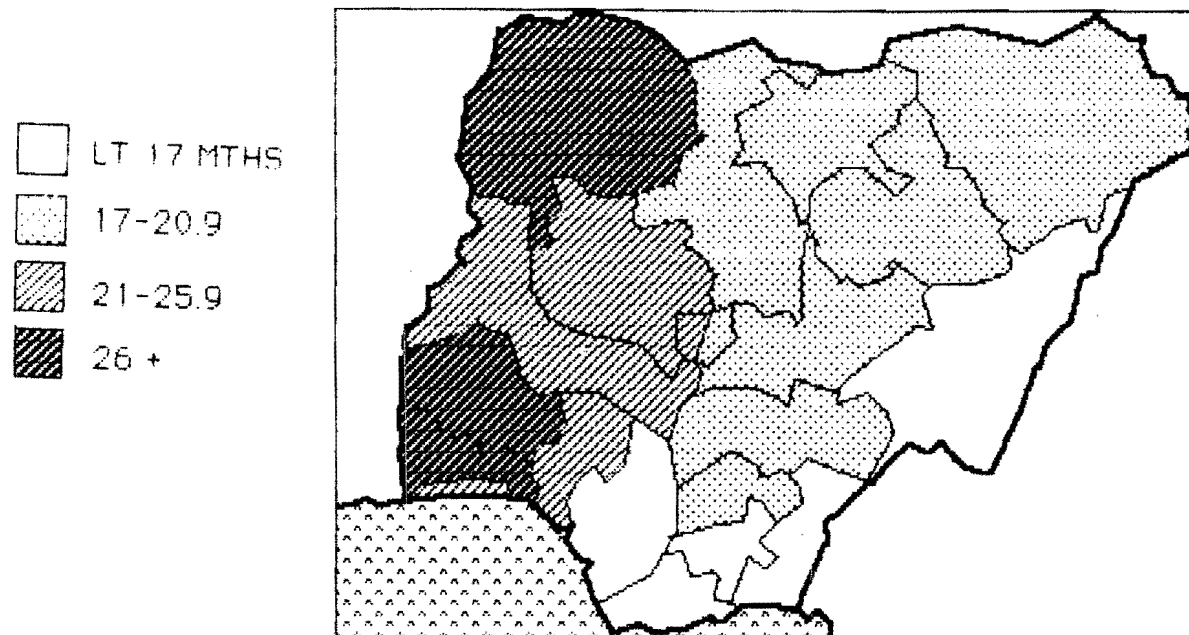


FIGURE 17 : MEAN LENGTH OF BREAST-FEEDING
(PREVALENCE - INCIDENCE RATIO)

Table 51 : Prevalence-Incidence Ratios, Full Breast-feeding by Age of Woman and by State

States	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
Anambra		3.7	4.3	6.0	4.3	103	102	36	243
Bauchi		6.7	5.6	(8.1)	6.4	70	87	29	186
Bendel		3.8	3.5	(2.7)	3.4	34	44	19	98
Benue		1.4	2.5	4.0	2.4	55	62	34	152
Borno		7.5	3.8	6.3	5.7	86	92	32	211
Cross-River		2.0	2.7	(4.3)	2.5	85	127	16	230
Gongola		9.2	9.6	(10.9)	9.6	69	113	22	205
Imo		4.4	2.3	2.8	3.0	79	147	68	295
Kaduna		10.1	10.9	(5.8)	10.0	81	105	24	211
Kano		10.7	11.2	(6.5)	10.5	126	69	20	216
Kwara		(1.7)	1.6	(3.3)	2.0	22	69	20	111
Lagos		1.1	0.8	(1.3)	1.4	48	53	27	130
Niger		(1.8)	2.2	(3.9)	2.4	22	52	12	86
Ogun		(0.8)	(1.9)	(4.3)	2.2	26	25	20	72
Ondo		(0.3)	2.6	(3.9)	2.4	29	92	25	147
Oyo		6.2	2.3	(6.0)	4.2	34	64	29	129
Plateau		3.1	5.8	(7.9)	5.0	38	44	12	95
Rivers		1.5	2.3	(16.6)	4.1	61	60	21	143
Sokoto		9.5	11.7	(10.3)	10.6	48	54	18	121

() Estimation based on less than 30 observations

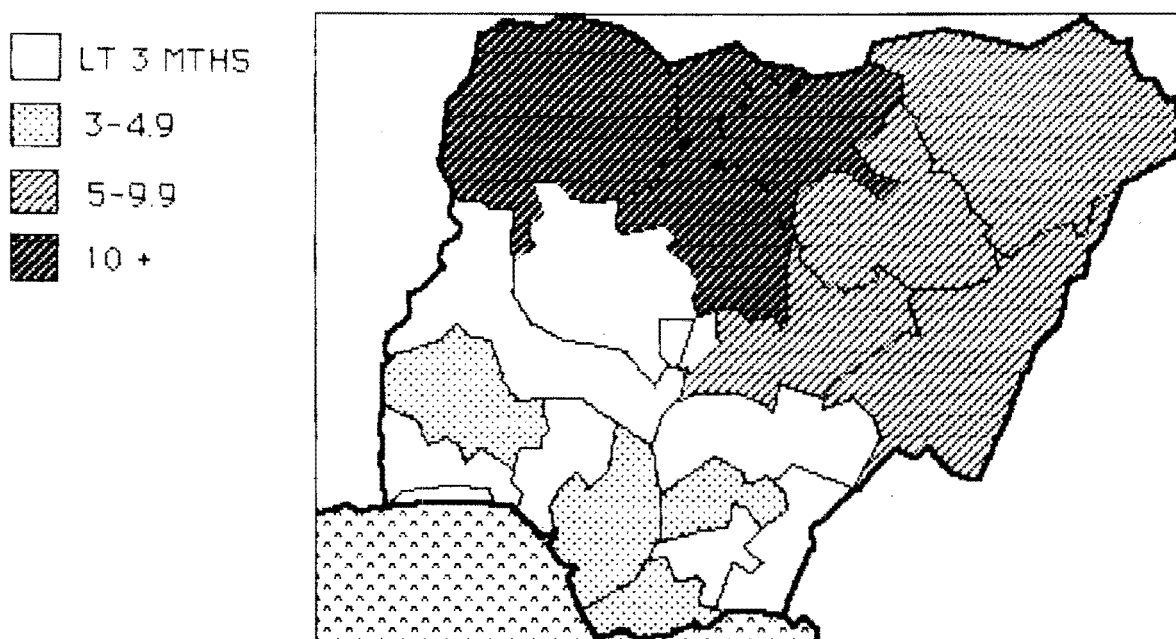


FIGURE 18 : MEAN LENGTH OF UNSUPPLEMENTED BREAST-FEEDING
(PREVALENCE-INCIDENCE RATIO)

Table 52 : Prevalence-Incidence Ratios, Breast-feeding by Age of Woman and Various Subgroups

Subgroup	P/I				N of Cases				
	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Type of Place of Residence</u>									
- Rural		20.4	19.3	21.9	20.2	878	1140	400	2419
- Urban		20.7	20.3	22.8	20.8	149	220	67	438
- Large Urban		20.6	20.1	20.6	20.4	121	128	35	285
<u>Literacy Status of Woman</u>									
- Can Read		18.5	17.0	19.7	18.0	390	380	88	859
- Cannot Read		21.5	20.4	22.4	21.1	759	1108	415	2283
<u>Literacy Status of Partner</u>									
- Can Read		19.5	19.4	20.2	19.6	611	684	199	1495
- Cannot Read		21.5	19.7	23.1	20.9	520	803	304	1627
<u>Religion</u>									
- Catholic		18.6	17.5	20.4	18.3	168	227	61	457
- Protestant		19.3	18.8	22.4	19.7	148	193	81	423
- Other Christians		18.1	16.9	21.1	18.0	203	252	87	543
- Moslem		22.1	21.1	22.4	21.7	549	672	211	1434
- Traditional		21.9	21.2	26.0	22.3	56	97	35	188
<u>Years of Education of Woman</u>									
- 0 yrs		21.8	20.3	22.5	21.2	708	1062	413	2184
- 1-4 yrs		17.6	20.5	17.7	19.1	137	170	35	343
- 5-7 yrs		18.9	15.8	18.2	17.6	225	180	48	454
- 8+ yrs		17.4	15.5	(37.6)	17.2	77	76	6	160
<u>Region of Residence</u>									
- Northeast		18.9	18.3	17.7	18.4	323	404	135	863
- Northwest		23.0	21.9	23.7	22.6	291	285	80	657
- Southeast		18.0	16.0	18.9	17.2	335	444	143	923
- Southwest		23.5	23.6	27.9	24.4	199	355	143	698
<u>Years of Education of Partner</u>									
- 0 yrs		21.1	19.6	21.4	20.4	345	681	297	1325
- 1-4 yrs		20.0	19.1	(20.4)	19.6	81	113	28	223
- 5-7 yrs		19.2	19.4	19.4	19.3	271	250	81	604
- 8+ yrs		17.7	17.7	22.5	18.1	182	185	30	398
<u>Last Work Status of Woman</u>									
- Family Farm		19.5	19.0	21.5	19.6	254	446	179	879
- Family Employed		(19.2)	15.1	18.0	(17.6)	20	13	6	40
- Other Paid Cash		16.6	15.8	25.5	17.1	79	124	23	227
- Other Employed		17.9	21.9	(25.7)	21.5	40	74	28	143
- Self Employed		21.7	21.9	23.2	22.1	338	446	169	954
- Did Not Work		21.1	18.4	18.6	19.7	417	384	96	898

() Estimation based on less than 30 observations.

N refers to the number of births in the two years preceding the survey.

Table 53 : Prevalence-Incidence Ratios, Full Breastfeeding by Age of Woman and by Various Subgroups

Subgroup	P/I				N of Cases				
	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Type of Place of Residence</u>									
- Rural	5.8	5.1	6.2	5.5	859	1126	392	2378	
- Urban	5.4	5.0	3.6	4.9	146	217	65	428	
- Large Urban	2.7	1.8	3.4	2.4	120	127	35	283	
<u>Literacy Status of Woman</u>									
- Can Read	2.4	2.7	2.3	2.5	383	377	88	849	
- Cannot Read	7.0	5.5	6.4	6.2	742	1094	404	2441	
<u>Literacy Status of Partner</u>									
- Can Read	3.3	3.9	4.9	3.8	606	677	197	1480	
- Cannot Read	8.0	5.6	6.2	6.5	501	792	295	1589	
<u>Religion</u>									
- Catholic	2.5	2.1	4.3	2.5	166	223	58	448	
- Protestant	3.1	3.2	6.5	3.8	144	189	81	416	
- Other Christians	2.6	3.2	2.9	2.9	202	247	87	537	
- Moslem	7.9	6.7	6.6	7.1	535	669	204	1408	
- Traditional	6.3	4.9	7.7	5.8	55	96	35	187	
<u>Years of Education of Woman</u>									
- 0 yrs	7.0	5.8	6.4	6.3	690	1049	402	2142	
- 1-4 yrs	3.3	3.3	2.8	3.3	133	169	35	338	
- 5-7 yrs	3.0	2.1	1.9	2.5	224	177	48	450	
- 8+ yrs	1.9	0.5	(4.0)	1.3	77	75	6	159	
<u>Region of Residence</u>									
- Northeast	6.1	5.9	7.0	6.1	321	400	130	852	
- Northwest	9.6	9.5	6.8	9.2	279	282	75	636	
- Southeast	3.0	2.9	5.8	3.4	329	438	143	911	
- Southwest	2.4	2.1	3.7	2.5	196	350	143	690	
<u>Years of Education of Partner</u>									
- 0 yrs	7.2	5.4	7.0	6.2	328	671	288	1288	
- 1-4 yrs	4.4	3.5	(1.8)	3.6	81	111	26	220	
- 5-7 yrs	3.2	3.0	4.6	3.3	268	247	81	597	
- 8+ yrs	2.0	2.7	2.5	2.4	180	185	30	396	
<u>Last Work Status of Woman</u>									
- Family Farm	4.8	4.1	6.5	4.8	247	437	177	863	
- Family Employed	(3.5	6.2	6.3	4.8)	20	13	5	40	
- Other Paid Cash	2.2	1.4	3.1	1.8	78	123	23	226	
- Other Employed	4.9	4.7	(7.0)	5.2	40	73	27	140	
- Self Employed	5.0	4.4	4.4	4.6	324	439	163	927	
- Did Not Work	6.9	7.1	6.4	6.9	414	383	94	892	

() Estimation based on less than 30 observations.

N refers to the number of births in the two years preceeding the survey.

and city dwellers. The marked distinction between the rural and urban subgroups is restored when results are tabulated by region of residence, however (Table 54).

Patterns of full-breastfeeding among subgroups fit our expectation. Rural women fully breastfeed their children three months longer than city residents, illiterates nearly 4 months more than literates, Moslem 4.5 months more than Catholics, women with no education 5 months more than women with more than 7 years of schooling, northwest residents 6.7 months more than their southwest counterparts and women in the modern sector 3 months more than women in the traditional sector. In other words, women with modern attributes use supplementary breastfeeding longer than traditional women. The additional period of supplementary full breastfeeding ranges from 21.9 months for southwesterners (compared with 12.3 months for north-easterners) through 18.0 months for city dwellers (as against 14.7 for rural residents) to 15.3 months for modern sector workers (in contrast with 14.8 for women in the traditional sector employment).

We can conclude that the period of breastfeeding is still very long in Nigeria. Its impact on the anovulatory period and hence the spacing of births is of importance. Indeed, the national average duration of 13.9 months of amenorrhoea implies that breastfeeding is prolonging anovulatory period by nearly 12 months since post-partum amenorrhoea would average about two months in the complete absence of breastfeeding. The data on subgroups show unequivocally that socio-economic characteristic is critical in explaining variations among the various categories. It is among the women with modernization attributes that the traditional breastfeeding practice has been deeply eroded. However, lactational amenorrhoea constitutes only a segment of birth interval. Post-partum abstinence which is also involved and which forms the mantelpiece of Nigerian traditional reproductive regimes is taken up in the next section.

3.2.3. Post-partum abstinence

The results for the abstinence measures are given in the fifth column of Table 46, in Tables 56, 57 and 58, and in Figure 19. With a national average of 17.1 months, the long period of abstinence characteristic of Nigerian reproductive regimes is confirmed. A marked systematic decline can be observed within the age groups. Among the oldest age group, the average duration is 22 months, whereas it is only 16.5 months among the youngest age category.

Figure 19 presents the distribution of post-partum abstinence in the country. This distribution shows a high concentration on a few values. Four states have durations within the range 21.7 and 22.7 months. Five states fall within a range of 18.7 and 19.7 months duration. The longest and shortest mean durations are found in the north: Niger and Borno with a mean of 25.2 and 10.2 months respectively. States exhibiting the shortest durations are located on the eastern borderlands and on the eastern Atlantic coast. The durations are short in Imo, Bendel, Cross-River and Rivers because women here have a relatively high level of modernization attributes. This factor is also the explanation for the short duration obtained for Lagos state even though the state is located in the traditional long duration zone of western Nigeria. The longest durations are concentrated in the west, with an extension to the middle belt state of Plateau. The persistence of age-long tradition of post-partum abstinence in this zone shows that the underlying socioeconomic differences among the populations in this zone is not yet strong enough to influence the

Table 54 : Prevalence-Incidence Ratios, Breastfeeding by Age of Woman, by Region and Place of Residence

Subgroup	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>									
Rural		19.0	18.5	17.6	18.6	263	331	116	710
Urban		18.2	17.0	(18.6)	17.7	59	73	19	152
<u>Northwest</u>									
Rural		23.3	21.9	25.1	22.9	245	240	66	552
Urban		21.3	21.5	(17.1)	20.8	46	45	14	105
<u>Southeast</u>									
Rural		18.5	16.3	19.7	17.6	293	405	136	843
Urban		14.7	13.0	(5.4)	13.1	42	38	7	89
<u>Southwest</u>									
Rural		23.2	24.7	29.2	25.5	76	162	81	321
Urban		23.7	22.6	26.2	23.5	122	192	62	317
<u>Rural</u>									
Northeast		19.0	18.5	17.6	18.6	263	331	116	710
Northwest		23.3	21.9	25.1	22.9	245	240	66	552
Southeast		18.5	16.3	19.7	17.6	293	405	136	843
Southwest		23.1	24.7	29.2	25.5	76	162	81	321
<u>Urban</u>									
Northeast		18.2	17.0	(18.6)	17.7	59	73	19	152
Northwest		21.3	21.5	(17.1)	20.8	46	45	14	105
Southeast		14.7	13.0	(5.4)	13.1	42	38	7	89
Southwest		23.7	22.6	26.2	23.5	122	192	62	317

() Estimates based on less than 30 observations

N refers to the number of births in the two years preceding the survey.

Table 55 : Prevalence-Incidence Ratios, Full Breastfeeding by Age of Woman, by Region and Place of Residence

Subgroup	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>									
Rural		6.2	5.9	7.3	6.2	261	327	113	702
Urban		5.5	5.8	(5.5)	5.6	59	72	17	150
<u>Northwest</u>									
Rural		10.4	8.9	7.1	9.3	233	237	61	532
Urban		5.4	12.8	(5.4)	8.6	45	45	13	104
<u>Southeast</u>									
Rural		2.7	3.0	6.1	3.4	287	399	136	823
Urban		4.8	1.1	(0.9)	2.9	42	38	7	88
<u>Southwest</u>									
Rural		1.9	3.0	4.2	3.0	76	161	81	320
Urban		2.7	1.4	2.9	2.1	119	189	61	369
<u>Rural</u>									
Northeast		6.2	5.9	7.3	6.2	261	327	113	702
Northwest		10.4	8.9	7.1	9.3	233	237	61	532
Southeast		2.7	3.0	6.1	3.4	287	399	136	823
Southwest		1.9	3.0	4.2	3.0	76	161	81	320
<u>Urban</u>									
Northeast		5.5	5.8	(5.5)	5.6	59	72	17	150
Northwest		5.4	12.8	(5.4)	8.6	45	45	13	104
Southeast		4.8	1.1	(0.9)	2.9	42	38	7	88
Southwest		2.7	1.4	2.9	2.1	119	189	61	369

() Estimates based on less than 30 observations.

N refers to the number of births in the two years preceeding the survey.

Table 56 : Prevalence-Incidence Ratio Abstinence by Age and by State

States	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
Anambra		17.9	20.8	23.2	19.9	104	105	36	246
Bauchi		22.3	16.9	(17.4)	19.0	70	87	29	187
Bendel		16.1	12.7	(10.2)	13.4	35	46	19	101
Benue		17.5	20.2	17.7	18.7	55	64	34	154
Borno		7.9	12.4	(10.9)	10.2	84	88	22	195
Cross-River		11.6	11.5	(12.6)	11.6	85	127	15	228
Gongola		14.6	13.5	(16.2)	14.2	71	115	25	212
Imo		14.7	14.4	13.9	14.3	76	152	68	297
Kaduna		15.8	18.2	(9.5)	16.3	82	106	25	214
Kano		20.4	16.7	(14.2)	18.7	134	65	20	220
Kwara		(23.6)	22.5	(22.1)	22.6	22	69	20	111
Lagos		15.5	16.7	(19.0)	16.7	47	51	27	127
Niger		(30.3)	21.3	(30.4)	25.2	24	52	14	91
Ogun		(21.0)	(19.2)	(25.9)	21.7	29	27	20	77
Ondo		(20.6)	22.1	(24.3)	22.2	29	93	25	148
Oyo		19.5	20.0	(23.8)	20.7	34	64	29	129
Plateau		21.5	22.3	(27.8)	22.7	38	45	13	98
Rivers		11.7	9.1	(18.0)	11.5	64	64	21	150
Sokoto		20.3	18.8	(15.6)	18.9	47	52	18	119

() Estimation based on less than 30 observations.

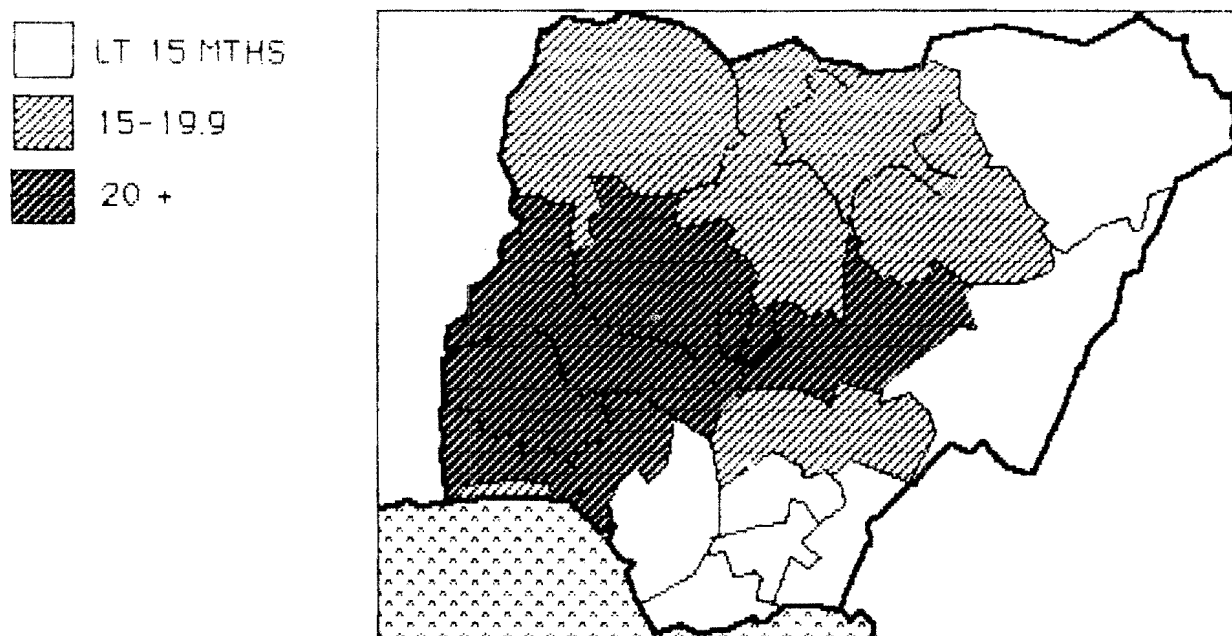


FIGURE 19 . MEAN LENGTH OF POSTPARTUM ABSTINENCE
(PREVALENCE - INCIDENCE RATIO)

Table 57 : Prevalence-Incidence Ratios, Abstinence by Age of Woman, by Region and Place of Residence

Subgroup	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>									
Rural		16.5	16.6	17.6	16.7	261	327	111	700
Urban		12.9	13.8	(14.4)	13.5	59	72	14	146
<u>Northwest</u>									
Rural		21.5	18.8	17.1	19.8	244	233	65	543
Urban		11.3	17.1	(11.3)	13.8	44	43	14	102
<u>Southeast</u>									
Rural		14.6	14.6	17.4	15.1	291	410	134	836
Urban		12.3	10.6	(5.9)	11.0	39	38	7	86
<u>Southwest</u>									
Rural		18.7	22.3	20.7	21.0	75	162	81	320
Urban		18.8	17.2	21.9	18.5	122	190	62	375
<u>Rural</u>									
Northeast		16.5	16.6	17.6	16.7	261	327	111	700
Northwest		21.5	18.8	17.1	19.8	244	233	65	543
Southeast		14.6	14.6	17.4	15.1	291	410	134	836
Southwest		18.7	22.3	20.7	21.0	75	162	81	320
<u>Urban</u>									
Northeast		12.9	13.8	(14.4)	13.5	59	72	14	146
Northwest		11.3	17.1	(11.3)	13.8	44	43	14	102
Southeast		12.3	10.6	(5.9)	11.0	39	38	7	86
Southwest		18.8	17.2	21.9	18.5	122	190	62	375

() Estimates based on less than 30 observations

N refers to the number of births in the two years preceeding the survey.

Table 58 : Prevalence-incidence Ratios, Abstinence by Age of Woman and by Various Subgroups

Subgroup	P/I				N of Cases				
	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Type of Place of Residence</u>									
- Rural		17.5	17.2	18.1	17.4	873	1135	393	2401
- Urban		15.6	15.9	17.9	16.1	145	219	62	428
- Large Urban		14.9	15.4	18.1	15.6	120	125	35	282
<u>Literacy Status of Woman</u>									
- Can Read		14.5	14.1	16.4	14.5	384	383	87	854
- Cannot Read		18.2	17.8	18.4	18.0	755	1097	404	2257
<u>Literacy Status of Partner</u>									
- Can Read		15.2	16.3	16.4	15.9	604	683	192	1481
- Cannot Read		18.9	17.3	19.1	18.2	516	794	298	1610
<u>Religion</u>									
- Catholic		16.1	15.9	19.8	16.5	168	232	61	462
- Protestant		17.2	16.3	19.9	17.3	145	193	80	419
- Other Christians		13.5	14.5	16.4	14.4	199	252	87	539
- Moslem		18.1	17.7	17.8	17.8	545	659	201	1406
- Traditional		19.8	20.2	20.6	20.2	56	97	35	189
<u>Years of Education of Woman</u>									
- 0 yrs		18.1	17.6	18.4	17.9	705	1050	403	2158
- 1-4 yrs		15.7	18.6	17.4	17.3	137	170	35	343
- 5-7 yrs		14.9	13.4	14.6	14.3	219	181	46	447
- 8+ yrs		14.5	10.0	(27.1)	12.8	77	78	6	162
<u>Region of Residence</u>									
- Northeast		15.8	16.1	17.2	16.2	321	400	125	847
- Northwest		19.9	18.6	16.0	18.9	289	277	79	646
- Southeast		14.3	14.3	16.8	14.7	331	449	142	923
- Southwest		18.8	19.5	21.2	19.7	198	352	143	695
<u>Years of Education of Partner</u>									
- 0 yrs		19.1	17.8	18.6	18.3	343	677	292	1313
- 1-4 yrs		14.7	13.4	(16.6)	14.3	82	113	27	223
- 5-7 yrs		14.9	17.2	16.1	16.0	269	249	81	600
- 8+ yrs		15.8	14.1	(21.5)	15.3	178	187	28	394
<u>Last Work Status of Woman</u>									
- Family Farm		16.1	16.7	19.8	17.1	254	442	169	866
- Family Employed		(13.2	17.6	19.5)	15.6	20	13	6	40
- Other Paid Cash		13.3	9.7	(17.3)	11.7	77	123	23	224
- Other Employed		15.0	21.3	(16.9)	18.7	40	74	28	143
- Self Employed		17.9	18.6	20.2	18.6	337	441	167	946
- Did Not Work		17.8	16.3	11.8	16.5	408	385	96	890

() Estimation based on less than 30 observations.

N refers to the number of births in the two years preceeding the survey.

intrinsic cultural norm associated with abstinence to any significant degree. The zone is, by all intents and purposes, the most westernized. The general reduction (however slight) in post-partum abstinence which modernization has brought about in the country – reflected in the age pattern – seems to have only shifted all categories down by roughly the same number of months. The result is that various regions maintain their relative positions vis-à-vis each other.

A striking feature of the map is the lack of very short durations in the Moslem states of the north. This phenomenon is more apparent in the northwestern states, with all but Kaduna state having durations of more than 18.7 months, than in the northeast, where Borno and Gongola states record durations of 10.2 and 14.2 months respectively. Even then, these latter values are far higher than the 40 days allegedly prescribed by islamic teaching, probably the Hadith (Page and Lesthaeghe, 1981).

The Nigerian case is clearly different from other Islamized populations and the reason is not far to seek. Nigerians are adept in adapting religious principles to local conditions. The 40-day abstinence injunction is a minimum requirement. This minimum goes against another traditional value which is strongly supported by the Koran. The Koran stipulates a period of two full years for breastfeeding before weaning. While the injunction is only implicit in Sura 31:41, it is very explicit in Sura 2:33:

Sura 31:41: And we have enjoined on man (to be good) to his parents: in travail upon travail did his mother bear him and in years twain was his weaning.

Sura 2:33: The mothers shall give suck to their offspring for two whole years, if the father desires to complete the term.

It is therefore mandatory for the couple, particularly the woman, to prevent a pregnancy that could come too soon and thereby precipitate weaning before the child is suckled for two years. This situation ties in well with the traditional abstinence practice and renders irrelevant the 40-day rule, which, in any case, does not enjoy consensus among Muslim scholars. It thus seems that the long period of abstinence among Nigerian Moslems reflects a conscious effort to combine authentic Moslem teaching with the obviously advantageous traditional post-partum taboo.

The long duration of abstinence among Moslems is again confirmed by Table 58 which indicates the incidence of abstinence by subgroups. There is a clear distinction between Moslem women with a duration of 17.8 months and Christian women with durations ranging from 14.4 months for "other Christians" through 16.5 for Catholics to 17.3 for Protestants. Also, all the regions with a strong Moslem population have far higher durations than the southeast, the only predominantly Christian region.

The other differentials among the categories in the subgroups follow the expected pattern. At one extreme are city dwellers, literates and women in the modern sector of the economy who have rather short durations of 15.6, 14.5 and 11.7 months respectively. These durations reflect a gradual break with tradition, a cleavage engineered and sustained by westernization. The corresponding durations are 17.4, 18.0 and 17.1 for rural residents, illiterates and traditional sector workers respectively. These values, no doubt, reflect strong adherence to traditional norms.

It is possible to examine the time trend in duration of abstinence from Table 58. Since some of the changes may be due to errors of misreporting, the following remarks should be tampered with a little caution. Nonetheless, the table reveals a steady decline over time in the duration of post-partum abstinence among women of all categories of place of residence. The highest decline of over three months is recorded by city dwellers. Literates, other Christians, traditional religionists, residents of all regions except northwesterners, family farm workers and self-employed women have also recorded some decline over time. For some subpopulations there are no clear trends. These categories exhibit a concave pattern, typical of data affected by mis-reporting by older women, with higher values reported for the youngest and oldest cohorts than for the middle age cohorts. In this group are Catholics and Protestants. Nevertheless, there is some slight evidence of a decline even in this group. Although the durations reported by women in the middle age categories are shorter than those reported by the youngest women, the latter have shorter durations than the oldest women. The few remaining subgroups, notably Moslems, northwesterners and women who never worked, recorded an increase in mean durations of abstinence.

We can conclude that the duration of abstinence in the country is not less than one and a half years. This duration, however, varies among the various subpopulations within the country. The long durations in the west contrasts sharply with the relatively short durations in the eastern parts of the country. Shorter durations are generally associated with women who have modernization attributes. Moslems who, by our classification, fall within the traditional category, record long period of abstinence in contrast to short duration usually associated with islamized societies. The trend patterns show that abstinence durations have been declining among most of the subgroups, although the relative position of the various subgroups is maintained.

3.2.4. The combined impact of post-partum amenorrhoea and abstinence: the non-susceptible period (nsp)

The overall post-partum non-susceptible period (nsp) is obtained by merging the lactational amenorrhoea and post-partum abstinence together. The results are presented in column 6 of Table 46, in Tables 59 to 60 and in Figures 20 to 22.

The means of the nsp shown in column 6, Table 46, clearly indicate that amenorrhoea and abstinence together add substantially to the average birth interval beyond the minimum possible average period of post-partum non-susceptibility. With a non-susceptible period of 19.5 months at the national level, this addition is 17.5 months. Although most of the addition is contributed by lactational amenorrhoea, the fact that nsp is longer than amenorrhoea by five and a half months on average shows that abstinence exercises a separate impact over and above that of lactational amenorrhoea. The distribution of nsp among the age groups shows that the net abstinence bonus is greatest among the oldest women with an addition of 6.3 months. It is lowest among women in the youngest age categories (less than 30 years old) where the addition is between 4.7 and 6.0 months.

Table 61 shows essentially the same patterns of differentials among subgroups as Table 58 indicated for abstinence, with modern women again unequivocally recording shorter durations than their conservative counterparts. In general, there has been a decline in mean duration of nsp

Table 59 : Prevalence-Incidence Ratio Non-Susceptible Period by Age and by State

States	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
Anambra		19.7	22.2	23.2	21.3	102	101	36	240
Bauchi		23.2	18.1	(18.2)	20.0	70	86	29	186
Bendel		17.4	14.6	(15.6)	15.8	35	46	19	100
Benue		17.6	21.9	21.6	20.3	54	62	31	148
Borno		16.3	18.1	(18.0)	17.3	82	86	21	190
Cross-River		16.8	14.6	(17.0)	15.6	84	125	14	224
Gongola		14.3	17.3	(17.1)	16.3	70	113	25	209
Imo		15.0	14.9	15.3	15.0	76	150	62	289
Kaduna		19.4	22.8	(13.4)	20.4	80	103	24	209
Kano		22.3	22.5	(21.7)	22.3	133	63	20	217
Kwara		(23.9)	24.4	(24.4)	24.3	19	64	20	104
Lagos		15.9	16.7	(20.7)	17.3	46	51	26	124
Niger		(29.0)	21.9	(32.0)	25.2	18	46	11	77
Ogun		(23.1)	(19.4)	(25.9)	22.5	28	26	20	76
Ondo		(21.3)	22.5	(25.2)	22.7	28	93	25	147
Oyo		19.9	20.7	(23.8)	21.2	33	64	29	128
Plateau		21.6	22.8	(27.8)	23.0	38	45	13	97
Rivers		15.0	12.5	(21.2)	14.8	61	64	21	147
Sokoto		26.4	27.2	(27.7)	26.9	47	52	18	119

() Estimation based on less than 30 observations

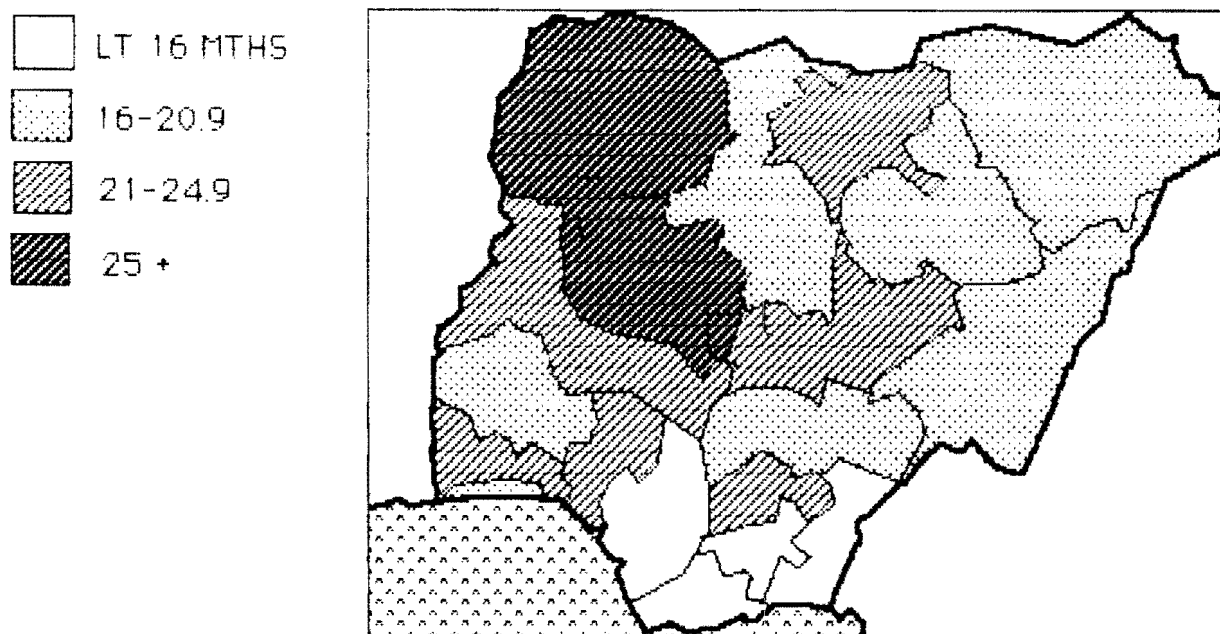


FIGURE 20 : MEAN LENGTH OF OVERALL POSTPARTUM NON-SUSCEPTIBLE PERIOD (PREVALENCE - INCIDENCE RATIO)

Table 60 : Prevalence-Incidence Ratios, Non-Susceptible Period by Age of Woman, by Region & Place of Residence

Subgroup	Age of Woman at Time of Interview	P/I				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>									
Rural		18.5	19.7	19.0	19.2	258	323	108	690
Urban		17.2	15.8	(26.9)	17.4	57	71	13	142
<u>Northwest</u>									
Rural		23.3	23.5	23.4	23.4	237	224	62	524
Urban		18.6	23.2	(16.0)	20.2	43	42	13	99
<u>Southeast</u>									
Rural		17.3	16.6	19.3	17.3	284	403	127	815
Urban		14.3	11.6	(5.9)	12.3	39	38	7	85
<u>Southwest</u>									
Rural		20.8	23.0	22.4	22.4	71	162	80	314
Urban		18.8	18.1	23.1	19.2	120	185	61	367
<u>Rural</u>									
Northeast		18.5	19.7	19.0	19.2	258	323	108	690
Northwest		23.3	23.5	23.4	23.4	237	224	62	524
Southeast		17.3	16.6	19.3	17.3	284	403	127	815
Southwest		20.8	23.0	22.4	22.4	71	162	80	314
<u>Urban</u>									
Northeast		17.2	15.8	(26.9)	17.4	57	71	13	142
Northwest		18.6	23.2	(16.0)	20.2	43	42	13	99
Southeast		14.3	11.6	(5.9)	12.3	39	38	7	85
Southwest		18.8	18.1	23.1	19.2	120	185	61	367

() Estimation based on less than 30 observations.

N refers to the number of births in the two years preceeding the survey.

Table 61 : Prevalence-Incidence Ratios, Non-Susceptible Period by Age of Woman and by Various Subgroups

Subgroup	P/I				N of Cases				
	Age of Woman at Time of Interview	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Type of Place of Residence</u>									
- Rural		19.6	19.8	20.6	19.9	853	1113	379	2345
- Urban		18.9	17.6	21.6	18.7	141	215	61	418
- Large Urban		16.3	17.2	20.6	17.2	119	121	34	275
<u>Literacy Status of Woman</u>									
- Can Read		16.8	15.4	17.9	16.3	375	374	86	836
- Cannot Read		20.4	20.6	21.4	20.7	739	1075	389	2203
<u>Literacy Status of Partner</u>									
- Can Read		17.2	18.1	18.7	17.8	593	668	190	1452
- Cannot Read		21.6	20.3	22.1	21.0	502	778	285	1567
<u>Religion</u>									
- Catholic		16.6	16.7	22.0	17.3	167	226	55	449
- Protestant		18.8	18.5	22.1	19.3	136	191	78	406
- Other Christians		16.3	16.1	17.6	16.4	194	251	87	534
- Moslem		21.0	21.2	21.2	21.1	537	640	194	1372
- Traditional		20.6	22.7	22.8	22.1	53	94	34	182
<u>Years of Education of Woman</u>									
- 0 yrs		20.5	20.4	21.4	20.6	689	1029	388	2108
- 1-4 yrs		17.7	20.9	19.2	19.5	136	168	34	339
- 5-7 yrs		17.2	14.8	15.4	16.1	212	173	46	433
- 8+ yrs		15.5	11.4	(27.1)	13.9	75	77	6	159
<u>Region of Residence</u>									
- Northeast		18.3	19.0	19.9	18.9	316	394	122	833
- Northwest		22.6	23.4	22.1	22.9	218	266	76	623
- Southeast		17.0	16.2	18.6	16.8	324	442	135	901
- Southwest		19.6	20.4	22.7	20.6	192	347	142	681
<u>Years of Education of Partner</u>									
- 0 yrs		21.5	20.2	21.1	20.7	329	664	281	1274
- 1-4 yrs		16.7	15.8	(21.1)	16.8	80	111	26	219
- 5-7 yrs		16.9	18.5	16.9	17.6	265	242	81	589
- 8+ yrs		16.5	15.8	(22.6)	16.6	173	184	27	385
<u>Last Work Status of Woman</u>									
- Family Farm		18.7	19.3	22.2	19.7	252	436	163	852
- Family Employed		(16.2)	18.5	21.3)	17.8	18	13	6	38
- Other Paid Cash		15.6	12.0	(20.7)	14.2	76	119	23	219
- Other Employed		17.6	22.1	(18.9)	20.1	40	72	28	141
- Self Employed		19.4	21.0	22.5	20.7	329	426	158	915
- Did Not Work		20.4	19.1	15.7	19.3	397	380	94	872

() Estimation based on less than 30 observations

N refers to the number of births in the two years preceding the survey.

among most categories of the subgroups. In a few cases, the decline is not systematic: although the mean for the youngest age category is lower than for the oldest group, it is higher than the mean for the middle age group. It is only in two cases that the durations are higher for the most recent than for the earlier periods. This pattern is due to the bias resulting from non-stationarity of the birth streams.

An important feature of the tables is the long duration of the overall post-partum non-susceptible period compared with the duration of amenorrhoea alone, implying that abstinence alone also makes a net contribution. In all age groups and in all categories of the subgroups, amenorrhoea and abstinence together add about 13.21 months to the average birth interval beyond the minimum possible average period of post-partum non-susceptibility. Although most of these extra months are added by lactational amenorrhoea, abstinence contributes significantly to the addition.

There is probably no better evidence of the strong separate impact of abstinence on nsp than that portrayed in Figures 20 to 22. Figure 20, which maps the distribution of the nsp duration, displays a pattern reassuringly consistent with the abstinence map. Some difference noticeable between the two maps is attributable to the effect of amenorrhoea. The Atlantic seaboard states of Bendel, Rivers and Cross River, together with the inland state of Imo retain their shortish period in nsp as they record for abstinence. Durations are also short in the eastern borderland states of Benue, Gongola and Borno, though they are not as short as in the coastal states. Both Kaduna and Bauchi in the north and Lagos in the south now join the league of short duration states. Durations are longest in Sokoto and Niger states. While the long nsp duration recorded in Niger state reflects the impact of abstinence, that of Sokoto effects the influence of amenorrhoea. The five states which have the relatively long abstinence pattern in Figure 19 also show up with relatively long periods of nsp. The decisive impact of amenorrhoea is seen in Kano state which now records a long period of nsp in contrast to the relatively medium value recorded for abstinence.

The net abstinence effect is sharply brought into relief in Figure 21 in which the mean durations of post-partum abstinence is plotted against that of post-partum amenorrhoea. Below the diagonal, the length of post-partum abstinence is still in excess and the net abstinence effect grows with distance from the diagonal. Thus, all the states but three benefit from the net abstinence bonus. The greatest beneficiary is Plateau state, followed by Niger and Oyo in that order, while Kaduna is the least beneficiary.

While all the states below the diagonal have a net abstinence bonus, however small, the three states above the diagonal – Borno, Cross River and Rivers – do not earn any abstinence bonus at all. They achieve their spacing more through long lactational amenorrhoea.

The fact that the points do not cluster around the diagonal but are described by a line with a gentler slope shows that there is greater variation in post-partum abstinence than in lactational amenorrhoea periods. In other words lactational amenorrhoea appears to be the relatively stable and safe child-spacing strategy in the country.

The net abstinence effect among subgroups is presented in Figure 22. The diagrams show that each of the categories in every subgroup

Fig.2I: RELATIONSHIP BETWEEN CONTRIBUTION OF AMENORRHOEA AND ABSTINENCE NON-SUSCEPTIBLE PERIOD.

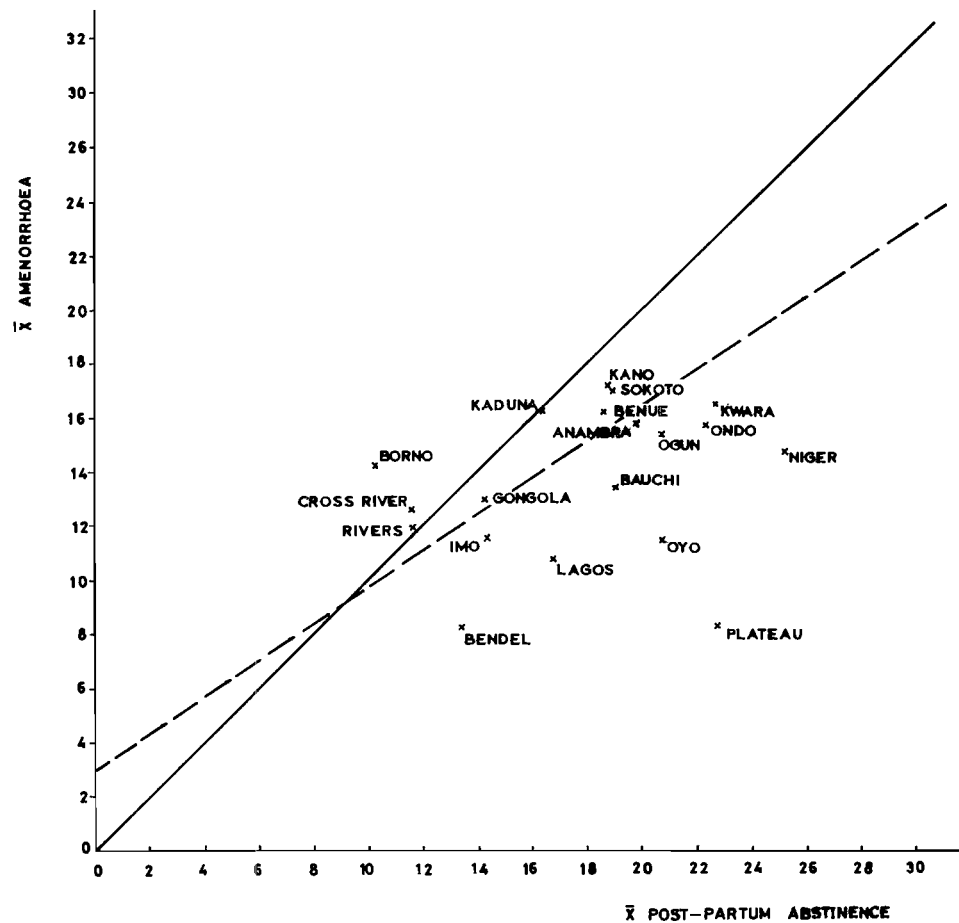
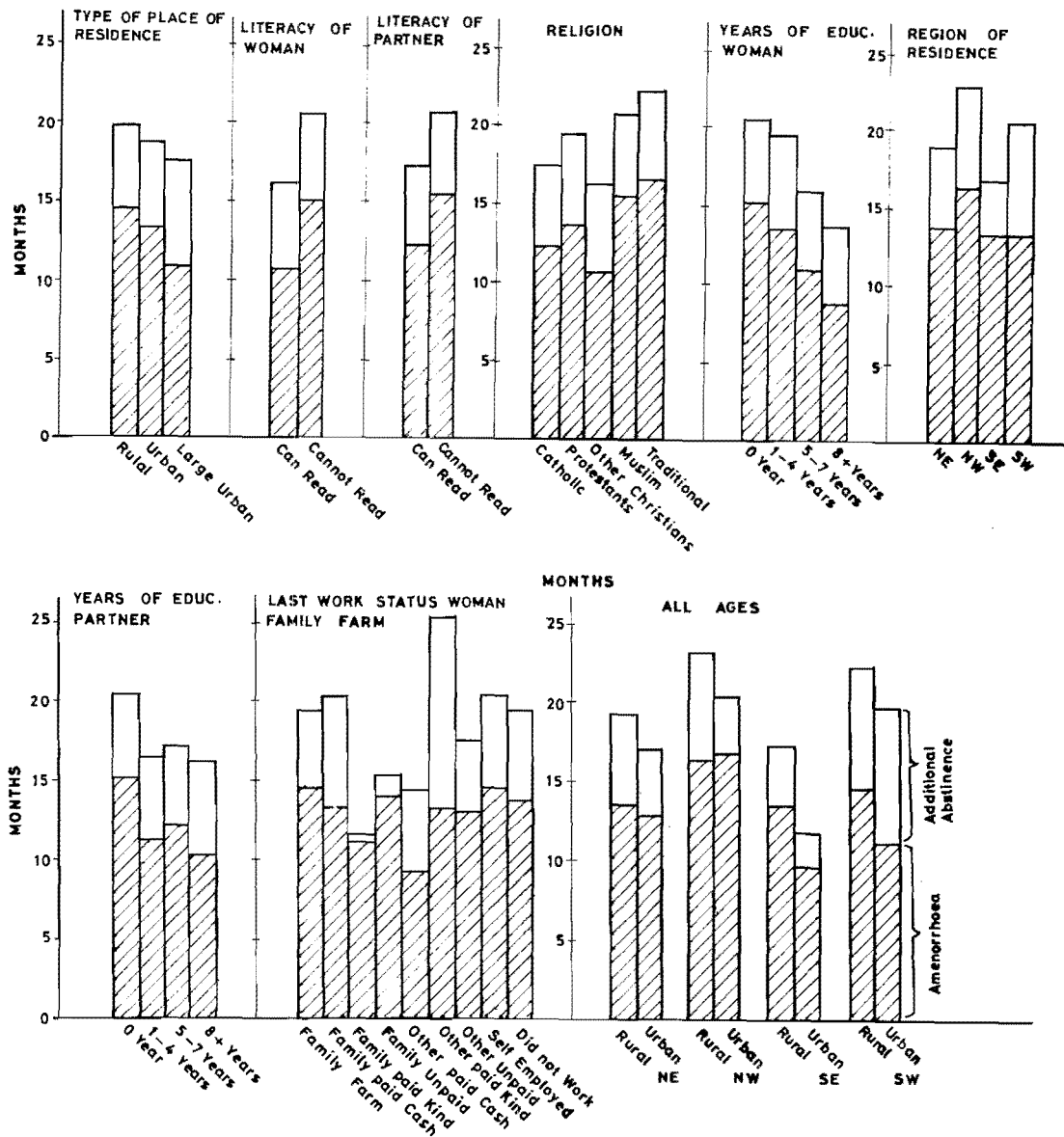


Fig.22: ADDITIONAL MONTHS CONTRIBUTED BY ABSTINENCE TO NON-SUSCEPTIBLE PERIOD (nsp)



reports a period of abstinence additional to amenorrhoea. The striking feature of the diagrams, however, is the difference between the highest and lowest net abstinence effect in each subgroup. Among "the type of residence", "literacy of woman", "literacy of partner" and "religion" subgroups, the difference between the lowest and highest net effect is quite small, being as low as 0.2 in the "literacy of woman" subgroup. The low difference implies that populations with completely different patterns of nsp and amenorrhoea can end up with a similar additional abstinence bonus. The contrast in amenorrhoea between the various religious groups, for example, is notable, even though all have a similar net abstinence bonus.

Among the other subgroups the differences are larger. In the work status subgroups, for example, the category with the highest net effect reports an additional abstinence bonus of 12.5 months compared with that of the smallest abstinence bonus of 1.7 months – a difference of 10.5 months.

The conclusion seems inevitable, therefore, that, with an nsp of nineteen and a half months, lactational amenorrhoea and abstinence curtail fertility levels and constitute therefore a latent Malthusian preventive check in Nigerian reproductive regimes. In most cases, long periods of abstinence are closely associated with long periods of breastfeeding. The few exceptions to this general rule are Borno and Cross River. If the results of the trend are anything to go by, the nsp is being shortened as a result of reduction in duration of lactation and abstinence. An unrelenting assault on these institutional supports which have upheld long periods of birth-intervals thus far, may lead to substantial increases in fertility unless the institutions are replaced by new ones. The likely replacement candidate is contraception to which attention is now turned.

3.2.5. Knowledge and use of contraception

It should be noted at the onset that, in practice, we have no way of separating out contraceptive use for spacing and contraceptive use for stopping. The only exceptions are sterilization and terminal abstinence both of which are used for stopping and not for spacing.

Information on both current- and ever-use of contraception is available in the NFS. However, except in a few cases, most of the tables presented here are for currently married women currently using contraception. This strategy is adopted not because ever-use is not important but because the results for ever-use and current-use are almost identical. The few exceptions in which ever-use results are presented either jointly or separately are to illustrate some points which the data on current use cannot adequately explain. This caveat should be borne in mind in reading and interpreting the results of the analysis.

We begin our discussion with contraceptive knowledge which is a prerequisite for use. Information on knowledge is given in Tables 62 to 64 and in Figures 23 to 25. Table 62 reveals that the majority of women in the country (68%) have never heard of any method of contraception, be it effective or ineffective. Knowledge seems to be a function of education. About three-fifths of literate women know at least one method compared with less than one quarter of illiterate women. It is not a surprise, therefore, that, as Figure 23 shows, states with a relatively high proportion of literates record a high percentage of knowledge. The states with the most widespread knowledge are Anambra and Bendel where at least

one method is known by nearly 75 per cent of the women. Contraception is hardly known in Gongola and Bauchi states. Here, less than 6 per cent of the women reported knowledge of a method. With the exception of Kwara and Plateau states, lack of knowledge is particularly high in the north.

The lower panel of Table 62 shows the age distribution of women with total lack of knowledge of any type of contraceptive. Figure 24, which presents the complement of this information graphically, brings out the salient features of the distribution. At the national level, knowledge tends to be higher for women over 20 than for their juniors. The relatively high proportion of women in the 45-49 age group reporting a knowledge probably reflects the quality of information supplied by these old women: a disaggregation of the data into literacy categories reveals that the phenomenon is confined to the illiterate group only. The curve for literates shows that knowledge is highest among women aged 20-39. On the other hand, the high knowledge among the older women may be genuine. In that case, the phenomenon may reflect the desire to seek knowledge of contraception by those women who want to stop child-bearing.

The pattern of knowledge of specific methods displayed in Tables 63 and 64 and in Figure 25 shows that the levels of ignorance are not the same for each of the methods. The main features of the tables and the figure are as follows:

- (1) Overall level of knowledge as well as spontaneous reporting of modern methods compares favourably with that of traditional methods. The modern methods include pill, I.U.D., other female scientific, sterilization, injection and condom while the traditional methods consist of douche, rhythm, withdrawal, abstinence and folklore. If the methods are ranked according to the proportion of women reporting knowledge of each, three traditional and three modern methods constitute the six most well-known of the twelve methods. Indeed, the ranks of all the methods alternate between traditional and modern. This similarity in the reported knowledge of traditional and modern method seems to suggest that this segment of the data set is probably unbiased. If it were biased, the modern methods would have been over-reported. The situation would have been brought about by the rather "scientific" or modern character of the survey as well as the educational background and "modern" outlook of the interviewer.
- (2) The pill and injection are relatively better known than the other methods. They are also spontaneously reported more often partly because they are two of the key methods, the knowledge of which is disseminated in health and family planning clinics and partly because the pill is on display at various chemist shops. The fact that clinics and chemist shops are important sources of knowledge is supported by the relatively high knowledge of female sterilization and condom.
- (3) The low spontaneous reporting of abstinence is rather surprising in view of the incidence of abstinence but it lends support to our view that many women do not identify abstinence as a contraceptive method but rather as a period after birth when sex is forbidden on health grounds. It is only after calling their attention to the method that its potential as a contraceptive is realised and overall level of knowledge increased dramatically. Even then, Moslems and northern women in general still do not report knowledge of it as a contraceptive method. Among the subgroups which acknowledge the method after

Table 62 : Percentage of Currently Ever Married Women who have never heard of any Type of Contraception (including Abstinence)

State	Currently Married			Ever Married		
	Literate	Illiterate	All Women	Literate	Illiterate	All Women
Anambra	14.8 (137)	28.8 (386)	25.1 (524)	13.9 (151)	29.1 (466)	25.4 (617)
Bauchi	94.2 (22)	93.8 (351)	93.8 (373)	94.2 (22)	93.4 (353)	93.5 (375)
Bende	13.5 (65)	30.6 (144)	25.3 (209)	15.5 (69)	30.9 (151)	26.1 (220)
Benue	65.3 (19)	87.1 (254)	85.7 (311)	63.5 (22)	86.8 (299)	85.2 (320)
Borno	50.4 (89)	84.0 (450)	79.2 (625)	48.1 (98)	83.0 (550)	77.8 (648)
Cross-River	21.9 (144)	43.7 (125)	36.4 (429)	21.3 (150)	45.2 (314)	37.5 (464)
Gongola	86.7 (57)	97.0 (529)	96.0 (602)	86.6 (61)	97.1 (561)	96.1 (622)
Imo	62.1 (270)	71.9 (477)	68.4 (746)	64.5 (289)	72.4 (560)	69.7 (848)
Kaduna	54.3 (27)	80.6 (544)	79.4 (571)	54.3 (27)	80.8 (555)	79.6 (582)
Kano	72.9 (43)	87.4 (802)	86.7 (846)	68.2 (48)	87.5 (811)	86.4 (860)
Kwara	31.2 (76)	57.9 (162)	49.4 (237)	30.4 (78)	58.9 (167)	49.9 (245)
Lagos	34.7 (160)	52.7 (122)	42.5 (282)	35.1 (164)	53.0 (129)	43.0 (293)
Niger	84.0 (2)	84.2 (281)	84.2 (284)	84.0 (2)	84.3 (283)	84.3 (286)
Ogun	53.0 (64)	68.2 (112)	62.7 (176)	53.0 (64)	68.7 (116)	63.1 (180)
Ondo	36.8 (89)	68.7 (223)	59.6 (312)	36.3 (90)	68.4 (226)	59.3 (316)
Oyo	36.1 (100)	81.2 (229)	67.5 (329)	35.9 (102)	80.9 (239)	67.4 (337)
Plateau	48.1 (62)	67.7 (158)	62.3 (220)	48.1 (62)	67.9 (159)	62.4 (221)
Rivers	14.3 (100)	46.5 (154)	33.8 (254)	15.0 (105)	42.7 (172)	32.2 (278)
Sokoto	71.0 (31)	77.2 (377)	76.7 (408)	71.0 (31)	77.1 (292)	76.7 (410)
Nigeria	41.9 (1556)	74.5 (6181)	67.9 (7737)	41.9 (1633)	73.7 (6487)	67.3 (8120)
Age						
14-19	48.1 (183)	83.0 (656)	75.4 (840)	47.9 (185)	83.1 (661)	75.4 (846)
20-24	39.0 (434)	73.6 (987)	63.1 (1421)	39.4 (177)	73.3 (1002)	62.8 (1450)
25-29	40.0 (394)	76.2 (1274)	67.1 (1668)	40.6 (423)	76.1 (1287)	67.3 (1710)
30-34	44.2 (269)	73.9 (1210)	68.5 (1480)	43.2 (278)	73.1 (1254)	67.7 (1532)
35-39	36.9 (164)	74.3 (861)	68.3 (1025)	36.4 (171)	73.9 (929)	67.9 (1100)
40-44	50.2 (76)	71.0 (746)	69.0 (822)	48.8 (86)	69.9 (809)	67.9 (895)
45-49	52.9 (35)	67.0 (447)	66.0 (482)	55.2 (42)	65.0 (546)	64.3 (588)
All Ages	41.9 (1559)	74.5 (6181)	67.9 (1737)	41.9 (1633)	73.7 (6487)	67.3 (8120)

Table 63 : Percentage of Ever-Married Women Reporting Knowledge Spontaneously and Total Percentage Reporting Knowledge, by Method : Place and Region of Residence

Place and Region	Pill		I.U.O.		Other Female Scientific		Condom		Female Sterilization		Male Sterilization		Injection		Ouche		Rhythm		Withdrawal		Abstinence		Folklore	
	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T
Northeast																								
Rural	1.2	3.4	0.4	0.9	0.0	0.2	0.0	0.2	0.0	2.7	0.0	0.3	0.5	2.5	0.2	0.5	0.3	1.7	0.0	0.4	0.6	3.5	0.2	8.3
Urban	0.7	7.9	0.6	3.6	0.0	2.2	0.5	3.4	0.3	4.7	0.0	0.9	1.5	10.7	0.0	0.9	0.0	4.2	0.0	3.1	0.1	2.4	0.7	17.2
Northwest																								
Rural	0.3	3.0	0.0	0.7	0.0	0.3	0.1	0.5	0.1	1.4	0.0	0.5	0.2	1.7	0.2	0.4	0.1	0.6	0.2	1.0	0.9	7.4	1.3	5.7
Urban	6.3	13.0	1.4	4.0	0.1	2.1	1.0	3.1	0.7	4.4	0.2	0.8	3.6	8.9	0.3	0.7	0.3	2.5	0.5	2.9	2.3	10.1	3.5	7.2
Southeast																								
Rural	5.5	19.8	0.8	6.8	0.0	3.8	0.9	8.5	1.6	12.6	0.1	4.5	2.7	15.3	0.0	4.9	1.4	16.2	1.0	12.8	7.4	40.2	1.3	21.3
Urban	8.9	22.4	3.1	11.3	0.2	4.7	1.6	16.1	1.1	16.7	0.0	2.4	5.6	21.6	0.0	5.6	1.7	27.2	0.3	17.1	7.2	30.3	0.5	16.8
Southwest																								
Rural	5.1	14.6	0.7	3.8	0.0	2.5	0.7	6.2	0.5	5.3	0.0	2.0	1.3	11.9	0.2	4.9	1.5	11.0	0.0	5.1	3.1	25.4	0.6	10.5
Urban	10.8	31.2	1.9	11.3	0.3	4.0	1.9	14.2	1.6	12.4	0.3	3.9	5.3	26.2	0.3	7.9	1.4	19.4	0.6	10.4	1.9	27.0	0.7	15.6
Rural																								
Northeast	1.2	3.4	0.4	0.9	0.0	0.2	0.0	0.2	0.0	2.7	0.0	0.3	0.5	2.5	0.2	0.5	0.3	1.7	0.0	0.4	0.6	3.5	0.2	8.3
Northwest	0.3	3.0	0.0	0.7	0.0	0.3	0.1	0.5	0.1	1.4	0.0	0.5	0.2	1.7	0.2	0.4	0.1	0.6	0.2	1.0	0.9	7.4	1.3	5.7
Southeast	5.5	19.8	0.8	6.8	0.0	3.8	0.9	8.5	1.6	12.6	0.1	4.5	2.7	15.3	0.0	4.9	1.4	16.2	1.0	12.8	7.4	40.2	1.3	21.3
Southwest	5.1	14.6	0.7	3.8	0.0	2.5	0.7	6.2	0.5	5.3	0.0	2.0	1.3	11.9	0.2	4.9	1.5	11.0	0.0	5.1	3.1	25.4	0.6	10.5
Urban																								
Northeast	0.7	7.9	0.6	3.6	0.0	2.2	0.5	3.4	0.3	4.7	0.0	0.9	1.5	10.7	0.0	0.9	0.0	4.2	0.0	3.1	0.1	2.4	0.7	17.2
Northwest	6.3	13.0	1.4	4.0	0.1	2.1	1.0	3.1	0.7	4.4	0.2	0.8	3.6	8.9	0.3	0.7	0.3	2.5	0.5	2.9	2.3	10.1	3.5	7.2
Southeast	8.9	22.4	3.1	11.3	0.2	4.7	1.6	16.1	1.1	16.7	0.0	2.4	5.6	21.6	0.0	5.6	1.7	27.2	0.3	17.1	7.2	30.3	0.5	16.8
Southwest	10.8	31.2	1.9	11.3	0.3	4.0	1.9	14.2	1.6	12.4	0.3	3.9	5.3	26.2	0.3	7.9	1.4	19.4	0.6	10.4	1.9	27.0	0.7	15.6
Nigeria																								
	3.8	12.3	0.7	4.2	0.0	1.9	0.6	5.0	0.7	6.6	0.1	2.1	1.8	9.8	0.2	2.7	0.8	8.5	0.4	5.7	2.9	18.7	1.0	11.7

S Spontaneously reported

T Total knowledge

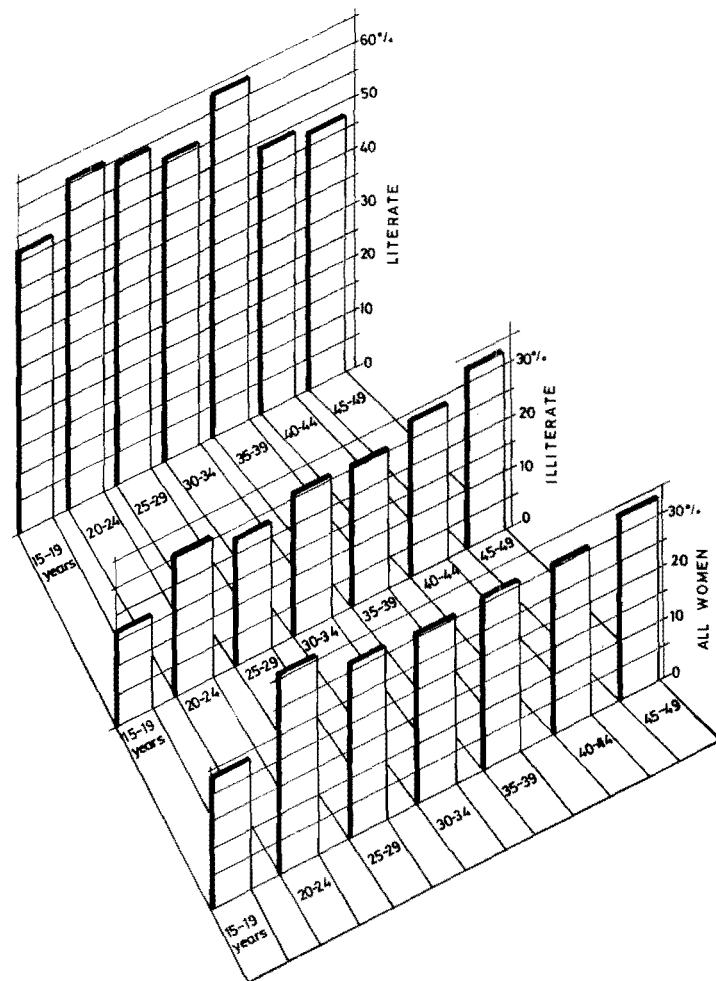
Table 64 : Percentage of Ever-Married Women Reporting Knowledge Spontaneously and Total Percentage Reporting Knowledge, by Method : Subgroups

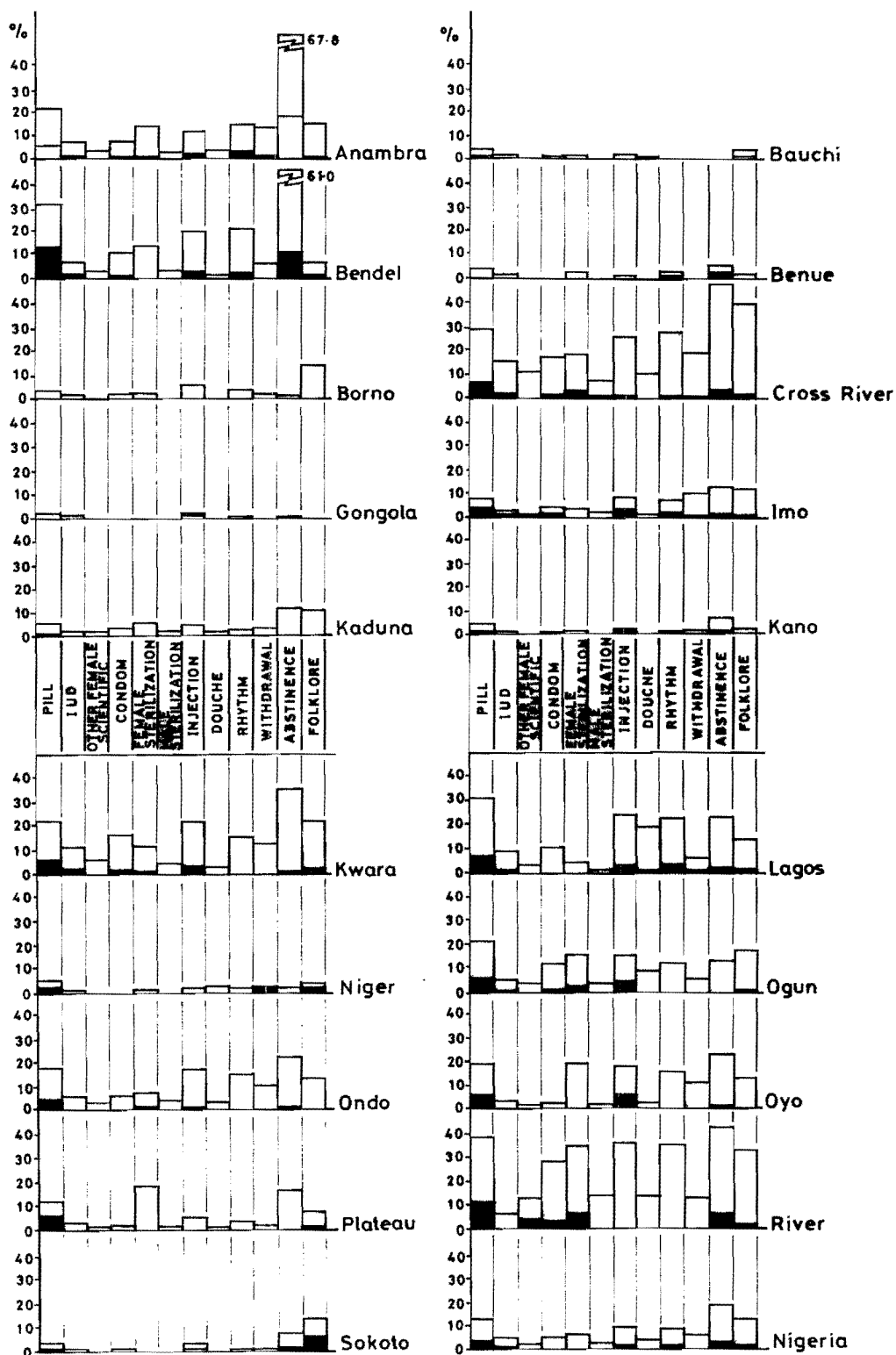
Subgroups	Pill		I.U.D.		Other Female Scientific		Condom		Female Sterilization		Male Sterilization		Injection		Ouche		Rhythm		Withdrawal		Abstinence		Folklore	
	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T
<u>Type of Place of Residence</u>																								
- Rural	2.7	9.7	0.5	3.1	0.0	1.6	0.4	3.6	0.6	5.8	0.0	1.9	1.2	7.4	0.1	2.3	0.7	7.0	0.4	5.0	3.1	18.7	0.9	10.6
- Urban	6.8	17.5	1.7	6.6	0.2	2.8	1.5	8.0	1.1	9.5	0.3	2.3	4.0	15.7	0.2	2.8	0.6	11.7	0.4	7.9	1.7	16.6	1.2	13.7
- Large Urban	8.8	18.7	1.7	23.3	0.3	4.3	1.4	13.6	1.0	10.0	0.0	2.8	4.7	24.9	0.2	8.0	1.4	17.5	0.6	8.9	3.2	23.1	1.3	18.8
<u>Literacy Status of Woman</u>																								
- Can Read	12.6	31.2	2.7	12.4	0.2	5.3	2.5	16.1	2.3	16.8	0.2	4.5	6.6	26.3	0.3	8.3	2.2	24.0	1.1	15.1	5.3	33.5	2.0	20.8
- Cannot Read	1.5	7.5	0.2	2.1	0.0	1.2	0.2	2.2	0.3	4.1	0.0	1.4	0.6	5.7	0.1	1.5	0.4	4.6	0.2	3.3	2.3	15.0	0.7	9.4
<u>Literacy Status of Partner</u>																								
- Can Read	7.2	20.2	1.6	7.8	0.1	3.9	1.6	10.1	1.2	11.0	0.1	3.5	4.0	17.6	0.2	5.4	1.3	15.5	0.7	9.5	4.0	27.4	1.8	18.2
- Cannot Read	1.5	7.1	0.2	1.9	0.0	0.8	0.0	1.7	0.3	3.7	0.0	1.0	0.4	4.8	0.2	1.3	0.4	3.9	0.2	3.2	2.3	13.2	0.4	7.4
<u>Religion</u>																								
- Catholic	6.0	17.1	0.7	6.0	0.0	2.8	1.0	8.1	0.9	9.8	0.1	3.3	3.3	13.4	0.1	2.9	2.1	13.4	1.0	11.1	5.0	30.2	0.5	14.4
- Protestant	8.3	22.5	2.8	8.9	0.0	2.9	1.2	11.0	1.0	14.3	0.1	2.8	4.8	18.0	0.0	6.2	1.9	18.9	0.5	11.9	5.2	30.7	0.7	15.9
- Other Christian	6.6	22.0	1.2	8.6	0.0	4.5	1.4	10.5	2.2	12.6	0.1	4.7	2.7	20.8	0.0	5.7	0.6	17.1	0.5	10.2	2.7	28.1	2.1	20.9
- Moslem	1.5	5.6	0.2	1.8	0.1	1.1	0.2	1.7	0.3	2.4	0.0	0.8	0.7	4.8	0.2	1.5	0.3	2.6	0.1	1.7	0.9	7.7	0.8	7.7
- Traditional	2.9	13.2	0.2	1.8	0.0	0.7	0.2	2.7	0.0	7.5	0.0	2.0	0.6	5.7	0.2	1.4	0.7	7.2	0.5	4.2	11.0	39.1	1.7	11.3
<u>Years of Education of Woman</u>																								
- 0 yrs	1.3	6.7	0.2	1.9	0.0	1.0	0.2	1.9	0.2	3.7	0.0	1.2	0.6	5.2	0.1	1.3	0.4	3.9	0.2	2.9	2.2	14.0	0.7	8.6
- 1-4 yrs	9.5	28.3	1.3	10.6	0.1	3.6	0.6	9.6	2.3	15.1	0.5	4.8	5.2	23.0	0.1	7.8	0.8	20.4	0.9	11.6	6.1	25.2	0.9	24.0
- 5-7 yrs	9.4	27.3	1.3	10.4	0.1	4.0	1.8	14.6	2.2	16.4	0.1	4.0	3.3	22.2	0.2	7.5	1.6	21.5	0.5	14.3	5.1	33.3	2.3	21.3
- 8+ yrs	26.1	52.9	7.5	23.0	0.6	12.4	5.7	31.1	2.4	21.1	0.2	6.9	14.6	43.2	0.5	11.9	6.0	41.3	2.1	25.8	5.5	33.6	2.4	23.0
<u>Region of Residence</u>																								
- Northeast	1.1	4.1	0.4	1.4	0.0	0.5	0.1	0.8	0.0	3.0	0.0	0.4	0.6	3.8	0.1	0.5	0.3	2.1	0.0	0.8	0.5	3.3	0.3	6.3
- Northwest	1.2	4.6	0.3	1.3	0.0	0.6	0.3	1.0	0.2	1.9	0.0	0.5	0.7	2.8	0.2	0.5	0.1	0.9	0.2	1.2	1.2	7.9	1.7	6.9
- Southeast	5.8	20.0	1.0	7.2	0.0	3.8	1.0	9.2	1.6	13.1	0.1	4.3	2.9	15.8	0.0	5.0	1.4	17.2	0.9	13.2	7.3	39.2	1.3	20.7
- Southwest	8.1	23.3	1.4	7.8	0.2	3.3	1.4	10.5	1.1	9.0	0.2	3.0	3.4	19.4	0.2	6.4	1.4	15.3	0.3	7.9	2.5	26.3	0.6	13.1
<u>Years of Education of Partner</u>																								
- 0 yrs	1.6	7.4	0.3	2.1	0.0	1.0	0.1	1.8	0.3	4.5	0.0	1.0	0.4	5.4	0.2	1.4	0.5	4.6	0.1	3.1	2.4	14.0	0.4	8.1
- 1-4 yrs	5.1	19.6	0.6	5.3	0.0	4.3	0.8	7.6	2.0	11.4	0.0	4.9	2.3	16.4	0.1	5.0	0.5	11.2	0.7	10.5	6.3	33.2	2.4	19.2
- 5-7 yrs	6.0	19.3	0.7	1.9	0.1	3.5	1.5	9.8	1.0	10.7	0.1	4.0	3.2	16.4	0.2	6.4	1.3	16.1	0.9	10.8	4.4	29.2	1.6	19.3
- 8+ yrs	14.7	36.0	3.9	14.1	0.2	5.4	2.9	19.4	2.1	16.6	0.3	4.2	8.8	31.2	0.1	7.7	2.9	28.7	1.3	16.4	4.8	35.6	2.2	22.4
<u>Last Work Status of Woman</u>																								
- Family Farm	2.3	11.0	0.6	3.2	0.0	2.0	0.2	3.6	0.4	7.9	0.0	2.6	1.1	8.7	0.1	3.0	0.6	8.8	0.2	5.4	3.8	23.7	0.7	11.7
- Family Employed	5.8	21.3	2.4	7.3	0.0	5.7	0.1	7.7	0.4	9.4	0.0	4.1	0.1	12.7	0.0	4.5	3.0	15.0	1.3	8.1	4.8	29.2	2.4	12.6
- Other Paid Cash	15.7	34.3	4.4	15.2	0.2	6.3	3.5	21.0	2.1	15.1	0.6	5.5	9.2	28.8	0.6	7.7	2.7	25.4	1.7	17.8	4.7	35.8	1.5	21.8
- Other Employed	1.2	10.0	0.0	5.2	0.0	2.7	0.0	4.6	0.0	4.3	0.0	1.1	0.0	8.6	0.0	3.2	0.2	8.0	0.4	5.5	2.7	14.2	0.7	7.9
- Self Employed	4.4	13.1	0.6	4.1	0.1	1.9	0.5	5.0	0.8	7.0	0.0	1.7	2.3	10.3	0.1	2.7	0.9	8.4	0.4	5.7	2.5	18.4	1.0	11.8
- Did Not Work	2.2	7.6	0.2	2.3	0.0	0.8	0.7	2.6	0.7	3.2	0.1	1.0	0.7	6.2	0.2	1.7	0.4	4.1	0.1	2.9	2.0	10.4	1.2	9.9

S Spontaneously reported

T Total knowledge

Fig. 24: KNOWLEDGE OF CONTRACEPTION BY LITERACY OF WOMEN



[illegible]

probing, the level of knowledge is fairly uniform reflecting both the universality of post-partum abstinence experience and the ease with which the two (post-partum and contraceptive abstinence at other times) can be confused.

- (4) The rhythm and withdrawal methods, which are well known world-wide (Vaessen, 1980), are poorly spontaneously reported. The poor reporting is more pronounced among traditional women, an indication of attitudinal aversion of these women to contraception. It is worth noting that Catholics lead other religious groups in spontaneously reporting the two methods and that knowledge of the two methods increases monotonically with education and other indices of modernization.
- (5) In general, reported knowledge, whether modern or traditional, tends to be higher for women with modern attributes or those living in more developed parts of the country where clinical facilities and medicine stores, two sources of information, are found.
- (6) The method best known following the probes is abstinence. Nonetheless, there are a few important exceptions. The method best known by urban and city dwellers respectively are pill and I.U.D. whereas abstinence is the method best known to rural dwellers. The pill is also most popular among women with 1-4 and more than 7 years of education.

Some preliminary comments are in place before presenting the results for contraceptive use. First, the results of contraceptive use are based on a few number of cases. Nonetheless they provide an insight into possible future patterns of use. Second, the distinction between efficient and inefficient methods has nothing to do with whether or not a method was used efficiently. An efficient method may be used inefficiently.

Third, the impression must not be gained that the inefficient methods are useless. Some of them, it must be admitted, offer no protection as such. It is difficult to see the efficacy of folklore such as wearing of rings or bands in preventing a pregnancy per se. However, such methods are used by women probably as a psychological device either to fend off husbands or to support themselves during periods of abstinence. It must also be admitted that since inefficient methods are more difficult to use than efficient methods because of their inconvenience, their use may suggest a strong commitment to postpone or stop childbearing. That such a commitment to family planning is not translated into effective action by the women concerned is probably the result of the lack of access to more efficient methods (either due to lack of money, travel distance or geal unavailability). In this case, therefore, the proportion using inefficient methods may be taken as a minimum estimate of the unmet need for the provision of modern contraceptive services. Of course, the use of inefficient methods may also indicate reservations women have concerning the use of efficient methods either because of fears about safety or objections on religious grounds.

Finally, "abstinence" as a contraceptive method is confused with post-partum abstinence. A cross-tabulation of current use with post-partum abstinence shows that over 81 per cent of those currently in post-partum abstinence are reported as current users of abstinence. In addition, there are women who are abstaining from intercourse for non-contraceptive reasons such as a decline in sexual interest or marital problems. The possible confusion of abstention following parturition and abstinence for

contraceptive reasons explains why two sets of tables are presented for most of the results: one including and the other excluding abstinence. Nevertheless, most of our discussion here will be based on those tables in which abstinence is included as a contraceptive because it is the single method used by the largest number of women. (In analyses examining the effects of contraception on fertility, abstinence is excluded).

The logical starting point in the analysis of contraceptive use is the never-users. Information on them is given in Tables 65 through 67. The data refer to currently married and fecund women, thereby excluding women who have no reason to have recently adopted contraception: infecund, divorced, widowed and separated women. Table 65 shows that at the national level, the percentage never using any method of contraception is a hefty 84.5 per cent. The high percentage of never users at age 15-19 no doubt reflects the desire of younger women to have at least a birth to lay a solid foundation for their marriage. The lower proportion of never-users at 20-24 is a promising omen as the formation of contraceptive habit at such an early age suggests an increase in contraceptive use in future.

The areal pattern sketched in Figure 26 shows that in ten of the nineteen states (seven in the north and two in the west) more than 90 per cent of women had never used any method of contraception. The percentages among other states range from 51.4 in Anambra to 87.1 in Kaduna. High percentage of never-users are reported by all age groups especially in states with high percentage of never-users. In low never-use states, the proportion of never-users is lower among young women than among their older counterparts.

The expected differentiation occurs among the subgroups (Tables 66 and 67). Women with modern attributes not only have lower proportions of never usage but also consistently record lower percentages at all ages. The surprising feature in table 67 is the high percentage of never-users among women who did not work, and among women under 25 living in urban centres. Figure 27(a) suggests a positive relationship between never-use and lack of knowledge of contraception. This relationship points out at least one area in which population planning can take action: effective dissemination of information about contraception to reduce the proportion of non-users.

Ironically, however, Figure 27(b) shows that knowledge is a necessary but not a sufficient condition for use. Although the figure shows a general increase in use with knowledge, it also reveals that populations with similar levels of knowledge can have a different contraceptive behaviour. The problem in Ogun, Plateau and Ondo for instance is not total ignorance but a low use-knowledge ratio.

In the same way, acquaintance with inefficient methods is not a guarantee that efficient methods will be used. Figure 28 shows that there is no straight line relationship between knowledge of inefficient contraception and use of efficient contraception. It also shows that a low level of use of efficient methods can be combined with a high knowledge of inefficient contraception and vice-versa. It follows, therefore, that since knowledge or previous use of folklore methods does not necessarily provide a background or an advantage for the adoption of modern methods, any strategy to promote modern contraception use must be uniformly applied in all areas.

With these preliminary remarks, attention can now shift to the

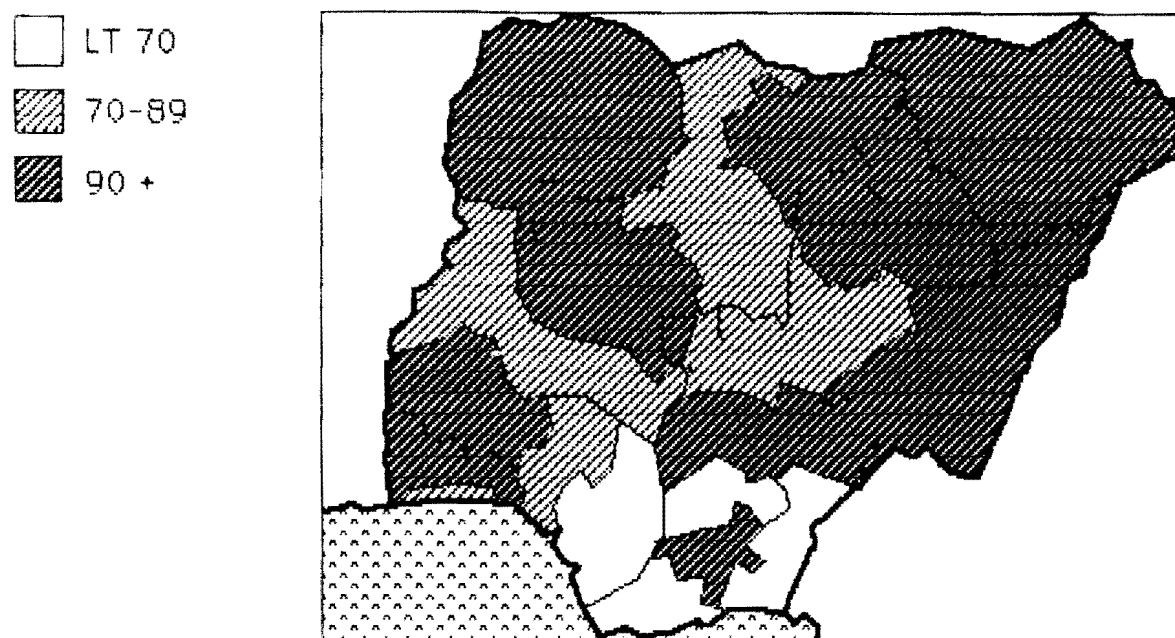


FIGURE 26 : PERCENTAGE NEVER USER OF CONTRACEPTION

Fig. 27: PERCENTAGE OF CURRENTLY MARRIED WOMEN CURRENTLY USING CONTRACEPTION AND PERCENTAGE CURRENTLY MARRIED WITH KNOWLEDGE OF CONTRACEPTION

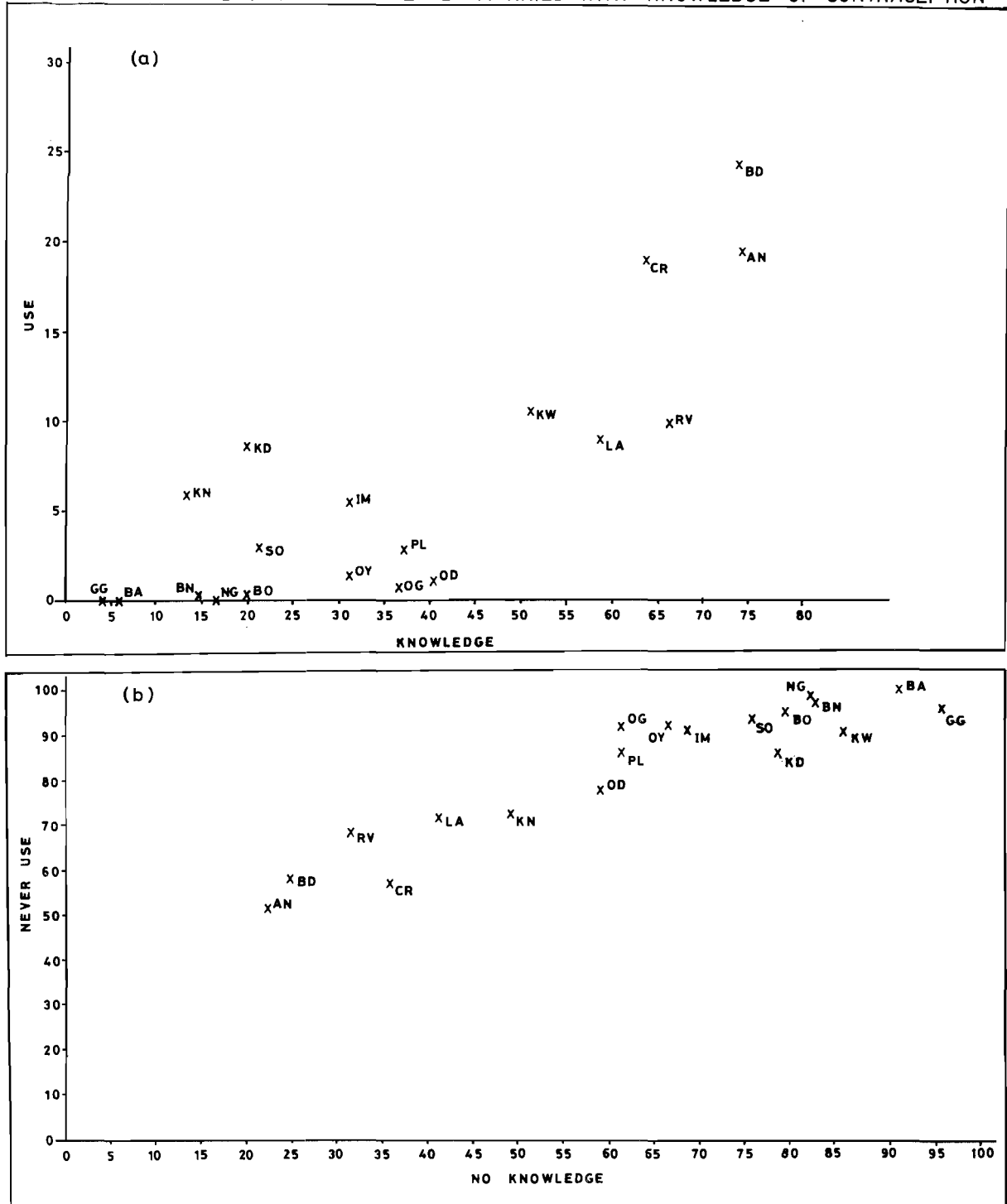


Fig. 28: KNOWLEDGE OF INEFFICIENT CONTRACEPTIVE AND USE OF EFFICIENT CONTRACEPTIVE .

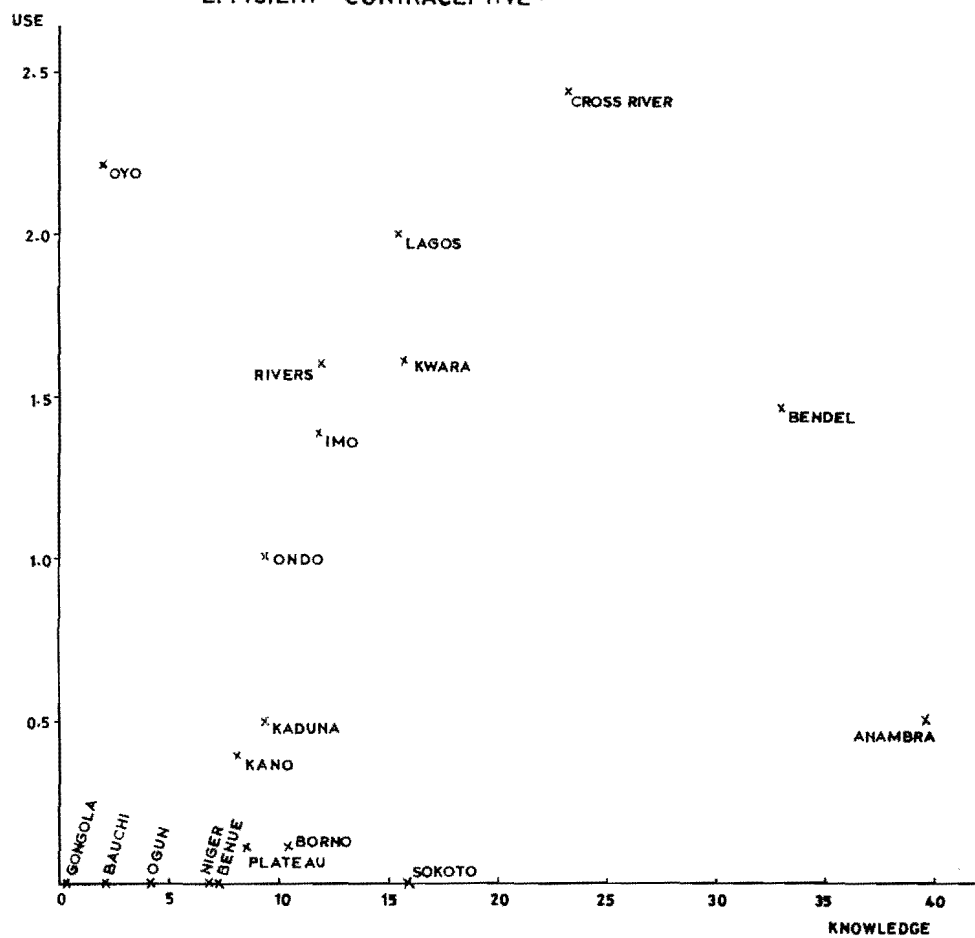


Table 65 : Percentage Never Using Contraception among currently Married, Fecund Women : States

States	Age of Mother at Time of Interview	(Abstinence considered as a contraceptive method)				N of Cases			
		%							
		LT 25	25-34	GE 35	All Ages	LT 25	25-34	GE 35	All Ages
Anambra		57.4	48.5	47.2	51.4	168	177	112	457
Bauchi		100.0	100.0	(100.0)	100.0	117	88	18	224
Bendel		57.5	61.5	53.8	58.4	58	78	44	180
Benue		97.5	98.9	96.5	97.8	88	111	77	275
Borno		96.9	95.5	93.8	95.6	186	204	130	521
Cross-River		47.9	61.0	66.8	58.2	102	177	67	346
Gongola		98.9	99.4	97.1	98.8	171	250	94	516
Imo		87.1	94.5	90.5	91.8	126	288	169	584
Kaduna		87.3	87.5	85.3	87.1	147	190	60	396
Kano		91.0	91.3	91.8	91.2	259	202	89	550
Kwara		66.4	71.8	79.7	72.4	56	103	54	213
Lagos		81.2	67.1	67.3	71.4	77	102	77	256
Niger		100.0	99.9	100.0	99.9	66	128	61	256
Ogun		96.5	89.4	91.1	92.6	56	42	64	162
Ondo		64.7	80.5	77.5	77.0	44	142	79	266
Oyo		88.5	91.6	93.6	91.7	58	126	89	273
Plateau		80.4	91.6	80.5	85.5	63	86	39	188
Rivers		60.1	72.0	80.2	69.8	79	99	54	231
Sokoto		97.7	94.3	90.5	94.9	127	134	60	321
Nigeria		84.3	85.1	83.5	84.5	2049	2727	1438	6214

		15-19	20-24	25-29	30-34	35-39	40-44	45-49	All Ages
Nigeria	%	90.4	80.8	85.6	84.4	85.1	82.6	80.2	84.5
	N	743	1306	1499	1227	738	499	201	6214

Table 66 : Percentage Never Using Contraception among currently Married Fecund Women : Place and Region

	(Including Abstinence)				N of Cases			
	LT 25	25-34	GE 35	All Ages	LT 25	25-34	GE 35	All Ages
<u>Northeast</u>								
Rural	96.0	98.5	94.5	96.8	508	604	299	1411
Urban	98.2	92.6	92.5	94.7	118	135	59	313
<u>Northwest</u>								
Rural	93.7	93.0	93.4	93.4	501	558	231	1291
Urban	86.1	89.2	83.1	86.9	97	97	39	232
<u>Southeast</u>								
Rural	62.4	72.2	72.7	69.5	413	661	365	1441
Urban	72.4	75.2	77.2	74.6	63	80	34	177
<u>Southwest</u>								
Rural	73.3	80.5	85.8	80.7	139	283	217	639
Urban	78.6	74.1	71.2	74.7	211	309	190	710
<u>Rural</u>								
Northeast	96.0	98.5	94.5	96.8	508	604	299	1411
Northwest	93.7	93.0	93.4	93.4	501	558	231	1291
Southeast	62.4	72.2	72.7	69.5	413	661	365	1441
Southwest	73.3	80.5	85.8	80.7	139	283	217	639
<u>Urban</u>								
Northeast	98.2	92.6	92.5	94.7	118	135	59	313
Northwest	86.1	89.2	83.1	86.9	97	97	39	232
Southeast	72.4	75.2	77.2	74.6	63	80	34	177
Southwest	78.6	74.1	71.2	74.7	211	309	190	710

Table 67 : Percentage Never Using Contraception Among Currently Married Fecund Women : subgroups

Age of Woman at Time of Interview	(Including Abstinence) %				N of Cases			
	LT 25	25-34	GE 35	All Ages	LT 25	25-34	GE 35	All Ages
<u>Type of Place of Residence</u>								
- Rural	84.4	86.4	85.4	85.5	1560	2106	1116	4782
- Urban	87.5	85.0	82.4	85.2	292	407	213	912
- Large Urban	78.9	72.2	66.9	73.7	197	214	109	520
<u>Literacy Status of Woman</u>								
- Can Read	70.4	69.5	69.2	69.8	601	617	218	1436
- Cannot Read	90.1	89.6	86.1	88.9	1448	2110	1220	4778
<u>Literacy Status of Partner</u>								
- Can Read	76.3	78.9	73.4	76.8	1026	1170	521	2717
- Cannot Read	92.4	89.7	89.3	90.4	1023	1557	917	3497
<u>Religion</u>								
- Catholic	73.2	76.9	76.6	75.6	273	393	191	857
- Protestant	71.6	79.0	74.8	75.6	210	299	197	706
- Other Christian	73.2	77.0	83.9	77.5	276	406	217	900
- Moslem	92.8	92.7	92.2	92.6	1115	1349	642	3107
- Traditional	81.3	71.3	62.3	71.6	123	173	122	417
<u>Years of Education of Woman</u>								
- 0 yrs	90.6	90.3	86.3	89.3	1387	2052	1206	4645
- 1-4 yrs	73.8	69.2	74.3	71.7	181	263	101	545
- 5-7 yrs	75.6	71.6	75.6	74.1	350	268	96	714
- 8+ yrs	55.4	65.4	35.4	57.8	131	144	35	311
<u>Region of Residence</u>								
- Northeast	96.4	97.4	94.1	96.4	626	740	359	1724
- Northwest	92.5	92.5	91.9	92.4	599	654	270	1523
- Southeast	63.7	72.5	73.1	70.1	475	741	402	1618
- Southwest	76.5	77.2	79.0	77.5	349	592	407	1349
<u>Year of Education of Partner</u>								
- 0 yrs	92.5	88.4	88.0	89.4	751	1293	838	2882
- 1-4 yrs	77.7	75.4	77.5	76.6	137	208	83	428
- 5-7 yrs	74.3	83.9	74.4	78.2	393	405	191	989
- 8+ yrs	70.0	67.1	60.3	67.2	277	310	107	695
<u>Last Work Status of Woman</u>								
- Family Farm	80.3	82.3	79.7	81.0	429	792	525	1747
- Family Employed	85.8	(83.0)	(76.8)	82.8	45	28	24	97
- Other Paid Cash	69.3	66.7	67.8	67.7	128	210	95	433
- Other Employed	84.5	90.1	90.3	88.7	79	144	83	305
- Self Employed	85.4	84.3	86.3	85.2	587	878	508	1973
- Did Not Work	88.0	94.1	92.0	91.0	781	675	202	1658

() Based on less than 30 observations

Table 68 : Percentage of Currently Married Exposed Women using Contraception by Age : Nigeria

Age Group	Abstinence not considered as a contraceptive method			Abstinence regarded as an inefficient method of contraception		
	Percentage		N of Cases	Percentage		N of Cases
	Inefficient Method	Efficient Method		Inefficient Method	Efficient Method	
15-19	0.4	0.1	653	4.4	0.1	653
20-24	0.6	0.5	1112	7.0	0.5	1112
25-29	0.5	0.4	1303	5.2	0.4	1303
30-34	0.8	0.8	1152	5.7	0.8	1153
35-39	0.6	0.7	778	4.1	0.7	778
40-44	0.6	1.1	623	4.0	1.1	623
45-49	0.0	3.0	280	9.8	3.0	280
All Ages	0.6	0.7	5901	5.5	0.7	5901

analysis of current users presented in Tables 68 to 82 and in Figures 29 to 32. Table 68 shows the predominance of current inefficient contraceptive use. Including abstinence, its use is strikingly higher in all age categories than that of efficient methods. The high proportion of current users among older women is surprising. It may result from misreporting by older women or it may be a genuine pattern reflecting greater use of contraception to limit the number of children after attaining the desired number.

The areal pattern of users is given in Tables 69 and 70 and in Figures 29 and 30. Concentrating first on efficient methods, it will be seen that the southern states have a higher percentage of current use than the northern states, a situation reflecting the fact that family planning programmes began earlier in the south while they are only recently being diffused to the northern parts of the country. With the exception of Ogun state, the current use of efficient methods is always more than one per cent in all the southern states. It would appear that the use of efficient methods even in most of these southern states is more pronounced among the older women than among their younger counterparts. This tendency points to the possibility of women delaying use of modern contraception until they have had several children. The case of Kwara state is surprising not only because it records a fairly high proportion of current users but also because of the high efficient over total use ratio among its youngest age group. The situation is a classic example of high current use where modern contraceptive practice is a recent development. Indeed, no woman above the age of 25, reported ever using any modern method.

The ratios of inefficient (abstinence included) to total users given in column 10 of Table 69 show a substantial number of women with an unmet need for modern contraceptives. Although the national ratio is 0.89, the indices range from 0.12 in Oyo to 1.00 in Sokoto, Benue and Ogun.

The distribution of current use among subgroups is shown in Tables 70 and 71. Ignoring small-sample cells, there is a close association between modernization and current use: women with modern attributes not only record higher percentages of use but they also have lower inefficient over total use ratios. Increasing size of settlement is associated with a higher percentage of current useage with women in large urban centres using efficient methods five times as often as their rural counterparts. Although the proportion of users of inefficient methods shows that rurality is not necessarily a barrier to contraceptive use, the substantially lower inefficient-total use ratio among rural women points to the possibility that in rural areas, contraception is not yet a strategy for fertility reduction.

There is also an orderly increase in contraceptive use as the level of education increases. Women with less than 8 years of education use efficient methods five times as frequently as illiterates while women with 8 or more years of education use efficient contraceptives eighteen times as frequently as illiterates. The gap in the inefficient-total use ratio between women with no education and those with 8 or more years of education is as large as 23 percentage points.

Among the various religious categories, the traditional religionists stand out distinctly as a group not using any form of modern contraception but using inefficient methods so intensely that it ends up as the second-highest total user. Christian groups use efficient contraceptives six to nine times as often as Moslems.

Table 69 : Percentage of Currently Married Exposed Women Using Contraception by Age and by State

	USING INEFFICIENT METHOD				USING EFFICIENT METHOD				Ineff. + Eff. All Ages	Ratio of Ineff. to Total Users	N OF CASES			
	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages			LT 25y.	25-34y.	GE 35y.	All Ages
(Abstinence not considered as a contraceptive method)														
Anambra	0.7	3.0	2.5	2.1	0.6	0.2	0.7	0.5	2.6	.81	122	150	115	388
Bauchi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	126	112	53	291
Bendel	1.7	2.4	0.0	1.5	2.4	0.5	1.7	1.4	2.9	.52	46	71	47	164
Benue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	69	104	78	251
Borno	0.0	0.4	0.0	0.1	0.0	0.4	0.0	0.1	0.2	.50	153	179	160	493
Cross-River	6.1	1.0	1.3	2.5	0.4	0.6	8.0	2.4	4.9	.51	82	143	75	301
Gongola	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	145	238	90	473
Imo	0.0	0.0	0.0	0.0	0.0	1.5	1.8	1.4	1.4	.00	86	221	222	528
Kaduna	0.0	0.0	0.8	0.2	0.0	0.5	1.4	0.5	0.7	.29	142	197	100	439
Kano	0.2	0.0	0.0	0.1	0.0	0.9	0.4	0.4	0.5	.20	280	244	129	653
Kwara	1.6	3.6	0.0	2.0	6.9	0.0	0.0	1.6	3.6	.56	41	77	52	171
Lagos	1.0	3.1	4.5	3.0	0.0	2.9	2.6	2.0	5.0	.60	57	86	75	218
Niger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	61	106	63	231
Ogun	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	47	37	65	149
Ondo	0.0	0.0	0.0	0.0	1.6	0.9	0.8	1.0	1.0	.00	41	127	80	248
Oyo	0.0	0.0	0.4	0.2	0.0	1.9	3.5	2.2	2.4	.08	44	102	102	249
Plateau	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	.00	51	71	44	165
Rivers	2.3	2.2	0.3	1.7	1.1	1.5	2.2	1.6	3.3	.52	61	76	54	190
Sokoto	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.2	1.00	111	112	77	299
(Abstinence regarded as an inefficient method of contraception)														
Anambra	18.2	17.6	22.6	19.3	0.6	0.2	0.7	0.5	19.8	.98	122	150	115	388
Bauchi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	126	112	53	291
Bendel	22.7	22.7	24.9	23.3	2.4	0.5	1.7	1.4	24.7	.94	46	71	47	164
Benue	0.0	0.0	1.7	0.5	0.0	0.0	0.0	0.0	0.5	1.00	69	104	78	251
Borno	0.4	1.1	0.0	0.5	0.0	0.4	0.0	0.1	0.6	.83	153	179	160	493
Cross-River	12.3	19.5	11.8	15.6	0.4	0.6	8.0	2.4	18.0	.87	82	143	75	301
Gongola	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	145	238	90	473
Imo	12.3	2.4	2.7	4.1	0.0	1.5	1.8	1.4	5.5	.75	86	221	222	528
Kaduna	10.4	7.4	3.9	7.6	0.0	0.5	1.5	0.5	8.1	.94	142	197	100	439
Kano	7.4	6.0	2.6	5.9	0.0	0.9	0.4	0.4	6.3	.94	280	244	129	653
Kwara	3.5	14.7	6.1	9.4	6.9	0.0	0.0	1.6	11.0	.55	41	77	52	171
Lagos	4.5	4.0	10.7	6.4	0.0	2.9	2.6	2.0	8.4	.76	57	86	75	218
Niger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	61	106	63	231
Ogun	2.2	0.0	2.6	1.8	0.0	0.0	0.0	0.0	1.8	1.00	47	37	65	149
Ondo	3.8	0.5	0.0	0.9	1.6	0.9	0.8	1.0	1.9	.47	41	127	80	248
Oyo	0.0	0.0	0.8	0.3	0.0	1.9	3.5	2.2	2.5	.12	44	102	102	249
Plateau	4.0	0.4	7.1	3.3	0.2	0.0	0.0	0.1	3.4	.97	51	71	44	165
Rivers	12.9	6.9	5.4	8.4	1.1	1.5	2.2	1.6	10.0	.84	61	76	54	190
Sokoto	0.8	5.2	4.6	3.4	0.0	0.0	0.0	0.0	3.4	1.00	111	112	77	299

Table 70-a: Percentage of Currently Married Exposed Women using Contraception by Age and by Region and Place of Residence
(Abstinence regarded as an inefficient method of contraception)

	Using Inefficient Method				Using Efficient Method				N of Cases			
	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
<u>Northeast</u>												
Rural	0.5	0.0	1.3	0.5	0.0	0.0	0.0	0.0	442	578	357	1377
Urban	0.6	1.6	0.0	0.9	0.1	0.5	0.0	0.3	102	127	68	297
<u>Northwest</u>												
Rural	5.3	5.4	2.8	4.8	0.0	0.2	0.2	0.1	502	566	312	1380
Urban	10.6	4.9	3.3	6.7	0.0	1.8	2.4	1.3	92	93	57	242
<u>Southeast</u>												
Rural	15.6	11.4	9.9	11.9	0.0	0.6	2.5	1.1	301	531	428	1529
Urban	8.0	7.2	3.2	6.4	3.3	3.7	3.7	3.6	50	60	38	148
<u>Southwest</u>												
Rural	10.1	5.8	5.0	6.3	3.1	0.0	0.0	0.6	116	253	225	594
Urban	3.4	6.9	7.2	6.0	0.6	2.4	3.5	2.3	161	248	196	604
<u>Rural</u>												
Northeast	0.5	0.0	1.3	0.5	0.0	0.0	0.0	0.0	442	578	357	1377
Northwest	5.3	5.4	2.8	4.8	0.0	0.2	0.2	0.1	502	566	312	1380
Southeast	15.6	11.4	9.9	11.9	0.0	0.6	2.5	1.1	301	531	428	1259
Southwest	10.1	5.8	5.0	6.3	3.1	0.0	0.0	0.6	116	253	225	594
<u>Urban</u>												
Northeast	0.6	1.6	0.0	0.9	0.1	0.5	0.0	0.3	102	127	68	297
Northwest	10.6	4.9	3.3	6.7	0.0	1.8	2.4	1.3	92	93	57	242
Southeast	8.0	7.2	3.2	6.4	3.3	3.7	3.7	3.6	50	60	38	148
Southwest	3.4	6.9	7.2	6.0	0.6	2.4	3.5	2.3	161	248	196	604

Table 70-b: Percentage of Currently Married Exposed Women
(Abstinence not considered as a contraceptive method)

Using Inefficient Method					Using Efficient Method				N of Cases			
<u>Northeast</u>												
Rural	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	442	578	357	1377
Urban	0.0	0.5	0.0	0.2	0.1	0.5	0.0	0.3	102	127	68	297
<u>Northwest</u>												
Rural	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	502	566	312	1380
Urban	0.6	0.6	1.4	0.8	0.0	1.8	2.4	1.3	92	93	57	242
<u>Southeast</u>												
Rural	2.2	1.3	0.9	1.4	0.0	0.6	2.5	1.1	301	531	428	1259
Urban	1.4	0.9	0.4	1.0	3.3	3.7	3.7	3.6	50	60	38	148
<u>Southwest</u>												
Rural	0.7	0.6	0.0	0.4	3.1	0.0	0.0	0.6	116	253	225	594
Urban	0.8	2.3	1.9	1.8	0.6	2.4	3.5	2.3	161	248	196	604
<u>Rural</u>												
Northeast	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	442	578	357	1377
Northwest	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	502	566	312	1380
Southeast	2.2	1.3	0.9	1.4	0.0	0.6	2.5	1.1	301	531	428	1259
Southwest	0.7	0.6	0.0	0.4	3.1	0.0	0.0	0.6	116	253	225	594
<u>Urban</u>												
Northeast	0.0	0.5	0.0	0.2	0.1	0.5	0.0	0.3	102	127	68	297
Northwest	0.6	0.6	1.4	0.8	0.0	1.8	2.4	1.3	92	93	57	242
Southeast	1.4	0.9	0.4	1.0	3.3	3.7	3.7	3.6	50	60	38	148
Southwest	0.8	2.3	1.9	1.8	0.6	2.4	3.5	2.3	161	248	196	604

Table 71-a: Percentage of Currently Married Exposed Women Using Contraception by Age and by Subgroups

Subgroup	Age Woman at Time of Interview	Using Inefficient Method				Using Efficient Method				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
(Abstinence regarded as an inefficient method of contraception)													
<u>Type of Place of Residence</u>													
- Rural		6.4	5.5	5.1	5.6	0.3	0.3	0.8	0.4	1361	1927	1322	4610
- Urban		3.9	5.0	2.4	3.9	0.7	1.5	2.8	1.7	235	340	230	804
- Large Urban		6.2	5.9	9.1	6.8	0.7	2.8	2.6	2.0	170	189	129	487
<u>Literacy Status of Woman</u>													
- Can Read		8.6	9.9	4.6	8.4	1.1	2.3	4.6	2.2	461	491	217	1170
- Cannot Read		5.2	4.3	5.1	4.8	0.1	0.2	0.7	0.3	1304	1964	1463	4731
<u>Literacy Status of Partner</u>													
- Can Read		9.0	7.6	7.0	7.9	0.8	1.4	3.4	1.6	817	970	548	2335
- Cannot Read		3.5	4.1	4.0	3.9	0.0	0.1	0.2	0.1	949	1485	1132	3566
<u>Religion</u>													
- Catholic		12.3	10.3	10.6	10.9	0.7	1.9	2.6	1.8	199	313	224	736
- Protestant		7.6	4.3	5.9	5.7	1.7	1.8	2.0	1.8	177	255	212	644
- Other Christians		6.4	7.4	3.8	6.0	0.7	0.4	3.1	1.3	226	343	250	820
- Moslem		4.0	3.3	2.2	3.3	0.0	0.2	0.3	0.2	1034	1311	787	3132
- Traditional		10.6	10.1	14.2	11.6	0.0	0.0	0.0	0.0	96	148	125	369
<u>Years of Education of Woman</u>													
- 0 yrs		5.2	3.6	4.9	4.5	0.1	0.2	0.7	0.3	1259	1911	1455	4625
- 1-4 yrs		7.0	10.0	3.9	7.8	0.4	1.3	3.4	1.5	132	236	100	468
- 5-7 yrs		6.1	14.3	4.5	8.8	0.3	2.0	2.9	1.4	278	209	93	580
- 8+ yrs		16.1	10.7	15.9	13.7	4.2	4.1	14.0	5.5	97	100	31	228
<u>Region of Residence</u>													
- Northeast		0.5	0.3	1.4	0.6	0.0	0.1	0.0	0.0	544	705	425	1674
- Northwest		6.1	5.3	2.9	5.1	0.0	0.5	0.5	0.3	593	659	369	1622
- Southeast		14.5	11.0	9.4	11.3	0.5	1.0	2.6	1.4	351	591	465	1407
- Southwest		6.2	6.3	6.0	6.2	1.7	1.2	1.6	1.5	277	501	421	1198
<u>Years of Education of Partner</u>													
- 0 yrs		2.9	4.3	4.2	3.9	0.0	0.2	0.2	0.1	669	1227	1007	2902
- 1-4 yrs		9.2	10.0	14.2	10.8	0.0	0.0	0.5	0.1	105	163	91	359
- 5-7 yrs		8.0	6.3	6.2	6.9	0.8	1.0	5.2	2.0	318	331	211	860
- 8+ yrs		11.2	9.8	9.4	10.3	1.7	2.5	2.9	2.3	216	239	98	553
<u>Last Work Status of Woman</u>													
- Family Farm		8.8	6.5	7.2	7.2	0.0	0.0	1.6	0.6	355	689	560	1604
- Family Employed		4.4	(9.6)	(0.0)	4.5	8.9	(0.0)	(11.7)	7.3	33	23	25	81
- Other Paid Cash		11.1	9.7	8.1	9.6	1.1	2.8	3.6	2.6	89	168	102	359
- Other Employed		0.8	4.5	5.1	3.9	0.0	0.4	0.0	0.2	65	140	88	293
- Self Employed		6.6	5.8	4.4	5.6	0.4	1.0	0.3	0.6	520	785	581	1886
- Did Not Work		4.2	2.9	1.8	3.2	0.0	0.3	1.1	0.3	703	651	324	1677

() Estimates based on less than 30 cases

Table 71-b:

Subgroup	Age Woman at Time of Interview	Using Inefficient Method				Using Efficient Method				N of Cases			
		LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages	LT 25y.	25-34y.	GE 35y.	All Ages
(Abstinence not considered as a contraceptive method)													
<u>Type of Place of Residence</u>													
- Rural		0.5	0.4	0.3	0.4	0.3	0.3	0.8	0.4	1361	1927	1322	4610
- Urban		0.5	1.1	0.2	0.7	0.7	1.5	2.8	1.7	235	340	230	804
- Large Urban		0.8	2.0	3.2	1.9	0.7	2.8	2.6	2.0	170	189	129	487
<u>Literacy Status of Woman</u>													
- Can Read		2.1	2.6	1.7	2.2	1.1	2.3	4.6	2.2	461	491	217	1170
- Cannot Read		0.0	0.2	0.3	0.2	0.1	0.2	0.7	0.3	1304	1964	1463	4731
<u>Literacy Status of Partner</u>													
- Can Read		1.2	1.4	1.4	1.3	0.8	1.4	3.4	1.6	817	970	548	2335
- Cannot Read		0.0	0.2	0.1	0.1	0.0	0.1	0.2	0.1	949	1485	1132	3566
<u>Religion</u>													
- Catholic		0.4	2.2	1.5	1.5	0.7	1.9	2.6	1.8	199	313	224	736
- Protestant		1.7	1.4	1.1	1.4	1.7	1.8	2.0	1.8	177	255	212	644
- Other Christians		2.4	0.9	0.2	1.1	0.7	0.4	3.1	1.3	226	343	250	820
- Moslem		0.1	0.2	0.3	0.2	0.0	0.2	0.3	0.2	1034	1311	787	3132
- Traditional		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96	148	125	369
<u>Years of Education of Woman</u>													
- 0 yrs		0.0	0.1	0.3	0.1	0.1	0.2	0.7	0.3	1259	1911	1455	4625
- 1-4 yrs		0.4	1.2	0.5	0.8	0.4	1.3	3.4	1.5	132	236	100	468
- 5-7 yrs		1.1	0.7	2.2	1.1	0.3	2.0	2.9	1.4	278	209	93	580
- 8+ yrs		6.5	10.0	5.4	7.9	4.2	4.1	14.0	5.5	97	100	31	228
<u>Region of Residence</u>													
- Northeast		0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	544	705	425	1674
- Northwest		0.1	0.1	0.2	0.1	0.0	0.5	0.5	0.3	593	659	369	1622
- Southeast		2.1	1.3	0.9	1.3	0.5	1.0	2.6	1.4	351	591	465	1407
- Southwest		0.7	1.4	0.9	1.1	1.7	1.2	1.6	1.5	277	501	421	1198
<u>Years of Education of Partner</u>													
- 0 yrs		0.0	0.1	0.3	0.2	0.0	0.2	0.2	0.1	669	1227	1007	2902
- 1-4 yrs		0.5	1.8	0.0	0.9	0.0	0.0	0.5	0.1	105	163	91	359
- 5-7 yrs		0.5	0.5	1.5	0.7	0.8	1.0	5.2	2.0	318	331	211	860
- 8+ yrs		3.0	3.9	1.7	3.1	1.7	2.5	2.9	2.3	216	239	98	553
<u>Last Work Status of Woman</u>													
- Family Farm		0.3	0.1	0.2	0.2	0.0	0.0	1.6	0.6	355	689	560	1604
- Family Employed		0.0	(4.8)	(0.0)	1.3	8.9	(0.0)	(11.7)	7.3	33	23	25	81
- Other Paid Cash		4.9	4.5	2.3	4.0	1.1	2.8	3.6	2.6	89	168	102	359
- Other Employed		0.0	0.0	0.6	0.2	0.0	0.4	0.0	0.2	65	140	88	293
- Self Employed		0.2	0.7	0.8	0.6	0.4	1.0	0.3	0.6	520	785	581	1886
- Did Not Work		0.5	0.2	0.1	0.3	0.0	0.3	1.1	0.3	703	651	324	1677

() Estimates based on less than 30 cases

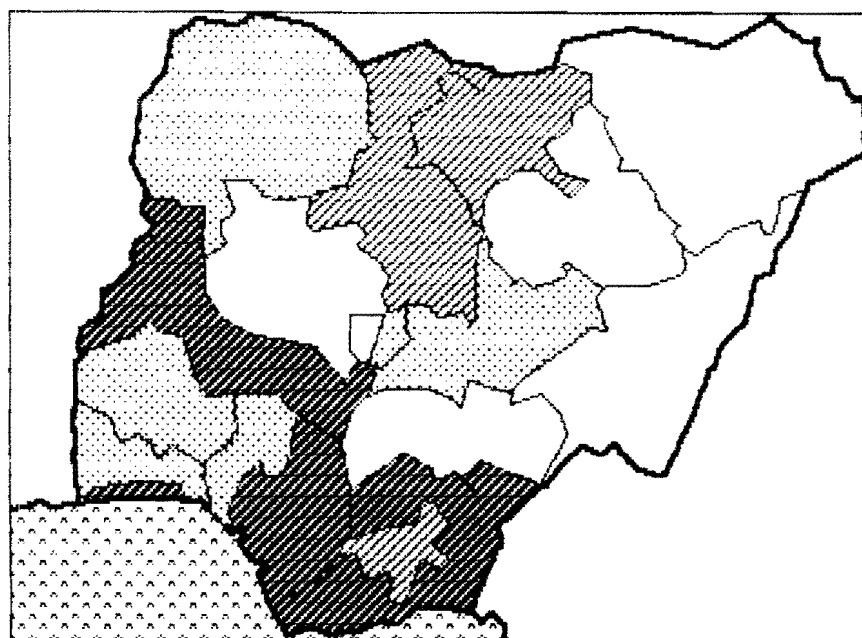
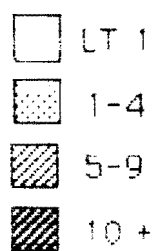


FIGURE 29 : PERCENTAGE CURRENT USERS OF CONTRACEPTION
AMONG CURRENTLY MARRIED EXPOSED WOMEN

Fig. 30: DISTRIBUTION OF PERCENTAGE OF CURRENTLY MARRIED EXPOSED WOMEN USING CONTRACEPTION
(Excluding abstinence)

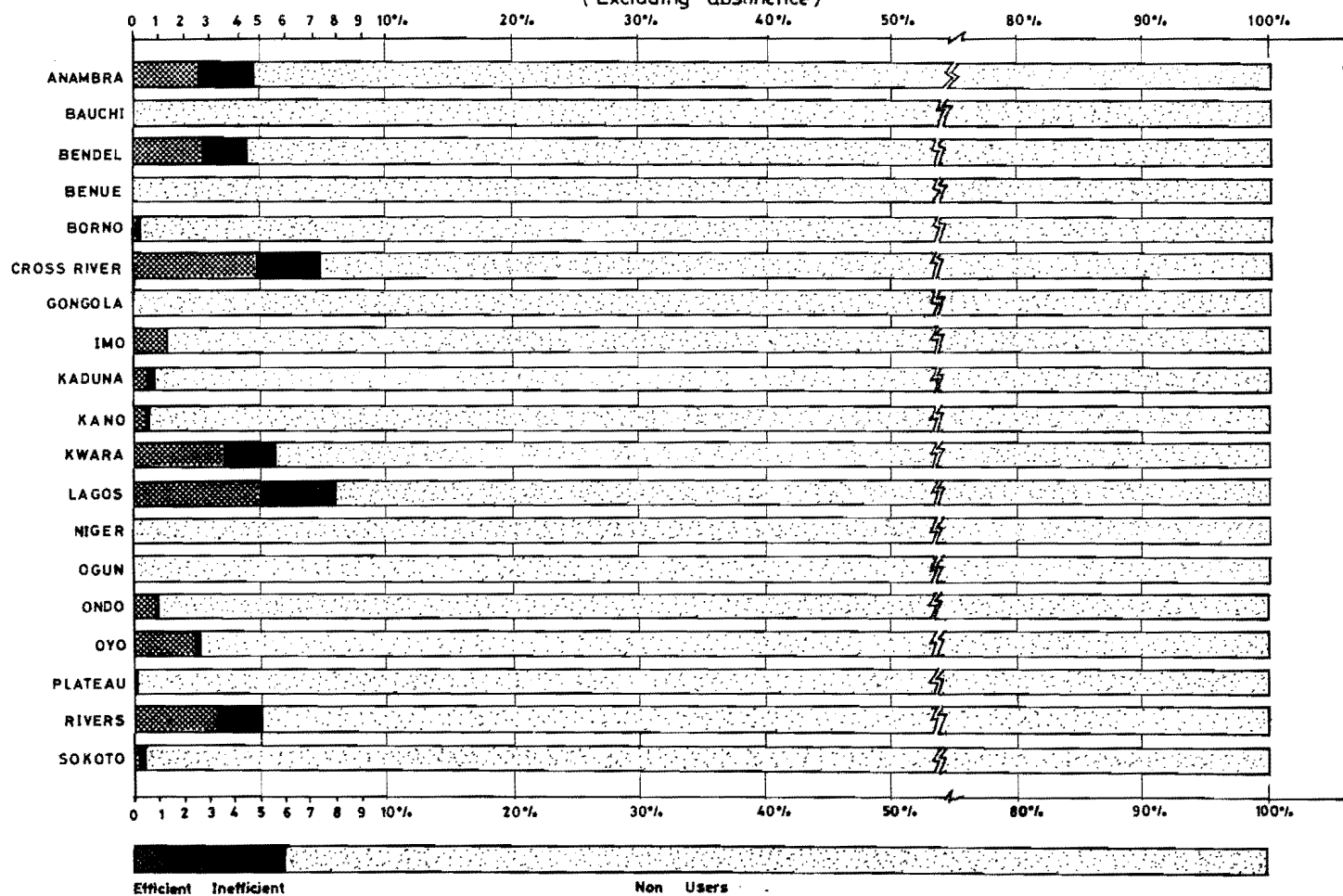
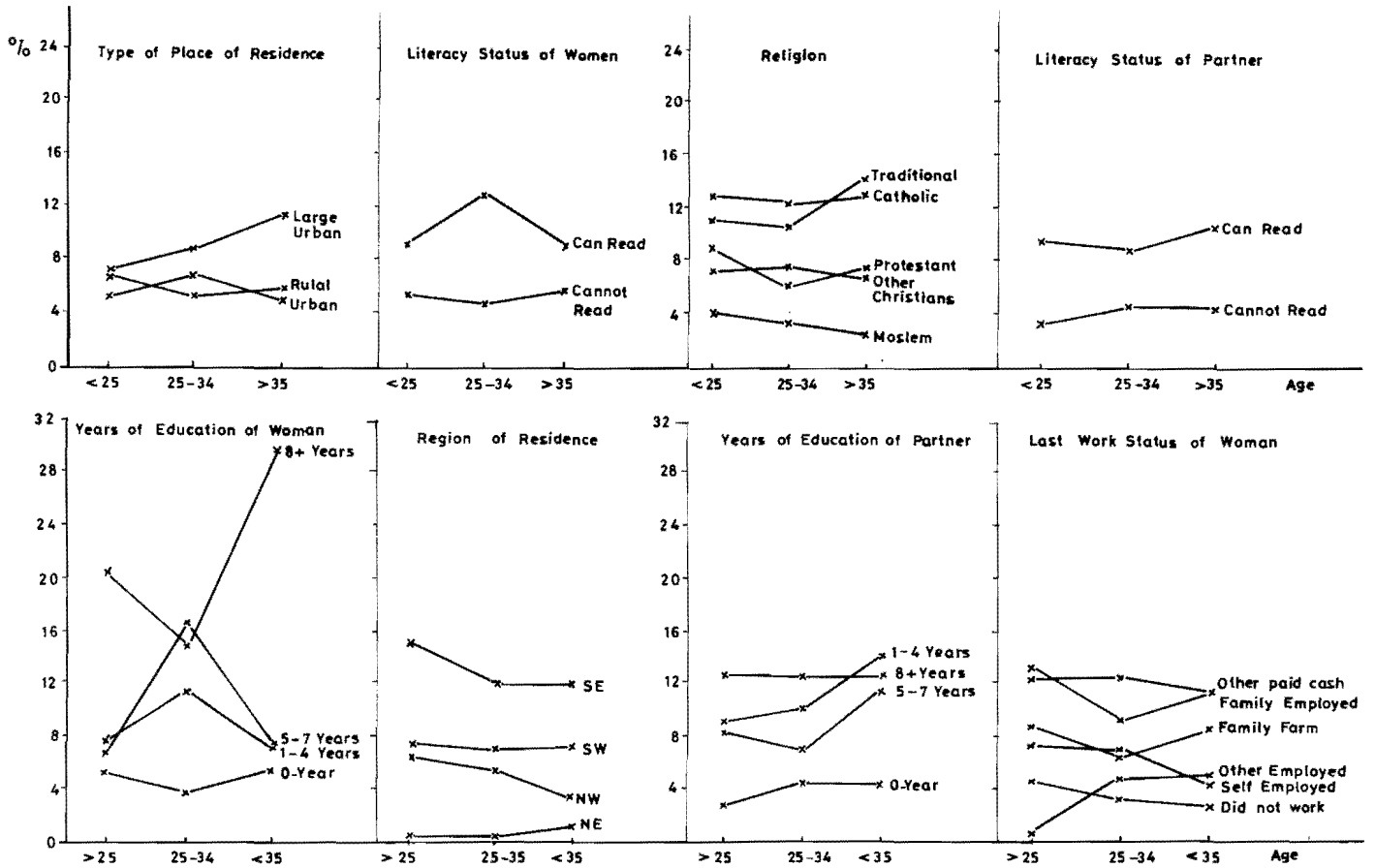


Fig. 31: PERCENTAGE CURRENTLY USING AND METHOD OF CONTRACEPTION BY AGE AND SUBGROUPS.



The regional and work status patterns are as expected. Use of both efficient and inefficient contraception is higher in the south and among modern sector workers. Women in the south, for example, use efficient methods five times as often as their northern counterparts.

The age profile depicted in Figure 31 unmasks important differences among the subgroups. It immediately becomes clear that in only a few cases is current use systematically greater at all ages among the modern women than among the conservative women. These cases include literacy status of women and partner, region of residence and last work status. Among the other subgroups, pattern of use according to age groups is very mixed. Thus far, we have not considered the association between contraceptive use and fertility. This issue is now taken up.

The link between contraceptive use and fertility has several dimensions. First, one expects a relationship between contraception and the Total Fertility Rate (TFR). In the Nigerian case, however, there seems to be no relationship between the two. A relatively high level of use is not associated as yet with low fertility. This point is exemplified by a comparison of the TFR and percentage ever use of contraception among married women in the four regional populations. The northwest and the southwest have almost identical TFR's of 6.8 and 6.6 respectively but their contraceptive use measures are 7.6% and 22.5% respectively. Also, while the northeast and the southeast have TFR's of 6.4 and 6.0, their contraceptive use indices are 3.6% and 29.9% respectively. Furthermore, the northwest which has a higher fertility rate than the northeast also records higher contraceptive use.

The second contraceptive - fertility dimension is the relationship between the number of living children and contraceptive use. A first approach uses data on current and ever-use of contraception by currently married fecund women at parities zero and one to obtain information on early spacing behaviour of women. The other approach is based on current use of contraception by currently married women. It enables us to assess the current contraceptive behaviour among women at all parities. In addition, the results can be compared with results of other variables obtained on the basis of current events among currently married women.

In interpreting results obtained through either of the approaches, some caution must be exercised. The results are based on all age groups and use of contraception among all age categories does not necessarily resemble the pattern of use for each cohort. Equally important to bear in mind when looking at parity-related differentials in use is the powerful selection effect exerted on the percentage using contraception at each parity by the effectiveness with which couples use contraception (see, for example, Lightbourne, 1980).

Information based on the first approach is given in Tables 72 and 73 and demonstrates the need for the "ever-use" data in estimating contraceptive use for spacing at low parities. At the national level, a mere 7 and 14 per cent of the women delayed their first and second birth respectively (compare this result with the result in chapter 2). These proportions are low by world standards (Lightbourne, 1980). They nonetheless have significant implications for fertility as delaying the first births is not only equivalent to delaying the age at marriage, but it is also an indication of formation of contraceptive habits at an early age,

Table 71 : Percentage Ever-Using any Method of Contraception compared with Percentage Currently Using any Method at Parities
Zero and One : Place and Region

Place and Region	Parity (Number of Living Children)			
	Ever Using	0 Currently Using	Ever Using	1 Currently Using
<u>Northeast</u>				
Rural	3.1 (242)	0.0 (225)	2.5 (254)	0.4 (241)
Urban	0.3 (42)	0.3 (39)	1.2 (77)	0.9 (73)
<u>Northwest</u>				
Rural	1.2 (220)	0.0 (229)	5.4 (272)	3.7 (264)
Urban	0.4 (43)	0.0 (40)	12.1 (39)	8.0 (42)
<u>Southeast</u>				
Rural	11.8 (95)	5.3 (61)	35.5 (196)	13.6 (164)
Urban	16.8* (23)	1.2* (13)	30.7 (32)	12.8* (26)
<u>Southwest</u>				
Rural	13.4 (38)	2.7 (37)	26.7 (100)	4.9 (86)
Urban	33.3 (70)	0.9 (38)	18.2 (136)	8.1 (105)
<u>Rural</u>				
Northeast	3.1 (242)	0.0 (225)	2.5 (254)	0.4 (241)
Northwest	1.2 (220)	0.0 (229)	5.4 (292)	3.7 (264)
Southeast	11.8 (95)	5.3 (61)	35.5 (196)	13.6 (164)
Southwest	13.4 (38)	2.7 (37)	26.7 (100)	4.9 (86)
<u>Urban</u>				
Northeast	0.3 (42)	0.3 (39)	1.2 (77)	0.9 (73)
Northwest	0.4 (43)	0.0 (40)	12.1 (39)	8.0 (42)
Southeast	16.8* (23)	1.2* (13)	30.7 (32)	12.8* (26)
Southwest	33.3 (70)	0.9 (38)	18.2 (136)	8.1 (105)

Table 73 : Percentage Ever-using any Method of Contraception compared with Percentage currently using any Method at Parities Zero and One : Subgroups

Subgroups	Parity (Number of Living Children)			
	Ever Using	0 Currently Using	1 Currently Using	
<u>Type of Place of Residence</u>				
- Rural	4.4 (595)	0.8 (552)	14.3 (821)	4.9 (755)
- Urban	6.4 (110)	0.4 (75)	12.0 (193)	5.9 (171)
- Large Urban	29.7 (68)	0.6 (56)	18.8 (90)	7.7 (75)
<u>Literacy Status of Woman</u>				
- Can Read	20.0 (190)	3.6 (107)	28.8 (277)	9.8 (216)
- Cannot Read	2.7 (582)	0.2 (576)	9.3 (827)	4.1 (785)
<u>Literacy Status of Partner</u>				
- Can Read	11.7 (322)	2.2 (222)	23.8 (512)	9.6 (426)
- Cannot Read	3.5 (450)	0.0 (461)	6.0 (592)	2.1 (575)
<u>Religion</u>				
- Catholic	14.2 (83)	3.8 (49)	25.7 (131)	13.4 (107)
- Protestant	13.6 (38)	1.0* (29)	21.9 (116)	8.6 (95)
- Other Christian	17.4 (78)	4.2 (57)	29.0 (131)	6.2 (111)
- Moslem	3.8 (516)	0.0 (507)	6.4 (612)	3.0 (585)
- Traditional	1.6 (41)	0.0* (27)	17.2 (65)	4.7 (59)
<u>Years of Education of Woman</u>				
- 0 yrs	3.1 (580)	0.2 (575)	8.1 (788)	3.8 (755)
- 1-4 yrs	14.2 (32)	0.0* (17)	30.4 (87)	7.3 (61)
- 5-7 yrs	8.3 (109)	3.2 (65)	25.5 (151)	7.6 (128)
- 8+ yrs	42.9 (52)	6.9* (25)	36.7 (78)	17.7 (57)
<u>Region of Residence</u>				
- Northeast	2.7 (283)	0.0 (265)	2.2 (330)	0.5 (314)
- Northwest	1.0 (263)	0.0 (269)	6.2 (311)	4.3 (306)
- Southeast	12.8 (119)	4.6 (74)	34.8 (227)	13.5 (190)
- Southwest	26.2 (108)	1.8 (75)	21.8 (236)	6.6 (191)
<u>Years of Education of Partner</u>				
- 0 yrs	2.9 (344)	0.5 (358)	6.9 (462)	1.9 (443)
- 1-4 yrs	15.6 (34)	4.1* (24)	16.6 (83)	2.6 (63)
- 5-7 yrs	8.6 (88)	0.6 (60)	21.4 (195)	8.9 (164)
- 8+ yrs	21.9 (88)	0.6 (43)	32.5 (153)	15.2 (121)
<u>Last Work Status of Woman</u>				
- Family Farm	3.9 (123)	0.0 (114)	16.1 (248)	5.9 (217)
- Family Employed	4.2* (17)	1.3* (12)	11.0* (18)	0.0* (17)
- Other Paid Cash	25.9 (61)	3.5 (40)	27.9 (67)	9.0 (50)
- Other Employed	0.6 (47)	0.0 (41)	17.8 (56)	0.0 (51)
- Self Employed	8.5 (182)	1.7 (172)	11.2 (324)	5.4 (304)
- Did Not Work	4.9 (343)	0.1 (303)	12.8 (391)	5.3 (363)
Nigeria	7.0 (773)	0.7 (683)	14.2 (1104)	5.3 (1001)

Table 74 : Percentage of Currently Married Women Currently using Contraceptives by Number of Living Children by Subgroups

Subgroups	Parity (Number of Living Children)						
	0	1	2	3	4	5	6+
<u>Type of Place of Residence</u>							
- Rural	0.8 (552)	4.9 (755)	5.7 (811)	7.1 (750)	9.8 (601)	5.5 (492)	8.1 (648)
- Urban	0.4 (75)	5.9 (171)	5.3 (144)	8.1 (130)	4.1 (100)	5.4 (84)	7.6 (101)
- Large Urban	0.6 (56)	7.7 (75)	5.3 (85)	8.8 (99)	14.4 (62)	10.4 (46)	15.6 (63)
<u>Literacy Status of Woman</u>							
- Can Read	3.6 (107)	9.8 (216)	10.4 (216)	12.2 (197)	15.0 (145)	8.6 (118)	12.4 (171)
- Cannot Read	0.2 (576)	4.1 (785)	4.4 (823)	6.2 (782)	8.1 (619)	5.2 (505)	7.6 (641)
<u>Literacy Status of Partner</u>							
- Can Read	2.2 (222)	9.6 (426)	9.5 (411)	10.8 (399)	13.4 (285)	9.1 (257)	10.3 (336)
- Cannot Read	0.0 (461)	2.1 (575)	3.1 (628)	5.1 (581)	7.1 (479)	3.5 (366)	7.5 (476)
<u>Religion</u>							
- Catholic	3.8 (49)	13.4 (107)	11.0 (121)	12.5 (111)	10.5 (109)	8.0 (87)	21.2 (151)
- Protestant	1.0* (29)	8.6 (95)	8.1 (99)	10.5 (116)	8.2 (112)	5.8 (73)	5.6 (119)
- Other Christian	4.2 (57)	6.2 (111)	4.3 (129)	5.9 (127)	11.5 (124)	9.1 (112)	8.1 (160)
- Moslem	0.0 (507)	3.0 (585)	3.9 (587)	4.9 (533)	7.2 (337)	3.2 (267)	2.7 (316)
- Traditional	0.0* (27)	4.7 (59)	8.8 (71)	17.1 (61)	19.5 (53)	11.1 (57)	16.2 (41)
<u>Years of Education of Woman</u>							
- 0 yrs	0.2 (575)	3.8 (755)	4.3 (808)	5.6 (769)	7.0 (587)	5.0 (486)	7.5 (645)
- 1-4 yrs	0.0* (17)	7.3 (61)	6.2 (76)	15.0 (89)	8.7 (80)	4.4 (73)	15.0 (73)
- 5-7 yrs	3.2 (65)	7.6 (128)	7.6 (103)	10.1 (80)	24.8 (78)	14.8 (50)	5.8 (74)
- 8+ yrs	6.9* (25)	17.7 (57)	22.1 (52)	19.8 (41)	25.4* (19)	10.0* (14)	31.6 (19)
<u>Region of Residence</u>							
- Northeast	0.0 (265)	0.5 (314)	0.2 (293)	0.7 (253)	0.4 (160)	0.0 (181)	2.5 (209)
- Northwest	0.0 (269)	4.3 (306)	5.8 (323)	7.9 (302)	10.9 (193)	6.1 (104)	3.4 (124)
- Southeast	4.6 (74)	13.5 (190)	12.7 (197)	11.9 (212)	14.5 (244)	10.2 (193)	14.9 (297)
- Southwest	1.8 (75)	6.6 (191)	6.4 (226)	10.2 (213)	8.9 (167)	7.0 (144)	9.0 (182)
<u>Years of Education of Partner</u>							
- 0 yrs	0.5 (358)	1.9 (443)	2.1 (530)	5.0 (458)	7.4 (369)	3.5 (326)	8.5 (417)
- 1-4 yrs	4.1* (24)	2.6 (63)	12.3 (58)	15.6 (54)	11.7 (55)	8.0 (42)	18.0 (63)
- 5-7 yrs	0.6 (60)	8.9 (164)	7.0 (153)	10.1 (136)	12.1 (112)	10.3 (106)	10.0 (130)
- 8+ yrs	0.6 (43)	15.2 (121)	17.5 (108)	8.2 (100)	15.5 (57)	12.8 (51)	11.2 (73)
<u>Last Work Status of Woman</u>							
- Family Farm	0.0 (114)	5.9 (217)	7.5 (250)	8.6 (265)	10.6 (244)	6.8 (234)	10.3 (279)
- Family Employed	1.3* (12)	0.0* (17)	23.3 (12)	25.6* (10)	0.0* (14)	12.6* (6)	32.1* (10)
- Other Paid Cash	3.5 (40)	9.0 (50)	11.5 (74)	11.4 (68)	24.4 (36)	16.6 (36)	12.4 (56)
- Other Employed	0.0 (41)	0.0 (51)	0.9 (58)	3.7 (49)	2.9 (30)	0.0* (20)	20.3 (43)
- Self Employed	1.7 (172)	5.4 (304)	4.6 (340)	7.6 (334)	9.6 (278)	6.1 (208)	7.0 (249)
- Did Not Work	0.1 (303)	5.3 (363)	4.1 (305)	4.9 (252)	6.0 (162)	0.7 (118)	2.9 (176)
Nigeria	0.7 (683)	5.3 (1001)	5.6 (1039)	7.4 (979)	9.4 (764)	5.8 (623)	8.6 (812)

Table 75 : Percentage of Currently Married Women Currently Using contraceptives by Number of Living Children and by Place and Region of Residence

	Parity (Number of Living Children)						
	0	1	2	3	4	5	6+
<u>Northeast</u>							
Rural	0.0 (225)	0.4 (241)	0.0 (238)	0.6 (209)	0.0 (140)	0.0 (150)	2.6 (174)
Urban	0.3 (39)	0.9 (73)	1.2 (56)	1.5 (43)	3.4* (20)	0.0 (32)	1.9 (35)
<u>Northwest</u>							
Rural	0.0 (229)	3.7 (264)	6.1 (283)	7.4 (253)	11.1 (161)	4.0 (88)	1.0 (102)
Urban	0.0 (40)	8.0 (42)	3.5 (41)	10.4 (49)	10.1 (32)	18.1* (16)	14.6* (22)
<u>Southeast</u>							
Rural	5.3 (61)	13.6 (164)	13.2 (173)	12.3 (193)	14.9 (215)	10.9 (180)	14.7 (274)
Urban	1.2* (13)	12.8* (26)	9.0* (24)	7.8* (19)	12.0* (29)	2.1* (14)	16.8* (24)
<u>Southwest</u>							
Rural	2.7 (37)	4.9 (86)	5.5 (118)	10.2 (85)	10.8 (85)	5.1 (74)	6.9 (99)
Urban	0.9 (38)	8.1 (105)	7.3 (108)	10.2 (117)	7.0 (82)	9.0 (70)	11.5 (83)
<u>Rural</u>							
Northeast	0.0 (225)	0.4 (241)	0.0 (238)	0.6 (209)	0.0 (140)	0.0 (150)	2.6 (184)
Northwest	0.0 (229)	3.7 (264)	6.1 (283)	7.4 (253)	11.1 (161)	4.0 (88)	1.0 (102)
Southeast	5.3 (61)	13.6 (164)	13.2 (173)	12.3 (193)	14.9 (215)	10.9 (180)	14.7 (274)
Southwest	2.7 (37)	4.9 (86)	5.5 (118)	10.2 (95)	10.8 (85)	5.1 (74)	6.9 (99)
<u>Urban</u>							
Northeast	0.3 (39)	0.9 (73)	1.2 (56)	1.5 (43)	3.4* (20)	0.0 (32)	1.9 (35)
Northwest	0.0 (40)	8.0 (42)	3.5 (41)	10.4 (49)	10.1 (32)	18.1* (16)	14.6* (22)
Southeast	1.2* (13)	12.8* (26)	9.0* (24)	7.8* (19)	12.0* (29)	2.1* (14)	16.8* (24)
Southwest	0.9 (38)	8.1 (105)	7.3 (108)	10.2 (117)	7.0 (82)	9.0 (70)	11.5 (83)

a habit which may lead to increased use in the future.

The expected differentiation along the modern/traditional dichotomy is exhibited by the subgroups. The proportion delaying their first and second births among educated women (particularly the high proportions among those with eight or more years of education compared with the very low proportions of delayers among women with 5-7 years of education) points to the need to pursue a mass education policy that covers secondary education if the habit of contraceptive use is to be a vehicle of fertility reduction in the country. Also worthy of note is the pattern of variability among the regions. While more women in the south-west than in the southeast prefer delaying their first child, fewer women in the southwest than in the southeast prefer delaying their second child. The pattern holds for both the rural and urban areas of the two regions (Table 72). Indeed, the proportion using contraception at parity zero and one in the rural areas of these regions would have been a good omen for fertility reduction had scientific methods been used.

Information based on the second approach is reported in Tables 74 and 77. As expected, the levels of use drop dramatically but the pattern remains unchanged. In contrast to the results based on ever-use data, the picture presented at the national level (last row, Table 74) is that of a population in which contraception is used, mainly by older women with a few living children, probably for spacing. Just about one in 125 parity zero women is currently using contraception whereas at parity one, the ratio jumps to one in 20. In other words, there appears to be no conscious delay of commencement of child-bearing - a logical follow-up of the high incidence of pre-marital births and pre-marital conception resulting in early marital births noted in chapter 2. The minute rise at parity two that follows the rather rapid rise after parity one is indicative of a rapid succession of the first two births. The precipitous drop after parity four and the steep rise to parity six and over suggest a tendency to progress quickly to parity five once parity four is reached but to delay the arrival of the sixth (and subsequent) child. However, these observations only hold if no cohort effects are present, which is clearly not the case.

For ease of comparison of results obtained for various subgroups, a standardized ratio table is also presented (Tables 76 and 77). In constructing the ratios for a subgroup, the maximum percentage currently using contraception at any parity (in the subgroup) is taken as the standard (i.e. 100%) for that subgroup. The percentage currently using contraception at parity *i* in the subgroup is then expressed as a ratio of the standard for the subgroup. The major features of these results are as follows:

- (1) At every parity, use is greater among women with modern attributes than among their traditional counterparts. An exception occurs only among place of residence categories where at some parities, traditional women record higher levels of use.
- (2) The sharp transition from parity zero to parity one indicates that Nigerian women of whatever category and with whatever attribute are not interested in contraception while they have no children, but only after the first child.
- (3) At parities one and two, there is very much greater use of contraception presumably for spacing - among women with modern

Table 76 : Ratios of Percentage Currently Using Contraception at Parity i to Maximum Percentage at Any Parity : Subgroups

Subgroups	Parity (Number of Living Children)						
	0	1	2	3	4	5	6+
<u>Type of Place of Residence</u>							
- Rural	8	50	58	72	100	56	83
- Urban	5	73	65	100	51	67	94
- Large Urban	4	49	34	56	92	67	100
<u>Literacy Status of Woman</u>							
- Can Read	24	65	69	81	100	57	83
- Cannot Read	2	51	54	77	100	64	94
<u>Literacy Status of Partner</u>							
- Can Read	16	72	71	81	100	68	77
- Cannot Read	0	28	41	68	95	47	100
<u>Religion</u>							
- Catholic	18	63	52	58	50	38	100
- Protestant	(10)	82	77	100	78	55	53
- Other Christian	37	54	37	51	100	79	70
- Moslem	0	42	54	68	100	44	38
- Traditional	(0)	24	45	88	100	57	83
<u>Years of Education of Woman</u>							
- 0 yrs	3	51	57	75	93	67	100
- 1-4 yrs	(0)	49	41	100	58	29	100
- 5-7 yrs	13	31	31	41	100	60	23
- 8+ yrs	(22)	56	70	63	(80)	(32)	(100)
<u>Region of Residence</u>							
- Northeast	0	20	8	28	16	0	100
- Northwest	0	39	53	72	100	56	31
- Southeast	31	91	85	80	97	68	100
- Southwest	18	65	63	100	87	69	88
<u>Years of Education of Partner</u>							
- 0 yrs	6	22	25	59	87	41	100
- 1-4 yrs	(23)	14	68	87	65	44	100
- 5-7 yrs	5	74	58	83	100	85	83
- 8+ yrs	3	87	100	47	86	73	64
<u>Last Work Status of Woman</u>							
- Family Farm	0	56	71	81	100	64	97
- Family Employed	(4)	(0)	(73)	(80)	(0)	(39)	(100)
- Other Paid Cash	14	37	47	47	100	68	51
- Other Employed	0	0	4	18	14	(0)	100
- Self Employed	18	56	48	79	100	64	73
- Did Not Work	2	88	68	82	100	12	48
Nigeria	7	56	60	79	100	62	91

Table 77 : Ratios of Percentage Currently Using Contraception at Parity i to Maximum Percentage at any Parity :
Place and Region of Residence

	Parity (Number of Living Children)						
	0	1	2	3	4	5	6+
<u>Northeast</u>							
Rural	0	15	0	23	0	0	100
Urban	9	26	35	44	(100)	0	59
<u>Northwest</u>							
Rural	0	33	55	67	100	36	9
Urban	0	44	19	57	56	(100)	(81)
<u>Southeast</u>							
Rural	36	91	89	83	100	73	99
Urban	(7)	(76)	(54)	(46)	(71)	(13)	(100)
<u>Southwest</u>							
Rural	25	45	51	94	100	47	64
Urban	7	70	63	89	61	78	100
<hr/>							
<u>Rural</u>							
Northeast	0	15	0	23	0	0	100
Northwest	0	33	55	67	100	36	9
Southeast	36	91	89	83	100	73	99
Southwest	25	45	51	94	100	47	64
<u>Urban</u>							
Northeast	9	26	35	44	(100)	0	59
Northwest	0	44	19	57	56	(100)	(81)
Southeast	(7)	(76)	(54)	(46)	(71)	(13)	(100)
Southwest	7	70	63	89	61	78	100

attributes. The gaps between ratios for the two groups of women are widest at these parities, and presumably reflects a shift from traditional to modern methods of spacing.

- (4) Contraceptive use peaks at parity four, for thirteen of the twenty-nine categories, at parity six for ten categories and at parity three for four categories. For most of the categories, therefore, contraceptive use declines after the fourth or sixth child, implying that, admittedly among older cohorts, it is not until after the fourth living child that a serious thought is given to either a longer spacing period or stopping. In a country where the Total Marital Fertility Rate (TMFR) is 7.5, contraceptive use among parity four women is a significant indicator of movement in the direction of lower fertility whereas the peak at parity six is an indication of the retention of the high fertility profile. However, it is not possible to say whether or not the peak at parity four or six is due to the desire to cease child-bearing. The issue of stopping is taken up in chapter 4.

The third dimension of the contraceptive-fertility link brings together the number of living children and desire for future births and is summarized in Table 78. It must be stressed that the latter variable is speculative in nature and the results should be treated as such. The table shows that nearly nine out of every ten women with five or more living children either wish to continue childbearing or have not yet decided to stop procreation. Among these women contraception is used for spacing. One in every ten women at parity four and one in every twenty women at parity five are current users.

The fourth dimension of the contraceptive-fertility link relates to the persistence in the use of contraception among women still at risk of child-bearing. The issue can be approached through either the "continuation ratio" or the "dynamics of adoption" technique. The latter technique gives information on different points in the adoption process: continuous users, new acceptors, drop-outs. The former method summarizes the information contained in the results obtained using the second method. Therefore, the results of only the ratio methods are presented.

The continuation ratio is defined as the percentage of currently married fecund women currently using contraception to the percentage of currently married fecund women ever-using any method. The ratios give approximate indications of levels of contraceptive continuation and are given in Tables 79 and 80, and in Figure 32. The striking feature of the results is the unexpected high continuation ratios among women with traditional attributes. The ratio for the country is .45, meaning that for every 100 ever-users in the nation, there are 45 current users. The ratios for major modern groups are lower and those for the traditional groups are higher than the national ratio. These results suggest that traditional women are more likely than modern women to go on using contraception once they have tried it. The results reflect the fact that the fewer "traditionalist" ever-users are highly selected for continued use, but mainly of inefficient methods. The lower continuation ratios among women with more modern attributes and with a more efficient method-mix may reflect to some extent the obsession of the more informed women with side-effects.

Table 80 illustrates the considerable regional variability in continuation ratios. In thirteen of the states, the ratios are lower than the national ratio. It is only in Kano, Kanduna and Sokoto, all of which

Table 7* : Percentage of Current Use of Contraception among Exposed Women by Number of Living Children and Desire for Future Births

No. of living Children	% Undecided + want more	% want no more children	Current Use of Contraception among:		
			Want More	No More	All (including undecided)
0	96.5	3.3	0.6	0.0	0.7
1	97.7	2.1	5.7	5.8	5.3
2	97.7	2.2	5.4	6.3	5.6
3	95.5	4.4	6.9	17.9	7.4
4	85.2	5.7	9.4	14.5	9.4
5+	89.5	10.3	5.3	18.1	8.4

Table 79 : Contraceptive Continuation Ratios by Subgroup

Subgroups	Percentage currently using any method	Percentage ever using any method	Ratio	% of ratio to national ratio
<u>Type of Place of Residence</u>				
- Rural	6.7	14.5	.46	102
- Urban	5.8	18.8	.31	69
- Large Urban	10.1	26.3	.38	84
<u>Literacy Status of Woman</u>				
- Can Read	11.3	30.2	.37	82
- Cannot Read	5.6	11.1	.50	111
<u>Literacy Status of Partner</u>				
- Can Read	10.2	23.2	.44	98
- Cannot Read	4.4	9.6	.46	102
<u>Religion</u>				
- Catholic	12.6	24.4	.52	116
- Protestant	7.9	24.4	.32	71
- Other Christians	8.1	22.5	.36	80
- Moslem	3.9	7.4	.53	118
- Traditional	12.9	28.4	.45	100
<u>Years of Education of Woman</u>				
- 0 yrs	5.2	10.7	.49	109
- 1-4 yrs	9.8	28.3	.35	78
- 5-7 yrs	10.7	25.9	.41	91
- 8+ yrs	19.6	42.2	.46	102
<u>Region of Residence</u>				
- Northeast	0.8	3.6	.22	49
- Northwest	6.3	7.6	.83	184
- Southeast	13.5	29.9	.45	100
- Southwest	8.1	22.5	.36	80
<u>Years of Education of Partner</u>				
- 0 yrs	4.4	10.6	.42	93
- 1-4 yrs	11.7	23.4	.50	111
- 5-7 yrs	9.4	21.8	.43	96
- 8+ yrs	12.9	32.8	.39	87
<u>Last Work Status of Woman</u>				
- Family Farm	8.2	19.0	.43	96
- Family Employed	12.7	17.2	.74	164
- Other Paid Cash	13.5	32.3	.42	93
- Other Employed	4.5	11.3	.40	89
- Self Employed	7.0	14.8	.47	104
- Did Not Work	3.6	9.0	.40	89
Nigeria	6.9	15.5	.45	100

Table 80 : Contraceptive Continuation Ratios by Place and Region of Residence

	Percentage currently using any method	Percentage ever using any method	Ratio	% of Ratio to National ratio
<u>Northeast</u>				
Rural	.6	3.2	.19	42
Urban	1.3	5.3	.25	56
<u>Northwest</u>				
Rural	5.5	6.6	.83	184
Urban	10.7	13.1	.82	182
<u>Southeast</u>				
Rural	13.8	30.5	.45	100
Urban	10.4	25.4	.41	91
<u>Southwest</u>				
Rural	7.7	19.3	.40	89
Urban	8.5	25.3	.34	76
<u>Rural</u>				
Northeast	.6	3.2	.19	42
Northwest	5.5	6.6	.83	184
Southeast	13.8	30.5	.45	100
Southwest	7.7	19.3	.40	89
<u>Urban</u>				
Northeast	1.3	5.3	.25	56
Northwest	10.7	13.1	.82	182
Southeast	10.4	25.4	.41	91
Southwest	8.5	25.3	.34	76

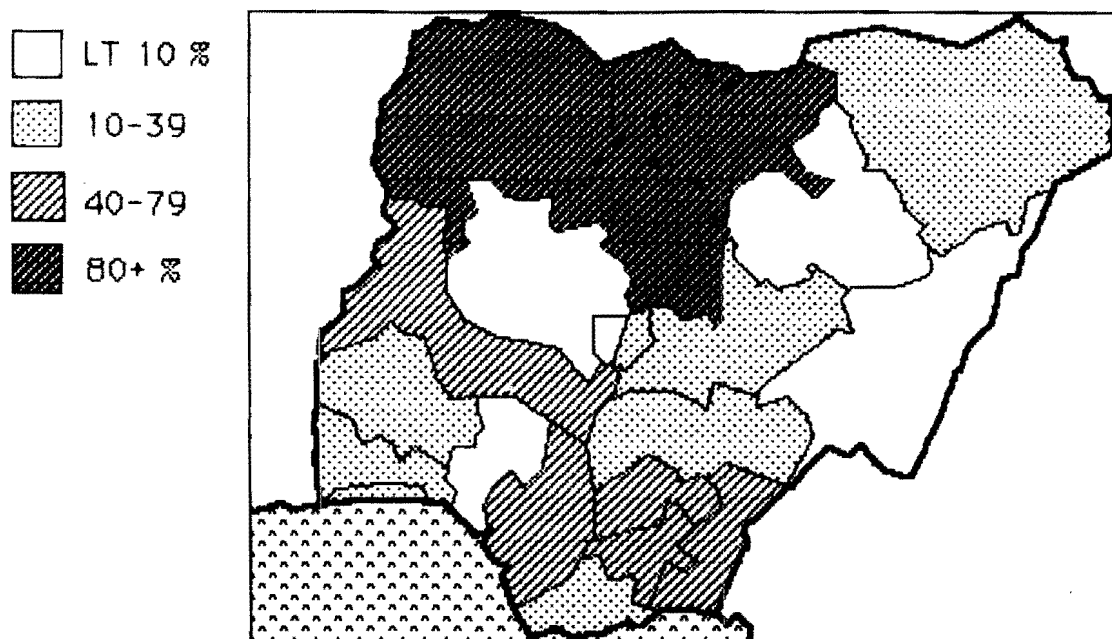


FIGURE 32 : CONTRACEPTIVE CONTINUATION RATIOS

are neighbours, that ratios are as high as .80 and over. The occurrence of both high and low ratios in the north is due to a combination of the non-existence of users in some states, the predominance of inefficient methods in those northern states where any method is used, and the high selectivity for continued use among the few ever-users.

Overall, this analysis shows that knowledge and use of contraception is very low in the country. Nearly 70 per cent of women are completely ignorant of any contraceptive method while the never-use rate is as high as 85 per cent. Among the few users, inefficient methods predominate with about 89 per cent of all current users adopting inefficient methods. The levels of knowledge and use are appreciably higher among modern than among traditional women. However, the continuation ratios are higher among the latter than among the former. The link between contraception and fertility reveals a marked tendency for contraceptive use to rise after the birth of the first child. There is also evidence that contraception at present is mainly being used for spacing. However, the low level of use means that contraception is not at present replacing the traditional spacing mechanisms to any significant extent.

3.3. Conclusion

The picture that emerges from this analysis is that the duration of amenorrhoea, breastfeeding and post-partum abstinence is still very long in the country. They determine the average length of nsp and hence, in the absence of widespread contraception, the birth interval. There is, however, some evidence of erosion of this time-honoured method of child-spacing, although even among the younger women, where the reduction in the period of breast-feeding and post-partum abstinence is noticed, the duration is still as high as 21 months for breast-feeding and 16 months for amenorrhoea.

The extent to which the current nation-wide campaign to replace artificial milk with breast milk will sustain the traditionally long period of breast-feeding and the associated post-partum abstinence is unknown. Whatever its effect on breastfeeding, its effect on post-partum abstinence are likely to be less. What is certain is that the duration of post-partum abstinence is likely to continue falling as the product of mass-secondary education started in 1979 graduate and enter the marriage market. Unless the traditional fertility restraint is replaced by contraception, the possibility of shorter birth interval and hence an increase in fertility is high. In that case, the gains which this cohort earn in delayed marriage will be wiped off by shorter initial birth-intervals.

Yet the level of current use of contraception, particularly efficient contraception, is very low. Less than 0.7 per cent of the sampled women are users of efficient contraceptive methods although the level reaches 2.5 per cent in some states and among some of the subpopulations. These levels are still very low for the subgroups in which these figures are recorded given their high level of education and modernization traits. There is hope that the increased number of years spent in school will also raise the level of knowledge and improve the use-knowledge ratio such that the coming generation of women would match their new abstinence behaviour with new contraceptive-use attitudes.

CHAPTER 4

THE PATTERN OF STOPPING FAMILY FORMATION

4.1. Introduction

Child-bearing may be stopped voluntarily or involuntarily. Voluntary cessation is a function of at least two variables. The first is the age at which fecund women cease to engage in sexual intercourse. Sexual intercourse may be stopped when a marriage is definitively terminated either by widowhood or by divorce which is not followed by remarriage. It may also be stopped through terminal abstinence by married women who are still fecund but who refrain completely from having sexual intercourse. The second is the use of all forms of contraception. In this regard, the most effective stopping mechanism is sterilization, although the use of other effective contraceptive devices may also prove efficient. Involuntary stoppage of child-bearing occurs when ovulation definitively ceases or when pathological secondary sterility develops.

Before analysing each of the variables involved in the process of stopping family formation, however, some preliminary comments on the nature of the data are warranted. The analysis requires an identification of women who have completed their childbearing period. Two groups of women fall into this category. These are first, women of any age who have been sterilized and those who are widowed or divorced but who have no intention of remarrying. Second, there are older women who are at the end of their reproductive career. Of all the variables at our disposal, sterilization is the only one that guarantees an effective end of childbearing. This variable is ruled out of analysis, however, because female sterilization for contraceptive purposes is virtually non-existent in the country. Of the 8,535 women from whom questions on contraception were asked, only seven (0.08 per cent) reported being sterilized. For the other variables the level of uncertainty of data quality is high partly because of the social organization of the Nigerian peoples and partly because of the type of information available in the data set.

The problem of social organization is best illustrated by widowhood and divorce. In many Nigerian societies, the death of a husband is not the end of the association between the two kin groups involved. Arrangements are made for the continued use of the potential fertility of a widow by the lineage of her late husband. In some societies, inheritance of a widow by kin of the deceased man is a standard practice. In other societies, a brother of a deceased man, acting in loco patris to the children of the deceased is allowed to have intercourse with the widow. In yet others, remarriage of a widow outside the lineage is allowed. The issue of divorce is also problematic. Customary divorce prescribes refunding of the bridewealth while legal divorce involves the intervention of a court. During the interval between the temporary separation that often precedes the initiation of divorce proceedings and the formalization of the divorce - when the bridewealth is refunded and/or a judgement is given in a divorce suit - interlineage pressure may promote the continuation of cohabitation between the parties. Where no temporary separation occurs before initiation of divorce proceedings, women contemplating divorce may engage in external and illicit sex with their next prospective husband. Both types of illicit relationships have been a source of paternity disputes now so common among some Nigerian societies.

The problem with the data set is that it does not include information for cohorts that have completed their childbearing period. The oldest age group included is 45-49. While a significant number of these women are probably incapable of reproduction, a few of them are almost certainly still fecund. Since the childbearing period of this few is not completed, we can only tread on the borderland between analysis of facts and speculation with respect to their eventual stopping patterns. It is only in the case of non-reversible events such as sterilization that we are on a solid analytical terrain. For status changes that are reversible, we must rely on two measures obtained by risky procedures which assume that the woman's condition is permanent and circumstances will not subsequently change it.

The first measure is obtained by the direct method and relies on the woman's perception that she is firmly irrevocably committed to stopping childbearing either because she has become infecund or she is practising terminal abstinence. Circumstances such as the sudden death of a child or pressure of the husband may, however, force her to abandon her practice of terminal abstinence. As for self-reported infecundity, it is doubtful if a woman can know her fecundity status for at least two reasons. First, such a knowledge requires knowledge of a number of biological characteristics in addition to menstruation, many of which are not readily apparent and can be revealed only through laboratory analyses. Second, fecundity status requires advance knowledge about the outcome of a hypothetical situation involving a process spread out over several months in the future. Therefore, information based on a direct measure is dubious and may not be very reliable.

The indirect measures which suggest that a woman has passed a point of no return are not fool-proof either. A 45-year-old woman may be classified as terminating child-bearing either because she has been widowed for the past ten years and has not remarried or because she has not menstruated for two or three years although she is not breastfeeding. The widow could remarry in her remaining potentially fecund years while the menses of non-menstruating woman could return either naturally or through medication.

A final confounding problem is the creeping nature of some of the variables, a situation which makes it difficult to detect their manifestation until a considerable time later. For menopause, menstruation often becomes increasingly irregular and infrequent before it ceases completely: the last menstrual period can then be identified only several months after its occurrence when it has become apparent that no further menstrual periods will occur. The same is true of coital frequency: it may decline slowly and irregularly until it reaches zero.

With these caveats in mind, we can proceed to examine the determinants of the stopping pattern.

4.2. The Proximate Determinants of Age at Last Birth

4.2.1. Age at ceasing to be fecund

Results of the analysis of the end of the reproductive career are presented in Tables 81 to 84. Table 81 shows the first measures of terminal births: percentages of women reporting themselves as infecund for various reasons. Most of the values are questionable. The percentage reported as "uncertain" is on the low side particularly for women aged 43

to 45 and 48-49. A large percentage of women at those relatively ripe ages cannot be so sure of their status unless they perceive themselves as fecund because they are still menstruating even though their chances of conception are virtually zero. As should be expected, these proportions decline with age. But while the percentage is low for women under 20, it is unbelievably high for women aged 40 and above. It is extremely unlikely that three in every five of women aged 40-43 would be capable of bearing children at those ages. Neither is it likely that a third of women over 46 years old would still be fecund.

It would appear that young women who have not yet demonstrated their fecundity by actually producing a child, and, as such, do not want to tempt fate, are cautious, whereas older women are over-optimistic about their fecundity status. The unrealistic response of older women is an indication of the stubborn persistence of the traditional importance attached to fecundity. In societies where infecundity is abhorrent, women will feel reluctant to admit infecundity for social and psychological reasons.

The irregularity characterizing the percentage infecund (both non-menopausal and menopausal) is a further evidence of the doubtful status of the quality of the data. Although the interpretation of the results of the analysis of these variables is made difficult by the small sample sizes for the single years of age, it is inconceivable that 11 per cent of the 108 women aged 48 years are infecund (but not menopausal). It is the percentage of women who have been sterilized that seems plausible, the heaping on age 47 being explained by sample size.

The second measure of terminal birth is a behavioural one. It assumes that women are infecund if they had no birth in the five years preceding the survey despite the fact that they do not use contraception and were in continuous exposure (that there was no union dissolution in the open interval). It is entirely possible that some of the women in this category may yet go on to have a child but inability to have a child for such a long time under the prescribed conditions is a measure, if not of sterility, of the relative level of marked subfecundity. The measure appears in column four of Table 82. The values are systematically substantially higher than the reported per cent infecund. The measure is, for instance, three times higher among women over 44. These differences point to the reluctance of women to admit infecundity when hard facts prove that they are really infecund. It is also possible, though, that the behavioural measure is biased upwards because women who were fecund several years before the survey may no longer be fecund at the survey date.

All these measures - self-reported infecundity and no birth in the past five years - are brought together in Table 82, in which are also tabulated indices for women with any of these characteristics since the acquisition of any one is an indication of infecundity. At the bottom of the table are given the mean ages of acquiring each characteristic, estimated from the current status data as:

$$\bar{X} = \alpha + \frac{\sum_{x=\alpha}^{\beta-n} L_x}{n} - \frac{(\beta-\alpha) \cdot l_\beta}{1 - l_\beta}$$

where

α and β represent the lower and upper ages at which the characteristics can be acquired;

Table 81 : Percentage Distribution of Ever-Married Women According to Self-Reported Fecundity Status, by Current Age

Age	Fecund	Uncertain	Infecund not meno- pausal	Infecund meno- pausal	Sterilized	Total	Number of Women	Per cent fecund among those reported as neither menopausal or sterilized
< 20	88.5	9.4	1.5	0.6	0.0	100	840	89
20-24	91.9	6.7	0.7	0.6	0.0	100	1421	92
25-29	89.9	7.5	2.0	0.5	0.1	100	1668	90
30-34	82.9	10.8	3.9	2.3	0.0	100	1480	85
35-39	72.0	15.1	7.6	5.2	0.1	100	1025	76
40	59.7	22.3	5.4	12.4	0.2	100	535	68
41	64.6	23.1	4.2	8.1	0.0	100	124	70
42	60.0	24.6	6.3	9.1	0.0	100	84	66
43	59.3	8.9	20.6	11.2	0.0	100	52	67
44	69.9	14.2	1.1	14.8	0.0	100	27	82
45	49.4	17.5	8.0	24.9	0.2	100	219	66
46	46.6	20.5	11.2	21.6	0.0	100	62	59
47	41.2	29.2	7.5	17.8	4.3	100	27	53
48	32.2	16.6	11.3	39.8	0.0	100	168	53
49	27.4	14.3	11.3	47.0	0.0	100	66	52
Total	80.3	11.4	3.7	4.5	0.1	100	7737	84

Source : Table 6.7.2 Nigeria Fertility Survey, Principal Report Vol.II (1982).

Table 82 : Percentage of Ever-Married Women with a Characteristic Suggesting that their Fecund Period is over by Age : Nigeria

Current Age 1	Self-Reported Infecundity		No Birth in the Last 5 Years 4	Any of 2, 3, 4 (or more) 5
	Non-Menopausal 2	Menopausal 3		
15-19	0.6 (853)	1.3 (853)	0.0 (102)	1.9 (853)
20-24	0.7 (1464)	0.5 (1464)	14.7 (655)	7.8 (1464)
25-29	0.5 (1702)	1.9 (1702)	16.3 (1089)	12.9 (1702)
30-34	2.5 (1514)	3.7 (1514)	27.7 (1044)	25.3 (1514)
35-39	4.9 (1053)	7.6 (1053)	37.7 (730)	38.7 (1053)
40-44	11.3 (839)	5.2 (839)	54.4 (588)	54.8 (839)
45-49				
45	24.8 (230)	7.4 (230)	54.2 (131)	63.0 (230)
46	24.2 (62)	9.7 (62)	51.4 (35)	62.9 (62)
47	17.2* (29)	10.3* (29)	11.8* (17)	37.9* (29)
48	39.8 (118)	11.0 (118)	66.7 (48)	78.0 (118)
49	48.4 (62)	12.9 (62)	73.7* (19)	83.9 (62)
Total cases	7926	7926	4458	7926
Estimated Mean Age at Acqui- ring the Characteristic	47.4	50.7	39.9	39.5

* Estimation based on less than 30 observations

() No. of observations

] Estimation impossible

l_{β} is the proportion who have not acquired it by age β ; and

${}_nL_x$ is estimated as the observed proportion without the characteristic among women between exact ages x and $(x+n)$

In estimating the indices, l_{β} is assumed to reach zero at age 50 for infecundity and at age 55 for menopause and for "no birth in five years of exposure". β is set at 50 for sterilization since women beyond 50 are most probably already infecund.

The striking feature of the table is the divergent ages at stopping childbearing produced by the different measures. The mean age at menopause is estimated at a little under 51 years, four years higher than the mean age at reporting oneself infecund although not post-menopausal. It is about eleven years higher than the mean age at last birth (based on "no birth in the last five years"). The mean age at acquiring any of the characteristics is about 40 years, about eleven years less than the mean age at menopause. These relationships are quite plausible. The age at menopause for most countries is ± 50 years (Parkes, Herbertson and Cole, 1979). Infecundity usually precedes menopause by several years just as age at last birth precedes age at becoming infecund. Age at last birth in non-contracepting societies, therefore, typically precedes menopause by ± 10 years.

In spite of the quality of the data, the broad results are not unreasonable. Therefore, it can be concluded that there is no evidence that Nigerian women, in general, become unable to bear children at abnormally young ages.

4.2.2. Age at terminating sexual relations

Termination of sexual relations can be measured by the age-specific proportion of ever-married women who are currently widowed or divorced or separated. It may also be measured by terminal abstinence within marriage.

In calibrating the index to operationalize the first set of variables, measurement problems intervene again. The incidence of definitive widowhood and separation cannot be ascertained from proportions currently in those states because of both pronounced marriage instability and the high rate of remarriage in the country. In the circumstance, the measure will capture the occurrence of remarriage as much as that of either widowhood or divorce. However, it is very likely that women already over 45 years old are unlikely to remarry when widowed or divorced. Even if they do, it is very unlikely that the remarriage will have any impact on fertility since the women concerned may probably be infecund by then. It is also likely that the chances of remarriage of women who have remained divorced or widowed for a very long time are close to, if not, zero. Hence, neither widowhood nor divorce has a great impact on the pattern of stopping childbearing. Of the 588 women aged 45 and over, only 19.5 per cent reported themselves as either widowed, divorced or separated.

The potential of the second measure in reducing fertility is large in some Nigerian societies which forbid childbearing by women who have attained grand-maternal status. The fertility impact of terminal abstinence in such societies is greatest when low ages at marriage produce young grandmothers. However, just like the incidence of widowhood and

divorce, terminal abstinence, too, does not play a significant role in the stopping pattern of family formation.

Information on terminal abstinence appears in Tables 83 and 84. At the national level, only 2.0, 1.2 and 4.0 per cent of the currently married women aged 30-34, 35-39 and 40-44 respectively are observing terminal abstinence. It is only among women aged 45 and over, whose fecundity level is already low, that the percentages reach a level above 10 per cent (11.8). Distribution of terminal abstinence among sub-populations reveals a generally low incidence of terminal abstinence among all subgroups for which there are enough cases. But there is considerable variability among the subgroups. Among women 40-44 years old, the percentage reporting terminal abstinence systematically increases with size of settlement but among women aged 45 years and over, the percentage decreases with size of settlement while there is no pattern among the 35-39 group. It can be argued that the complete lack of pattern among subgroups is not unexpected. There is probably little intrinsic socio-economic quality that differentiates populations in terms significant enough for terminal abstinence; underlying cultural differences among ethnic groups are a more cogent level of analysis for this variable. And since educational, occupational and residential (settlement) categories do not coincide with ethnic groups, the socio-economic groupings are not important in differentiating terminal abstinence behaviour.

This argument is weakened when other items of information in the tables are examined. One such piece of information is the percentage of women not currently married even though they are over 35 years old. This information is valuable in itself but is even more useful when read in conjunction with proportion practising terminal abstinence. The column on current marriage reveals that urban and city dwellers below age 44 are less likely than rural residents to be currently married whereas the exact opposite is the case among women aged 45 and over. In general, there is a larger proportion of literate women of all age categories practising terminal abstinence than illiterate women but more illiterates than literates are unmarried. Among the religious categories, Moslems stand out distinctly both as a group with a low percentage practising abstinence and, at the same time, a low percentage remaining unmarried. There are systematic differences by regions: women in the southeast report particularly high proportion not only practising terminal abstinence but also being unmarried.

4.2.3. Risk reduction through contraception and abortion as proximate determinants of the stopping pattern

The NFS did not collect direct information on use of contraception for stopping. Nor does the general information on contraceptive use easily lend itself to disaggregation into use for spacing and for stopping. Nonetheless, some skeletal information on the use of contraception to limit completed family size can be teased out from data on the general use of contraception. Such information should be restricted to women who are 45 years old and over since younger women using contraceptives are likely to use it for spacing.

The relevant information is contained in Table 68. As pointed out when discussing that table in chapter 3, the level of contraception in the country is, in general, very low. Nonetheless, older women were found to be markedly more likely than younger women to use both efficient and inefficient method. The 3.0 and 9.8 per cent among them using efficient

Not

Table 33 : Proportions Reporting they are ~~Not~~ Currently Married or are Married but Observing Terminal Abstinence, by Age :
Differentials between Place and Region of Residence

	35-39			40-44			45+		
	Not Married	Abstaining	N of Cases	Not married	Abstaining	N of Cases	Not married	Abstaining	N of Cases
<u>Northeast</u>									
Rural	3.7	0.2	275	3.6	0.0	159	10.5	0.6	92
Urban	11.4	0.0	51	(11.5)	(0.0)	24	(3.9)	(0.0)	8
<u>Northwest</u>									
Rural	1.2	0.0	189	2.1	0.3	168	2.8	3.5	105
Urban	4.5	1.0	35	10.8	0.0	31	(0.0)	(0.0)	19
<u>Southeast</u>									
Rural	17.6	0.7	322	20.2	0.4	254	43.1	2.0	219
Urban	(1.7)	(0.0)	24	(13.1)	(13.6)	21	(42.5)	(0.0)	15
<u>Southwest</u>									
Rural	2.8	0.0	104	4.1	1.5	134	8.3	3.7	70
Urban	4.8	0.3	109	6.3	2.0	112	14.5	1.6	63

Table 84 : Proportions reporting they are not Currently Married or are Married but Observing Terminal Abstinence, by Age :
Differentials by Subgroups

Subgroups	35-39			Current Age 40-44			45+		
	Not Married	Abstaining	N of Cases	Not Married	Abstaining	N of Cases	Not Married	Abstaining	N of Cases
<u>Type of Place of Residence</u>									
- Rural	8.1	0.3	891	9.2	0.5	715	19.2	2.3	486
- Urban	4.1	0.0	145	8.0	0.6	118	16.7	1.3	77
- Large Urban	9.6	1.0	74	9.2	3.3	71	(11.2)	(0.0)	29
<u>Literacy Status of Woman</u>									
- Can Read	5.6	0.9	174	12.9	1.8	87	16.6	2.9	42
- Cannot Read	8.1	0.2	936	8.7	0.6	817	18.6	2.0	549
<u>Literacy Status of Partner</u>									
- Can Read	2.1	0.5	367	6.7	1.4	257	15.9	2.4	156
- Cannot Read	9.2	0.3	733	8.8	0.5	639	18.7	1.9	432
<u>Religion</u>									
- Catholic	14.6	0.5	151	14.8	1.8	127	25.7	4.5	88
- Protestant	4.0	0.3	127	12.8	0.9	120	21.2	3.4	87
- Other Christian	12.4	0.6	174	10.5	0.0	117	31.0	0.0	122
- Moslem	3.1	0.1	526	4.3	0.8	406	7.7	2.1	219
- Traditional	13.9	0.0	77	17.2	0.0	82	14.5	1.1	46
<u>Years of Education of Woman</u>									
- 0 yrs	8.0	0.4	927	8.7	0.5	806	18.8	1.7	550
- 1-4 yrs	4.0	0.0	77	19.5	4.8	49	(19.3)	(5.2)	24
- 5-7 yrs	7.7	0.0	81	5.0	0.0	35	(3.9)	(0.0)	14
- 8+ yrs	(7.7)	(0.0)	25	(7.6)	(0.0)	14	(16.2)	(35.6)	4
<u>Region of Residence</u>									
- Northeast	4.9	0.2	326	4.7	0.0	183	10.0	0.5	99
- Northwest	1.7	0.2	224	3.5	0.2	200	2.4	3.0	124
- Southeast	16.5	0.7	346	19.7	0.7	275	34.7	1.9	234
- Southwest	3.8	0.2	213	5.1	1.7	246	11.2	2.6	133
<u>Years of Education of Partner</u>									
- 0 yrs	9.3	0.3	656	10.4	0.6	566	19.6	1.3	404
- 1-4 yrs	4.4	0.0	71	7.1	3.9	40	32.1	0.0	30
- 5-7 yrs	0.4	0.9	124	3.3	0.0	102	19.2	3.3	61
- 8+ yrs	0.0	0.8	72	7.0	2.1	37	(3.0)	(6.8)	18
<u>Last Work Status of Woman</u>									
- Family Farm	5.9	0.7	349	9.4	0.6	306	21.7	1.5	239
- Family Employed	(0.0)	(0.0)	22	(2.4)	(0.0)	14	(52.8)	(0.0)	6
- Other Paid Cash	9.8	0.0	78	13.8	1.7	46	(18.2)	(5.5)	23
- Other Employed	10.0	0.0	74	12.7	0.0	53	34.1	2.0	44
- Self Employed	8.6	0.4	355	9.1	0.8	319	12.2	3.2	200
- Did Not Work	8.1	0.0	233	6.5	0.9	167	13.6	0.0	81

and inefficient methods respectively far exceed the highest percentages recorded for any group. For the efficient methods, the next highest percentage of 1.1 occurs among the 40-44-year-olds while the next highest percentage of 7.0 recorded for inefficient method belongs to women in the 20-24-year age category.

More information can be gleaned from data on intention to have no more children even though such information is somewhat speculative. The information can be found in columns 3 and 5 of Table 78 and relates to women who stated that they did not want any additional children. It is safe to presume that contraception (including all forms of abstinence) is used by women in this category for stopping purposes. The proportions of these women using contraception steadily increase up to parity two and then suddenly shoot up at parity three, drop slightly and rise again, reaching a maximum at parity five. While a comparison of these percentages with those for women who want more children reveals that contraception for stopping is considerably higher than contraception for spacing, a major point that stands out is the very substantial gap that exists between the intention of stopping and the actual use of contraception. This gap is about 82 per cent among women with five or more children. The only factor that alleviates this picture of low levels of contraceptive use is the relatively higher level of use of effective methods by stoppers compared with spacers.

4.3. Conclusion

The analysis of the stopping pattern, which is necessarily confined mainly to older women, brings to the fore, once more, the problem of the quality of data obtained from older women. The problem of misreporting is compounded by those of conceptual ambiguities and incomplete histories. All these problems are reflected in some of the implausible results obtained. In spite of these problems, however, it is obvious that Nigerian women have a long reproductive career, making use of all their fecund years and that they continue child-bearing up to quite advanced ages. There is some evidence that some of them employ contraception to keep down fertility at later ages. A large majority of those who wish to adopt an early stopping pattern by the use of contraception are unable to do so. The inability to match intention with action by the few who want to stop child-bearing, together with the little impact of widowhood, divorce and terminal abstinence on stopping and the continuation of active childbearing into advanced ages contribute to the high fertility rate that is now the lot of Nigerian women.

Table 85 : Reported Percentages of Ever-Married Women with a Characteristic suggesting that their Fecund Period is over by Region and Place

		Current Age										Total Cases	Mean Age
Subgroup	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48	49		
<u>Northeast</u>													
Rural	3.6 (249)	12.1 (331)	16.6 (362)	30.6 (340)	50.2 (259)	59.2 (152)	53.7 (41)	83.3* (6)	83.3* (3)	93.3* (15)	100.0* (17)	1775	37.8
Urban	1.9 (52)	18.3 (71)	20.0 (85)	33.5 (51)	33.3 (45)	50.0* (20)	50.0* (4)	I	0.0* (1)	100.0* (1)	100.0* (1)	331	I
<u>Northwest</u>													
Rural	2.2 (268)	14.2 (316)	20.8 (384)	32.4 (343)	43.6 (195)	60.8 (166)	66.7 (54)	58.3* (12)	33.3* (9)	95.5* (22)	77.8* (9)	1778	37.8
Urban	0.0 (73)	10.3 (68)	11.9 (67)	31.3 (67)	31.3 (32)	58.6* (29)	83.3* (12)	0.0* (1)	25.0* (4)	100.0* (2)	75.0* (4)	359	39.3
<u>Southeast</u>													
Rural	0.0 (123)	1.4 (351)	8.3 (436)	19.4 (377)	36.8 (299)	54.1 (229)	60.0 (60)	70.4* (27)	28.6* (7)	69.6 (46)	75.0* (20)	1975	40.8
Urban	0.0* (15)	4.4 (45)	10.4 (48)	34.8* (23)	36.4* (22)	64.7* (17)	100.0* (3)	I	I	75.0* (4)	I	177	I
<u>Southwest</u>													
Rural	0.0 (30)	0.9 (107)	7.3 (137)	19.4 (160)	22.0 (100)	45.5 (121)	61.8 (34)	60.0* (5)	66.7* (3)	53.3* (15)	60.0* (5)	717	42.3
Urban	0.0	0.6	2.2	15.0	27.7	49.5	68.2*	45.5*	100.0*	84.6*	100.0*	814	41.6
<u>Rural</u>													
Northeast	3.6 (249)	12.1 (331)	16.6 (362)	30.6 (340)	50.2 (259)	59.2 (152)	53.7 (41)	83.3* (6)	33.3* (3)	93.3* (15)	100.0* (17)	1775	37.8
Northwest	2.2 (268)	14.2 (316)	20.8 (384)	32.4 (343)	43.6 (195)	60.8 (166)	66.7 (54)	58.3* (12)	33.3* (9)	95.5* (22)	77.8* (9)	1778	37.8
Southeast	0.0 (123)	1.4 (351)	8.3 (436)	19.4 (377)	36.8 (299)	54.1 (229)	60.0 (60)	70.4* (27)	28.6* (7)	69.6 (46)	75.0* (20)	1975	40.8
Southwest	0.0 (30)	0.9 (107)	7.3 (137)	19.4 (160)	22.0 (100)	45.5 (121)	61.8 (34)	60.0* (5)	66.7* (3)	53.3* (15)	60.0* (5)	717	42.3
<u>Urban</u>													
Northeast	1.9 (52)	18.3 (71)	20.0 (85)	23.5 (51)	33.3 (45)	50.0* (20)	50.0* (4)	I	0.0* (1)	100.0* (1)	100.0* (1)	331	I
Northwest	0.0 (73)	10.3 (68)	11.9 (67)	31.3 (67)	31.3 (32)	58.6* (29)	83.3* (12)	0.0* (1)	25.0* (4)	100.0* (2)	75.0* (4)	359	39.3
Southeast	0.0* (15)	4.4* (45)	10.4 (48)	34.8* (23)	36.4* (22)	64.7* (17)	100.0* (3)	I	I	75.0* (4)	I	177	I
Southwest	0.0 (43)	0.6 (175)	2.2 (183)	15.0 (153)	27.7 (101)	49.5 (105)	68.2* (22)	45.5* (11)	100.0* (2)	84.6* (13)	100.0* (6)	814	41.6

* Estimation based on less than 30 observations
 () No. of observations
 I Estimation impossible

Table 86 : Reported Percentages of Ever-Married Women with a Characteristic Suggesting that their Fecund Period is over by Age and State

States	Current Age										Total Cases	Estimated Mean Age	
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48			49
Anambra	0.0 (53)	0.7 (142)	7.5 (107)	11.8 (110)	18.3 (71)	35.3 (68)	52.9* (17)	71.4 (7)	100.0* (2)	25.0* (12)	37.5 (8)	597	43.9
Bauchi	3.0 (67)	6.9 (101)	10.8 (83)	31.0 (58)	56.9 (51)	40.0* (20)	I	I	I	I	100.0* (1)	381	I
Bendel	0.0* (10)	0.0* (27)	6.3* (16)	28.2 (39)	22.2* (18)	29.4* (17)	33.3* (3)	I	0.0* (1)	100.0* (2)	I	133	I
Benue	0.0* (21)	6.0 (50)	8.9 (45)	13.2 (38)	18.8 (32)	46.4* (28)	25.0* (4)	I	0.0* (1)	100.0* (2)	100.0* (1)	222	I
Borno	3.7 (107)	20.6 (97)	15.4 (130)	22.5 (102)	46.3 (121)	61.7 (60)	47.8* (23)	100.0* (1)	0.0* (1)	100.0* (1)	100.0* (1)	644	38.9
Cross-River	0.0* (27)	1.1 (87)	8.8 (136)	16.3 (86)	35.7 (70)	74.4 (43)	45.5* (11)	100.0* (8)	0.0* (2)	75.0* (8)	100.0* (2)	480	39.8
Gongola	3.3 (92)	20.6 (102)	26.2 (145)	40.1 (142)	62.7 (75)	70.0 (50)	78.6* (14)	75.0* (4)	50.0* (2)	100.0* (11)	100.0* (13)	650	34.4
Imo	0.0* (20)	0.0 (112)	8.4 (179)	32.1 (162)	49.0 (145)	63.7 (113)	70.6 (34)	50.0* (10)	0.0* (3)	83.3 (24)	100.0* (5)	807	38.8
Kaduna	0.0 (83)	9.2 (109)	15.8 (146)	27.8 (115)	37.7 (69)	59.7 (62)	63.2* (19)	100.0* (3)	0.0* (1)	87.5* (8)	100.0* (1)	616	38.9
Kano	3.4 (177)	17.2 (169)	30.6 (160)	45.8 (153)	50.7 (75)	55.4 (65)	72.2* (18)	66.7* (3)	40.0* (10)	100.0* (12)	75.0* (12)	854	36.2
Kwara	0.0* (17)	0.0 (40)	1.4 (69)	17.0 (47)	24.2 (33)	57.9* (19)	77.8* (9)	100.0* (1)	I	0.0* (3)	100.0* (4)	242	I
Lagos	0.0* (13)	1.3 (77)	3.6 (56)	10.7 (56)	20.5 (39)	51.4 (37)	53.3* (15)	33.3* (3)	100.0* (1)	0.0* (3)	100.0* (2)	302	43.1
Niger	0.0* (22)	18.0 (50)	15.2 (79)	21.2 (71)	50.0 (36)	62.2 (37)	36.4* (11)	0.0* (2)	0.0* (2)	100.0* (4)	I	314	I
Ogun	0.0* (20)	0.0 (39)	10.3* (29)	11.8* (17)	17.4* (23)	51.6 (31)	50.0* (12)	0.0* (3)	I	100.0* (3)	0.0* (1)	178	I
Ondo	0.0* (7)	2.3 (43)	2.7 (74)	17.4 (86)	34.1 (41)	46.2 (52)	80.0* (5)	75.0* (4)	I	83.3* (6)	100.0* (2)	320	I
Oyo	0.0* (6)	0.0 (56)	6.6 (76)	17.6 (68)	25.5 (47)	45.7 (70)	83.3* (12)	60.0* (5)	100.0* (3)	81.8* (11)	50.0* (2)	356	41.3
Plateau	7.1* (14)	3.8 (52)	13.6 (44)	25.5 (51)	28.0* (25)	50.0* (14)	25.0* (4)	100.0* (1)	I	50.0* (2)	100.0* (2)	209	I
Rivers	0.0 (38)	9.1 (55)	9.7 (62)	4.8 (42)	25.7 (35)	31.8* (22)	100.0* (1)	50.0* (2)	I	100.0* (6)	100.0* (5)	268	I
Sokoto	0.0 (59)	7.1 (56)	6.1 (66)	21.1 (7)	27.7 (47)	71.0 (31)	94.4* (18)	40.0* (5)	I	I	I	353	I

* Estimation based on less than 30 observations

() No. of observations

I Estimation impossible

Table 17 : Reported Percentages of Ever-Married Women with a Characteristic Suggesting that their Fecund Period is over by Age and by Subgroup

Subgroup	Current Age										Total Cases	Estimate Mean Age	
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48			49
<u>Type of Place of Residence</u>													
Rural	2.2 (670)	8.2 (1105)	14.1 (1319)	26.1 (1220)	40.7 (853)	55.4 (668)	60.8 (189)	68.0 (50)	36.4 (22)	76.5 (98)	82.4 (51)	6245	39.3
Urban	0.0 (102)	9.1 (186)	11.4 (245)	20.6 (170)	32.3 (130)	53.8 (104)	80.0 (30)	50.0* (8)	100.0* (2)	92.9* (14)	100.0* (8)	999	39.5
Large Urban	1.2 (81)	3.5 (173)	4.3 (138)	23.4 (124)	27.1 (70)	50.7 (67)	54.5* (11)	26.0* (4)	20.0* (5)	66.7* (6)	66.7* (3)	682	42.1
<u>Literacy Woman</u>													
Can Read	0.5 (196)	0.7 (454)	4.1 (415)	19.8 (278)	28.2 (170)	38.8 (80)	72.2* (18)	25.0* (4)	33.3* (3)	75.0* (8)	85.7* (7)	1633	42.0
Cannot Read	2.3 (5657)	11.0 (1010)	15.8 (1287)	26.5 (1236)	40.8 (883)	56.5 (759)	62.3 (212)	65.5 (58)	38.5* (26)	78.2 (110)	83.6 (55)	6293	39.0
<u>Literacy Partner</u>													
Can Read	0.8 (387)	4.5 (751)	8.1 (737)	22.3 (570)	30.9 (372)	44.7 (244)	65.2 (66)	36.8* (19)	45.5* (11)	66.7* (30)	90.0* (10)	3197	41.3
Cannot Read	2.8 (466)	11.2 (713)	16.6 (965)	27.1 (944)	43.0 (681)	59.0 (595)	62.2 (164)	74.4 (43)	33.3* (18)	81.8 (88)	82.7 (52)	4729	38.5
<u>Religion</u>													
Catholic	0.0 (74)	1.4 (211)	8.2 (243)	25.6 (195)	40.3 (134)	61.2 (116)	50.0* (26)	41.7* (12)	50.0* (2)	76.5* (17)	71.4* (7)	1037	40.3
Protestant	0.0 (68)	3.6 (166)	6.7 (194)	17.9 (134)	29.9 (127)	37.0 (100)	80.0 (30)	28.6* (7)	50.0* (6)	100.0* (17)	93.8* (16)	865	41.2
Other Christians	0.0 (57)	1.3 (234)	7.3 (245)	18.5 (227)	35.2 (159)	52.7 (112)	51.4 (37)	91.7* (12)	50.0* (2)	65.5* (29)	100.0* (5)	1119	41.0
Moslem	2.6 (604)	12.3 (715)	17.0 (865)	29.3 (788)	43.3 (517)	59.1 (386)	65.1 (106)	68.2* (22)	37.5* (16)	86.8 (38)	84.6* (26)	4083	38.3
Traditional	0.0 (40)	9.3 (97)	12.9 (93)	14.9 (114)	29.0 (69)	51.3 (76)	50.0* (16)	66.7* (6)	0.0* (2)	41.7* (12)	57.1* (7)	532	41.7
<u>Years of Education Woman</u>													
0 yrs	2.5 (640)	11.2 (964)	15.7 (1261)	27.4 (1209)	39.9 (878)	57.5 (749)	62.1 (211)	63.8 (58)	38.5* (26)	78.7 (108)	86.2 (58)	6162	38.9
1-4 yrs	0.0 (41)	3.1 (162)	6.7 (164)	16.5 (133)	40.8 (76)	41.0 (39)	70.0* (10)	100.0* (2)	100.0* (1)	71.4* (7)	50.0* (2)	637	41.0
5-7 yrs	0.0 (140)	0.4 (235)	2.7 (183)	13.3 (113)	31.6 (76)	24.3 (37)	75.0* (8)	I (2)	0.0* (2)	66.7* (3)	50.0* (2)	799	I
8+ yrs	0.0 (32)	0.0 (103)	6.4 (94)	25.4 (59)	13.0* (23)	28.6* (14)	100.0* (1)	0.0* (2)	I (2)	I (2)	I (2)	328	I
<u>Region of Residence</u>													
Northeast	3.3 (301)	13.2 (402)	17.2 (447)	29.7 (391)	47.7 (304)	58.1 (172)	53.3 (45)	83.3* (6)	25.0* (4)	93.8* (16)	100.0* (18)	2106	38.0
Northwest	1.8 (341)	13.5 (384)	19.5 (451)	32.2 (410)	41.9 (227)	60.5 (195)	69.7 (66)	53.8* (13)	30.8 (13)	95.8 (24)	76.9 (13)	2137	38.0
Southeast	0.0 (138)	1.8 (396)	8.5 (484)	20.3 (400)	36.8 (321)	54.9 (246)	61.9 (63)	70.4* (27)	28.6* (7)	70.0 (50)	75.0 (20)	2152	40.6
Southwest	0.0 (73)	0.7 (282)	4.4 (320)	17.3 (313)	24.9 (201)	47.3 (226)	64.3 (56)	50.0* (16)	80.0* (5)	67.9* (28)	81.8* (11)	1531	42.0
<u>Years of Education Partner</u>													
0 yrs	3.2 (317)	13.9 (533)	16.5 (808)	28.2 (767)	40.4 (619)	56.8 (526)	64.6 (161)	75.7 (37)	36.4* (11)	78.5 (79)	89.1 (46)	3904	38.5
1-4 yrs	0.0 (40)	3.6 (111)	10.8 (120)	16.4 (110)	48.5 (68)	60.5 (38)	55.6* (9)	92.2* (9)	0.0* (2)	0.0* (1)	100.0* (1)	509	41.2
5-7 yrs	1.6 (127)	1.3 (309)	7.7 (247)	21.9 (210)	40.6 (128)	41.2 (102)	40.0* (20)	57.1* (7)	80.0* (5)	81.3* (16)	100.0* (13)	1174	41.1
8+ yrs	0.0 (96)	2.1 (195)	4.3 (207)	15.4 (123)	21.9 (73)	45.5 (33)	77.8* (9)	0.0* (2)	75.0* (2)	50.0* (4)	746 (2)	42.6	
<u>Last Work Status Woman</u>													
Family Farm	6.9 (144)	6.1 (330)	14.6 (452)	23.8 (475)	36.4 (338)	49.7 (288)	59.8 (82)	75.0* (28)	28.6* (7)	78.0 (50)	85.7* (28)	2222	39.7
Family Employed	0.0* (20)	7.4* (27)	14.3* (14)	42.9* (14)	56.5* (14)	61.5* (23)	100.0* (13)	100.0* (1)	I (1)	0.0* (1)	I (1)	114	I
Other Paid Cash	0.0* (24)	0.0 (110)	4.9 (143)	25.0 (96)	32.1 (78)	44.2 (43)	63.6* (11)	33.3* (3)	0.0* (1)	75.0* (4)	I (4)	513	I
Other Employed	3.6* (28)	20.6 (63)	22.4 (85)	37.2 (86)	52.9 (68)	66.7 (51)	78.6* (14)	100.0* (2)	100.0* (1)	80.0* (10)	80.0* (5)	413	35.8
Self Employed	0.5 (214)	4.8 (462)	11.5 (515)	21.7 (502)	32.7 (327)	54.2 (286)	68.2 (85)	50.0* (22)	31.3* (16)	70.3 (37)	78.9 (19)	2485	40.5
Did Not Work	0.9 (423)	12.1 (472)	13.6 (493)	29.0 (341)	47.5 (219)	63.9 (158)	51.4 (37)	50.0* (6)	75.0* (4)	100.0* (16)	90.0* (10)	2179	38.2

* Estimation based on less than 30 observations
 () Number of observations
 I Estimation impossible

Table 96 : Estimated Age of All Ever-Married Women at Characteristic Suggesting that the Fecund Period is Over : Subgroups

Subgroups	Menopause ^(a)	Self-reported infecundity (Non-menopausal) ^(b)	No Births in Last Five Years ^{(a)(c)}	Any one of 1, 2 & 3 (or more) ^(b)
	(1)	(2)	(3)	(4)
<u>Type of Place of Residence</u>				
- Rural	50.6	47.3	39.9	39.3
- Urban	50.9	48.2	I	39.5
- Large Urban	51.7	48.1	42.5	42.1
<u>Literacy Status of Woman</u>				
- Can Read	51.6	48.5	41.3	42.0
- Cannot Read	50.5	47.3	39.6	39.0
<u>Literacy Status of Partner</u>				
- Can Read	51.4	47.9	40.4	41.3
- Cannot Read	50.3	47.2	39.4	38.5
<u>Religion</u>				
- Catholic	51.1	48.2	39.3	40.3
- Protestant	51.4	47.0	41.4	41.2
- Other Christian	51.7	47.2	41.0	41.0
- Moslem	50.2	47.3	39.2	38.3
- Traditional	50.3	47.8	I	41.7
<u>Years of Education of Woman</u>				
- 0 yrs	50.5	47.3	39.5	38.9
- 1-4 yrs	51.5	48.0	I	41.0
- 5-7 yrs	I	I	I	I
- 8+ yrs	I	I	I	I
<u>Region of Residence</u>				
- Northeast	50.5	46.3	38.8	38.0
- Northwest	48.8	47.9	40.0	38.0
- Southeast	50.8	47.7	40.1	40.6
- Southwest	51.7	47.8	42.0	42.0
<u>Years of Education of Partner</u>				
- 0 yrs	50.6	47.0	38.7	38.5
- 1-4 yrs	50.5	48.7	I	41.2
- 5-7 yrs	51.6	47.8	I	41.1
- 8+ yrs	52.0	49.0	I	42.6
<u>Last Work Status of Woman</u>				
- Family Farm	51.3	47.0	40.1	39.7
- Family Employed	I	I	I	I
- Other Paid Cash	I	I	I	I
- Other Employed	49.4	45.2	I	35.8
- Self Employed	50.8	47.9	41.2	40.5
- Did Not Work	49.2	48.1	38.7	38.2

I Estimation impossible

(a) Assuming that no one acquires the characteristic after age 55, and assuming that those who acquire it after age 50 do so on average at age 52.5 (menopause) or at age 51 (no birth in the last 5 years).

(b) Assuming that no one acquires the characteristic after age 50.

(c) Restricted to non-users of contraception who have been married throughout the five-year period.

Table 99 : Percentage of Ever-Married Women with No Births in the Last 5 Years by Region and Place of Residence

Subgroup	Current Age											Total Cases	Mean* Age
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48	49		
Northeast													
Rural	0.0 (31)	17.4 (172)	19.0 (269)	30.4 (260)	44.3 (183)	53.5 (101)	34.6* (26)	83.3* (6)	0.0* (2)	80.0* (5)	100.0* (4)	1059	38.9
Urban	0.0* (11)	30.2 (43)	24.3 (70)	33.3 (36)	30.8 (39)	56.3* (16)	66.7* (3)	I	0.0* (1)	100.0* (1)	100.0* (1)	221	I
Northwest													
Rural	0.0 (34)	20.8 (138)	21.0 (272)	33.6 (244)	40.8 (142)	57.3 (124)	51.6 (31)	50.0* (10)	0.0* (5)	100.0* (4)	0.0* (2)	1051	40.3
Urban	0.0* (14)	17.1 (35)	14.6 (41)	38.8 (49)	33.3* (24)	55.0* (20)	66.7* (6)	0.0* (1)	0.0* (3)	I	50.0* (2)	195	I
Southeast													
Rural	0.0* (8)	3.5 (141)	12.8 (226)	21.9 (224)	39.2 (189)	59.0 (156)	64.3* (28)	37.5* (8)	20.0* (5)	58.8* (17)	75.0* (4)	1003	40.5
Urban	I	33.3* (6)	17.9* (28)	41.2* (17)	38.5* (13)	84.6* (13)	100.0* (2)	I	I	100.0* (3)	I	82	I
Southwest													
Rural	0.0* (1)	3.7* (27)	10.2 (88)	21.8 (124)	23.2 (69)	45.1 (91)	52.4* (21)	33.3* (3)	100.0* (1)	36.4* (1)	75.0* (4)	440	42.4
Urban	0.0* (3)	2.1 (48)	4.2 (95)	15.6 (90)	29.7 (74)	46.3 (67)	64.3* (14)	57.1* (7)	I	85.7* (7)	100.0* (2)	407	I
Rural													
Northeast	0.0 (31)	17.4 (172)	19.0 (269)	30.4 (260)	44.3 (183)	53.5 (101)	34.6* (26)	83.3* (6)	0.0* (2)	80.0* (5)	100.0* (4)	1059	38.9
Northwest	0.0 (34)	20.8 (138)	21.0 (272)	33.6 (244)	40.8 (142)	57.3 (124)	51.6 (31)	50.0* (10)	0.0* (5)	100.0* (4)	0.0* (2)	1051	40.3
Southeast	0.0* (8)	3.5 (141)	12.8 (226)	21.9 (224)	39.2 (189)	59.0 (156)	64.3* (28)	37.5* (8)	20.0* (5)	58.8* (17)	75.0* (4)	1003	40.5
Southwest	0.0* (1)	3.7* (27)	10.2 (88)	21.8 (124)	23.2 (69)	45.1 (91)	52.4* (21)	33.3* (3)	100.0* (1)	36.4* (11)	75.0* (4)	440	42.4
Urban													
Northeast	0.0* (11)	30.2 (43)	24.3 (70)	33.3 (36)	30.8 (39)	56.3* (16)	66.1* (3)	I	0.0* (1)	100.0* (1)	100.0* (1)	221	I
Northwest	0.0* (14)	17.1 (35)	14.6 (41)	38.8 (49)	33.3* (24)	55.0* (20)	66.7* (6)	0.0* (1)	0.0* (3)	I	50.0* (2)	195	I
Southeast	I	33.3* (6)	17.9* (28)	41.2* (17)	38.5* (13)	84.6* (13)	100.0* (2)	I	I	100.0* (3)	I	82	I
Southwest	0.0* (3)	2.1 (48)	4.2 (95)	15.6 (90)	29.7 (74)	46.3 (67)	64.3 (14)	57.1 (7)	I	85.7* (7)	100.0* (2)	407	I

* Estimation based on less than 30 observations
 () No. of observations
 I Estimation impossible

Table 90 : Percentage of Ever-Married with no Births in the last 5 Years by Age and State

States	Current Age											Total Cases	Estimated Mean Age
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48	49		
Anambra	0.0* (2)	1.9 (52)	9.1 (66)	17.6 (68)	22.7 (44)	40.5 (42)	28.6* (7)	I	100.0* (1)	50.0* (4)	0.0* (1)	287	I
Bauchi	0.0* (12)	12.5 (56)	13.3 (60)	24.0 (50)	41.7 (36)	31.3* (16)	I	I	I	I	100.0*	231	I
Bendel	I	0.0* (7)	0.0* (2)	39.3* (28)	30.0* (10)	45.0* (11)	100.0* (1)	I	I	I	I	59	I
Benue	0.0* (2)	12.5* (24)	8.8 (34)	16.1 (31)	20.0* (25)	43.5* (23)	0.0* (2)	I	0.0* (1)	100.0* (1)	I	143	I
Borno	0.0* (18)	25.8 (62)	12.0 (105)	32.2 (59)	44.2 (86)	61.5 (39)	38.9* (18)	100.0* (1)	0.0* (1)	100.0* (1)	100.0* (1)	391	38.1
Cross-River	0.0* (5)	2.2 (46)	13.9 (72)	15.8 (38)	24.2 (33)	82.8 (29)	100.0* (3)	100.0* (1)	0.0* (1)	0.0* (1)	I	227	I
Gongola	0.0* (9)	34.8 (46)	30.4 (112)	42.1 (121)	53.7 (54)	64.3 (28)	57.1 (7)	75.0 (4)	0.0* (1)	100.0* (2)	100.0* (3)	387	35.2
Imo	I	0.0* (27)	16.3 (80)	32.1 (112)	51.5 (101)	70.4 (81)	73.7* (19)	28.6* (7)	0.0* (3)	66.7 (12)	100.0* (2)	444	I
Kaduna	0.0* (15)	15.5 (58)	18.2 (99)	31.3 (83)	32.6 (46)	53.5 (43)	45.5* (11)	100.0* (3)	I	100.0* (1)	I	359	I
Kano	0.0* (28)	21.6 (102)	26.1 (111)	47.4 (114)	42.1 (57)	52.9 (51)	63.6 (11)	0.0* (1)	0.0* (6)	100.0* (4)	25.0*	486	39.3
Kwara	0.0* (1)	0.0* (7)	3.0 (33)	6.1 (33)	25.0* (28)	50.0* (10)	80.0* (5)	I	I	0.0* (3)	100.0* (1)	121	I
Lagos	0.0* (2)	3.3 (30)	6.1 (33)	15.6 (32)	24.0* (25)	63.6* (22)	54.5* (1)	100.0* (1)	I	0.0* (3)	100.0* (2)	161	I
Niger	I	27.3 (33)	18.2 (66)	21.3 (47)	60.0* (25)	53.3 (32)	0.0* (7)	0.0* (2)	0.0* (2)	100.0* (2)	I	216	I
Ogun	0.0* (1)	0.0* (6)	17.6* (17)	20.0* (10)	30.8* (13)	50.0* (24)	40.0* (10)	0.0* (3)	I	100.0* (3)	I	87	I
Ondo	I	9.1* (11)	4.2 (48)	15.3 (59)	30.0 (30)	37.8 (37)	66.7* (3)	50.0* (2)	I	100.0* (2)	100.0* (1)	193	I
Oyo	I	0.0* (14)	10.0 (50)	23.1 (52)	24.3 (37)	40.7 (54)	60.0* (5)	75.0* (4)	100.0* (1)	71.4* (2)	50.0*	226	I
Plateau	0.0* (1)	3.7 (27)	10.7* (28)	11.4 (35)	28.6* (21)	54.5* (11)	0.0* (2)	100.0* (1)	I	50.0* (2)	I	128	I
Rivers	0.0* (1)	22.7* (22)	13.9 (360)	8.7* (23)	38.1* (21)	29.4* (17)	100.0* (1)	I	I	100.0* (3)	100.0* (1)	125	I
Sokoto	0.0* (5)	16.0* (25)	10.6 (37)	22.4 (49)	31.6 (38)	77.8* (18)	100.0* (8)	40.0* (5)	I	I	I	185	I

* Estimation based on less than 30 observations
 () No. of observations
 I Estimation impossible

Table 91 : Percentage of Ever-Married Women with no Births in the Last 5 Years by Age and Subgroups.

Subgroup	Current Age										Total Cases	Estimated Mean Age	
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48			49
<u>Type of Place of Residence</u>													
Rural	0.0 (74)	14.1 (523)	17.1 (855)	27.8 (852)	39.3 (580)	54.7 (472)	50.9 (106)	51.9 (27)	15.4 (13)	59.4 (37)	71.4 (14)	3553	39.9
Urban	0.0* (11)	23.6 (72)	18.3 (153)	28.9 (114)	32.6 (92)	52.9 (70)	75.0* (20)	50.0* (6)	I	100.0* (8)	100.0* (3)	549	I
Large Urban	0.0* (17)	8.3 (60)	4.9 (81)	24.4 (78)	29.3 (58)	54.3 (46)	40.0* (5)	50.0* (2)	0.0* (4)	66.7* (3)	50.0* (2)	356	42.5
<u>Literacy Woman</u>													
Can Read	0.0* (15)	2.1 (145)	7.1 (210)	22.9 (170)	33.3 (123)	42.9 (49)	64.3* (14)	50.0* (2)	0.0* (2)	66.7* (3)	100.0* (5)	738	41.3
Cannot Read	0.0 (87)	18.2 (510)	18.5 (879)	28.6 (874)	38.6 (607)	55.5 (539)	53.0 (117)	51.5 (33)	13.3* (15)	66.7 (45)	64.3* (14)	3720	39.6
<u>Literacy Partner</u>													
Can Read	0.0 (39)	10.7 (271)	12.5 (408)	25.8 (388)	33.0 (261)	47.1 (153)	68.9 (45)	25.0* (12)	16.7* (6)	50.0* (14)	100.0* (3)	1600	40.4
Cannot Read	0.0 (63)	17.4 (384)	18.6 (681)	28.8 (656)	40.3 (469)	57.0 (435)	46.5 (86)	65.2* (23)	9.1* (11)	73.5 (34)	68.8* (16)	2858	39.4
<u>Religion</u>													
Catholic	0.0* (7)	4.3 (70)	12.5 (128)	26.6 (107)	42.4 (92)	64.4 (87)	68.8* (76)	28.6* (7)	0.0* (1)	60.0* (5)	100.0* (1)	523	39.3
Protestant	0.0* (4)	9.1 (66)	9.5 (126)	21.7 (92)	33.7 (83)	29.9 (67)	64.7* (17)	20.0* (5)	33.3* (3)	100.0* (6)	100.0* (4)	473	41.4
Other Christians	0.0* (3)	3.1 (98)	9.8 (133)	17.9 (151)	31.8 (110)	53.8 (78)	52.6* (19)	75.0* (4)	0.0* (1)	55.6* (18)	100.0* (2)	617	41.0
Moslem	0.0 (88)	18.9 (370)	19.4 (612)	32.9 (584)	40.4 (369)	57.5 (273)	49.2 (59)	66.7* (18)	10.0* (10)	69.2* (13)	63.6* (11)	2407	39.2
Traditional	I (36)	25.0 (58)	15.5 (71)	14.1 (44)	27.3 (50)	54.0 (10)	30.0* (1)	I (1)	0.0* (4)	50.0* (1)	0.0* (1)	275	I
<u>Years of Education Woman</u>													
0 yrs	0.0 (89)	18.3 (493)	18.1 (872)	29.3 (857)	37.2 (610)	56.2 (534)	52.6 (116)	48.5 (33)	13.3* (15)	68.2 (44)	72.2* (18)	3681	39.5
1-4 yrs	0.0* (2)	6.3 (80)	9.8 (92)	19.4 (93)	43.6 (55)	50.0* (24)	50.0* (6)	100.0* (2)	I	50.0* (2)	100.0* (1)	357	I
5-7 yrs	0.0* (9)	1.4 (69)	5.5 (91)	16.7 (72)	43.8 (48)	24.0* (25)	75.0* (8)	I	0.0* (2)	50.0* (2)	I	326	I
8+ yrs	0.0* (2)	0.0* (13)	17.6 (34)	36.4* (22)	17.6* (17)	40.0* (5)	100.0* (1)	I	I	I	I	94	I
<u>Region of Residence</u>													
Northeast	0.0 (42)	20.0 (215)	20.1 (339)	30.7 (296)	41.9 (222)	53.8 (117)	37.9* (29)	83.3* (6)	0.0* (3)	83.3* (6)	100.0* (5)	1280	38.8
Northwest	0.0 (48)	20.2 (218)	20.1 (313)	34.5 (293)	39.8 (166)	56.9 (144)	54.1 (37)	45.5* (11)	0.0* (8)	100.0* (4)	25.0* (4)	1246	40.0
Southeast	0.0* (8)	4.8 (147)	13.4 (254)	23.2 (241)	39.2 (199)	60.9 (169)	66.7 (30)	37.5* (8)	20.0* (5)	65.0* (20)	75.0* (4)	1085	40.1
Southwest	0.0* (4)	2.7 (75)	7.1 (183)	19.2 (214)	26.6 (143)	45.6 (158)	57.1 (35)	50.0* (10)	100.0* (1)	55.6* (18)	83.3 (6)	847	42.0
<u>Years of Education Partner</u>													
0 yrs	0.0 (42)	21.5 (288)	19.2 (574)	30.1 (542)	38.7 (432)	54.9 (381)	50.0 (86)	66.7* (18)	16.7* (6)	70.6 (34)	91.7* (12)	2415	38.7
1-4 yrs	I	9.3 (43)	16.9 (71)	18.6 (70)	48.6 (37)	75.0* (20)	50.0* (8)	0.0* (7)	0.0* (1)	I	I	257	I
5-7 yrs	0.0* (11)	2.8 (107)	10.3 (136)	23.7 (131)	46.7 (90)	40.0 (75)	63.6* (11)	50.0* (4)	50.0* (2)	71.4* (7)	I	574	I
8+ yrs	0.0* (9)	4.7 (64)	10.0 (90)	22.7 (75)	28.3 (53)	50.0* (22)	77.8* (9)	I	0.0* (2)	50.0* (2)	I	326	I
<u>Last Work Status Woman</u>													
Family Farm	0.0* (13)	12.5 (160)	18.5 (292)	25.9 (332)	33.9 (221)	49.0 (204)	61.0* (41)	66.7* (12)	20.0* (5)	63.6* (22)	77.8* (9)	1311	40.1
Family Employed	0.0* (2)	50.0* (4)	14.3* (7)	54.5* (11)	53.8* (13)	55.6* (9)	100.0* (1)	I	I	I	I	47	I
Other Paid Cash	0.0* (2)	0.0* (26)	9.1 (66)	24.0 (50)	38.2 (55)	46.7 (30)	57.1 (7)	100.0* (1)	I	66.7* (3)	I	240	I
Other Employed	0.0* (1)	35.7* (28)	22.2 (63)	39.7 (63)	52.0 (50)	53.6* (28)	60.0* (5)	100.0* (1)	I	100.0 (1)	100.0 (1)	241	I
Self Employed	0.0* (25)	10.0 (200)	14.1 (327)	23.6 (352)	35.9 (234)	54.1 (196)	56.4 (55)	41.2 (17)	9.1* (11)	58.8* (17)	50.0* (6)	1440	41.2
Did Not Work	0.0 (59)	18.6 (237)	17.1 (334)	32.6 (236)	39.5 (157)	66.1 (121)	31.8* (22)	25.0* (4)	0.0* (1)	100.0* (5)	100.0* (3)	1179	38.7

* Estimation based on less than 30 observations

() Number of observations

I Estimation impossible

Table 92 : Percentage of Ever-Married Women with a Self-Reported Menopausal Status by Age and by Region and Place of Residence

Subgroup	Current Age											Total Cases	Mean Age at Becoming Menopausal
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48	49		
<u>Northeast</u>													
Rural	1.6 (249)	0.0 (331)	0.8 (361)	1.2 (340)	5.8 (259)	9.2 (152)	2.4 (41)	0.0* (6)	0.0* (3)	13.3 (15)	0.0* (17)	1775	51.4
Urban	1.9 (52)	0.0 (7)	0.0 (85)	0.0 (51)	6.7 (45)	0.0* (20)	0.0* (4)	I (1)	0.0* (1)	0.0* (1)	0.0 (1)	331	I
<u>Northwest</u>													
Rural	2.2 (268)	2.2 (316)	5.7 (384)	6.7 (343)	13.3 (195)	6.0 (166)	13.3 (54)	16.7* (12)	11.1* (9)	27.3* (22)	55.6* (9)	1778	48.1
Urban	0.0 (73)	1.5 (68)	3.0 (67)	3.0 (67)	0.0 (32)	13.8* (29)	16.7* (12)	0.0* (1)	25.0* (4)	0.0* (2)	0.0* (4)	359	50.8
<u>Southeast</u>													
Rural	0.0 (123)	0.0 (351)	0.9 (436)	5.3 (377)	10.4 (299)	3.1 (229)	8.3 (60)	14.8 (27)	14.3 (7)	4.3 (46)	10.0 (20)	1975	50.8
Urban	0.0* (15)	0.0 (45)	0.0 (48)	4.3* (23)	13.6* (22)	0.0* (17)	33.3* (3)	I	I	0.0* (4)	I	177	I
<u>Southwest</u>													
Rural	0.0 (30)	0.0 (107)	0.7 (137)	0.6 (160)	0.0 (100)	1.7 (121)	0.0 (34)	0.0* (5)	0.0* (3)	6.7* (15)	0.0* (5)	717	52.3
Urban	0.0 (43)	0.0 (175)	0.0 (183)	3.3 (153)	2.0 (101)	6.7 (105)	4.5* (22)	0.0* (11)	0.0* (2)	15.4* (13)	16.7* (6)	814	51.1
<u>Rural</u>													
Northeast	1.6 (249)	0.0 (331)	0.8 (362)	1.2 (340)	5.8 (259)	9.2 (152)	2.4 (41)	0.0* (6)	0.0* (3)	13.3* (15)	0.0* (17)	1775	51.4
Northwest	2.2 (268)	2.2 (316)	5.7 (384)	6.7 (343)	13.3 (195)	6.0 (166)	13.0 (54)	16.7* (12)	11.1* (9)	27.3* (22)	55.6* (9)	1778	48.1
Southeast	0.0 (123)	0.0 (351)	0.9 (436)	5.3 (377)	10.4 (299)	3.1 (229)	8.3 (60)	14.8* (27)	14.3* (7)	4.3 (46)	10.0* (20)	1975	50.8
Southwest	0.0 (30)	0.0 (107)	0.7 (137)	0.6 (160)	0.0 (100)	1.7 (121)	0.0 (34)	0.0* (5)	0.0* (3)	6.7 (15)	0.0 (5)	717	52.3
<u>Urban</u>													
Northeast	1.9 (52)	0.0 (71)	0.0 (85)	0.0 (51)	6.7 (45)	0.0* (20)	0.0* (4)	I (1)	0.0* (1)	0.0* (1)	0.0* (1)	331	I
Northwest	0.0 (73)	1.5 (68)	3.0 (67)	3.0 (67)	0.0 (32)	13.8* (29)	16.7* (12)	0.0* (1)	25.0* (4)	0.0* (2)	0.0* (4)	359	50.8
Southeast	0.0* (15)	0.0 (45)	0.0 (48)	4.3* (23)	13.6* (22)	0.0* (17)	33.3* (3)	I	I	0.0* (4)	I	177	I
Southwest	0.0 (43)	0.0 (175)	0.0 (183)	3.3 (153)	2.0 (101)	6.7 (105)	4.5* (22)	0.0* (11)	0.0* (2)	15.4* (12)	16.7* (6)	814	51.1

* Estimation based on less than 30 observations

() No. of observations

I Estimation impossible

Table 93 : Percentage of Ever-Married Women with a Self-Reported Menopausal Status by Age and State

States	Current Age											Total Cases	Estimated Mean Age at Becoming Menopausal
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48	49		
Anambra	0.0 (53)	0.0 (143)	1.9 (107)	0.9 (110)	2.8 (71)	7.4 (68)	29.4* (17)	28.6* (7)	50.0* (2)	8.3* (12)	25.0* (8)	597	50.0
Bauchi	3.0 (67)	0.0 (101)	1.2 (83)	0.0 (58)	9.8 (51)	5.0* (20)	I	I	I	I	0.0 (1)	381	I
Bendel	0.0* (10)	0.0* (27)	6.3 (16)	0.0 (39)	0.0* (18)	0.0* (17)	0.0* (3)	I	0.0* (1)	50.0* (2)	I	133	I
Benue	0.0* (21)	0.0 (50)	0.0 (45)	0.0 (38)	0.0 (32)	7.1* (28)	0.0* (4)	I	0.0* (1)	50.0* (2)	0.0* (1)	222	I
Borno	0.0 (107)	0.0 (97)	0.0 (130)	0.0 (102)	4.1 (121)	15.0 (60)	0.0* (23)	0.0* (1)	0.0* (1)	0.0* (1)	0.0* (1)	644	51.1
Cross-River	0.0* (27)	0.0 (87)	0.7 (136)	8.1 (86)	18.6 (70)	0.0 (43)	0.0* (11)	0.0* (8)	0.0* (2)	0.0* (8)	0.0* (2)	480	51.1
Gongola	3.3 (92)	0.0 (102)	1.4 (145)	0.0 (142)	10.7 (75)	2.0 (50)	0.0* (14)	0.0* (4)	0.0* (2)	9.1* (11)	0.0* (13)	650	51.5
Imo	0.0* (20)	0.0 (112)	0.6 (179)	8.0 (162)	12.4 (145)	1.8 (113)	2.9 (34)	10.0* (10)	0.0* (3)	4.2* (24)	0.0* (5)	807	51.2
Kaduna	0.0 (83)	0.9 (109)	3.4 (146)	1.7 (115)	11.6 (69)	11.3 (62)	10.5* (19)	0.0* (3)	0.0* (1)	62.5* (8)	0.0* (1)	616	50.1
Kano	3.4 (177)	4.1 (169)	11.9 (160)	9.2 (153)	18.7 (75)	9.2 (65)	11.1* (18)	66.7* (3)	20.0* (10)	8.3* (12)	41.7* (12)	854	47.6
Kwara	0.0* (17)	0.0 (40)	0.0 (69)	8.5 (47)	3.0 (33)	10.5* (19)	0.0* (9)	0.0* (1)	I	0.0* (3)	0.0* (4)	242	I
Lagos	0.0* (13)	0.0 (77)	0.0 (56)	0.0 (56)	0.0 (39)	5.4 (37)	0.0* (15)	0.0* (3)	0.0* (1)	0.0* (3)	0.0* (2)	302	52.2
Niger	0.0* (22)	0.0 (50)	0.0 (79)	7.0 (71)	8.3 (36)	0.0 (37)	18.2* (11)	0.0* (2)	0.0* (2)	0.0* (4)	I	314	I
Ogun	0.0* (20)	0.0 (39)	0.0* (29)	0.0* (17)	0.0* (23)	6.5 (31)	0.0* (12)	0.0* (3)	I	0.0* (3)	0.0* (1)	178	I
Ondo	0.0* (7)	0.0 (43)	0.0 (74)	2.3 (86)	0.0 (41)	1.9 (52)	20.0* (5)	0.0* (4)	I	0.0* (6)	50.0* (2)	320	I
Oyo	0.0* (6)	0.0 (56)	0.0 (76)	0.0 (68)	2.1 (47)	2.9 (70)	0.0* (12)	0.0* (5)	0.0* (3)	18.2* (11)	0.0* (2)	356	52.0
Plateau	0.0* (14)	0.0 (52)	0.0 (44)	7.8 (51)	0.0* (25)	7.1* (14)	25.0* (4)	0.0* (1)	I	0.0* (2)	0.0* (2)	209	I
Rivers	0.0 (38)	0.0 (55)	0.0 (62)	0.0 (42)	2.9 (35)	0.0* (22)	0.0* (1)	50.0* (2)	I	0.0* (6)	0.0* (5)	268	I
Sokoto	0.0 (59)	0.0 (56)	0.0 (66)	5.6 (71)	2.1 (47)	3.2 (31)	16.7* (18)	0.0* (5)	I	I	I	353	I

* Estimation based on less than 30 observations

() No. of observations

I Estimation impossible

Table 94 : Percentage of Ever-Married Women with a Self-Reported Menopausal Status by Age and Subgroups

Subgroup	Current Age										Total Cases	Estimate Mean Age at Becom Menopaus	
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48			49
<u>Type of Place of Residence</u>													
Rural	1.5 (670)	0.6 (1105)	2.3 (1319)	3.9 (1220)	8.4 (853)	4.9 (668)	6.9 (189)	12.0 (50)	9.1 (22)	11.2 (98)	13.7 (51)	6245	50.6
Urban	0.0 (102)	0.0 (186)	0.0 (245)	1.2 (170)	5.4 (130)	5.8 (104)	13.3 (30)	0.0* (8)	50.0* (2)	14.3* (14)	12.5* (8)	999	50.9
Large Urban	1.2 (81)	0.6 (173)	1.4 (138)	4.8 (124)	1.4 (70)	7.5 (67)	0.0* (11)	0.0* (4)	0.0* (5)	0.0* (6)	0.0* (3)	682	51.7
<u>Literacy Woman</u>													
Can Read	0.5 (196)	0.0 (454)	0.2 (415)	4.0 (278)	2.9 (170)	2.5 (80)	0.0* (18)	0.0* (4)	33.3* (3)	25.0* (8)	0.0* (7)	1633	51.6
Cannot Read	1.5 (657)	0.8 (1010)	2.4 (1287)	3.6 (1236)	8.5 (883)	5.5 (759)	8.0 (212)	10.3 (58)	7.7* (26)	10.0 (110)	14.5 (55)	6293	50.5
<u>Literacy Partner</u>													
Can Read	0.5 (387)	0.1 (751)	0.7 (737)	3.2 (570)	4.3 (372)	4.5 (244)	1.5 (66)	5.3* (19)	0.0* (11)	3.3 (30)	10.0* (10)	3197	51.4
Cannot Read	1.9 (466)	1.0 (713)	2.8 (965)	4.0 (944)	9.4 (681)	5.5 (595)	9.8 (164)	11.6 (43)	16.7* (18)	13.6 (88)	13.5 (52)	4729	50.3
<u>Religion</u>													
Catholic	0.0 (74)	0.0 (211)	1.2 (243)	8.2 (195)	10.4 (134)	3.4 (116)	3.8* (26)	16.7* (12)	0.0* (2)	5.9* (17)	0.0* (7)	1037	51.1
Protestant	0.0 (68)	0.0 (166)	0.5 (194)	0.7 (134)	3.9 (127)	3.0 (100)	3.3 (30)	0.0 (7)	16.7 (6)	29.4 (17)	6.3 (16)	865	51.4
Other Christians	0.0 (57)	0.0 (234)	0.8 (245)	4.0 (227)	8.8 (159)	2.7 (112)	0.0 (37)	0.0* (12)	0.0* (2)	0.0* (29)	0.0* (5)	1119	51.7
Moslem	1.8 (604)	1.1 (715)	2.8 (865)	2.8 (788)	7.9 (517)	7.3 (386)	6.6 (106)	9.1* (22)	12.5* (16)	18.4 (38)	19.2 (26)	4083	50.2
Traditional	0.0 (40)	0.0 (97)	2.2 (93)	5.3 (114)	5.8 (69)	2.6 (76)	18.8* (16)	16.7* (6)	0.0* (2)	0.0 (12)	28.6* (7)	532	50.3
<u>Years of Education Woman</u>													
0 yrs	1.7 (640)	0.8 (964)	2.5 (1261)	3.8 (1209)	8.1 (878)	5.5 (749)	8.1 (211)	10.3 (58)	7.7* (26)	11.1 (108)	13.8 (58)	6162	50.5
1-4 yrs	0.0 (41)	0.0 (162)	0.6 (164)	1.5 (133)	7.9 (76)	2.6 (39)	0.0* (10)	0.0* (2)	100.0* (1)	14.3* (7)	0.0* (2)	637	51.5
5-7 yrs	0.0 (140)	0.0 (235)	0.0 (183)	0.9 (113)	3.9 (76)	5.4 (37)	0.0* (8)	I (1)	0.0* (2)	0.0* (3)	0.0* (2)	799	I
8+ yrs	0.0 (32)	0.0 (103)	0.0 (94)	11.9 (59)	0.0* (23)	0.0* (14)	0.0* (1)	0.0* (2)	I (2)	I (2)	I (2)	328	I
<u>Region of Residence</u>													
Northeast	1.7 (301)	0.0 (402)	0.7 (447)	1.0 (391)	5.9 (304)	8.1 (172)	2.2 (45)	0.0* (6)	0.0* (4)	12.5 (16)	0.0* (18)	2106	51.5
Northwest	1.8 (341)	2.1 (384)	5.3 (451)	6.1 (410)	11.5 (227)	7.2 (195)	13.6 (66)	15.4* (13)	15.4* (13)	25.0* (24)	38.5* (13)	2137	48.8
Southeast	0.0 (138)	0.0 (396)	0.8 (484)	5.3 (400)	10.6 (321)	2.8 (246)	9.5 (63)	14.8 (27)	14.3 (7)	4.0 (50)	10.0 (20)	2152	50.8
Southwest	0.0 (73)	0.0 (282)	0.3 (320)	1.9 (313)	1.0 (201)	4.0 (226)	1.8 (56)	0.0* (16)	0.0* (5)	10.7* (28)	9.1* (11)	1531	51.7
<u>Years of Education Partner</u>													
0 yrs	1.9 (317)	1.1 (533)	2.2 (808)	3.8 (767)	6.8 (619)	4.0 (526)	8.1 (161)	10.8 (37)	9.1* (11)	10.1 (79)	15.2 (46)	3904	50.6
1-4 yrs	0.0 (40)	0.0 (111)	0.0 (120)	0.9 (110)	17.6 (68)	13.2 (38)	11.1* (9)	11.1* (9)	0.0* (2)	0.0* (1)	0.0* (1)	509	50.5
5-7 yrs	0.8 (127)	0.3 (309)	1.2 (247)	5.2 (210)	3.9 (128)	5.9 (102)	0.0* (20)	0.0* (7)	0.0* (5)	0.0* (16)	0.0* (3)	1174	51.6
8+ yrs	0.0 (96)	0.0 (195)	0.0 (207)	0.8 (123)	1.4 (73)	3.0 (33)	0.0* (9)	0.0* (2)	0.0* (2)	25.0 (4)	0.0* (2)	746	52.0
<u>Last Work Status Woman</u>													
Family Farm	4.2 (144)	0.0 (330)	1.8 (452)	2.7 (475)	5.9 (338)	3.1 (288)	8.5 (82)	7.1* (28)	0.0* (7)	8.0 (50)	0.0* (28)	2222	51.3
Family Employed	0.0* (20)	0.0* (27)	7.1* (14)	0.0* (14)	13.0* (23)	0.0* (13)	0.0* (1)	100.0* (1)	I (1)	0.0* (1)	I (1)	114	I
Other Paid Cash	0.0* (24)	0.0 (110)	0.7 (143)	9.4 (96)	5.1 (78)	2.3 (43)	0.0* (11)	0.0* (3)	0.0* (1)	25.0* (4)	I (4)	513	I
Other Employed	3.6* (28)	1.6 (63)	4.7 (85)	4.7 (86)	5.9 (68)	3.9 (51)	14.3 (14)	0.0* (2)	100.0* (1)	0.0* (10)	40.0* (5)	413	49.4
Self Employed	0.5 (214)	0.4 (402)	1.9 (515)	3.6 (502)	5.2 (327)	7.7 (286)	2.4 (85)	4.5* (22)	0.0* (16)	10.8 (37)	15.8* (19)	2485	50.8
Did Not Work	0.7 (423)	1.1 (472)	1.6 (493)	3.5 (341)	14.6 (219)	6.3 (158)	16.2 (37)	33.3* (6)	50.0* (4)	25.0* (16)	30.0* (10)	2179	49.2

* Estimation based on less than 30 observations

() Number of observations

I Estimation impossible

Table 95 : Percentage of Ever-Married Women with a Self-Reported Non-Menopausal Infecundity by Age and by Region and Place

Subgroup	Current Age											Total Cases	Mean
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48	49		
<u>Northeast</u>													
Rural	2.0 (249)	3.0 (331)	1.7 (362)	6.2 (340)	13.1 (259)	14.5 (152)	29.3 (41)	0.0* (6)	33.3* (3)	53.3* (15)	76.5* (17)	1775	45.9
Urban	0.0 (52)	0.0 (71)	0.0 (85)	0.0 (51)	0.0 (45)	5.0* (20)	0.0* (4)	I	0.0* (1)	0.0* (1)	0.0* (1)	331	I
<u>Northwest</u>													
Rural	0.0 (268)	0.0 (316)	0.3 (384)	1.7 (343)	0.5 (195)	12.0 (166)	24.1 (54)	0.0* (12)	22.2* (9)	50.0* (22)	22.2* (9)	1778	48.0
Urban	0.0 (73)	0.0 (68)	0.0 (67)	0.0 (67)	6.3 (32)	6.9* (29)	33.3* (12)	0.0* (1)	0.0* (4)	100.0* (2)	50.0* (4)	359	47.6
<u>Southeast</u>													
Rural	0.0 (123)	0.0 (351)	0.5 (436)	1.1 (377)	2.0 (299)	10.5 (299)	21.7 (60)	44.4* (27)	0.0* (7)	43.5 (46)	50.0* (20)	1975	47.6
Urban	0.0* (15)	0.0 (45)	0.0 (48)	0.0* (23)	0.0* (22)	0.0* (17)	0.0* (3)	I	I	0.0* (4)	I	177	I
<u>Southwest</u>													
Rural	0.0 (30)	0.0 (107)	0.0 (137)	1.9 (160)	6.0 (100)	9.9 (121)	29.4 (34)	40.0* (5)	33.3* (3)	20.0* (15)	0.0* (5)	717	47.8
Urban	0.0 (43)	0.0 (175)	0.0 (183)	2.6 (153)	3.0 (101)	13.3 (105)	22.7* (22)	9.1* (11)	50.0* (2)	23.1* (13)	50.0* (6)	814	47.9
<u>Rural</u>													
Northeast	2.0 (249)	3.0 (331)	1.7 (362)	6.2 (340)	13.1 (259)	14.5 (152)	29.3 (41)	0.0* (6)	33.3* (3)	53.3* (15)	76.5* (17)	1775	45.9
Northwest	0.0 (258)	0.0 (316)	0.3 (384)	1.7 (343)	0.5 (195)	12.0 (166)	24.1 (54)	0.0* (12)	22.2* (9)	50.0* (22)	22.2* (9)	1778	48.0
Southeast	0.0 (123)	0.0 (351)	0.5 (436)	1.1 (377)	2.0 (299)	10.5 (299)	21.7 (60)	44.4* (27)	0.0* (7)	43.5 (46)	50.0* (20)	1975	47.6
Southwest	0.0 (30)	0.0 (107)	0.0 (137)	1.7 (160)	6.0 (100)	9.9 (121)	29.4 (34)	40.0* (5)	33.3* (3)	20.0* (15)	0.0* (5)	717	47.8
<u>Urban</u>													
Northeast	0.0 (52)	0.0 (71)	0.0 (85)	0.0 (51)	0.0 (45)	5.0* (20)	0.0* (4)	I	0.0* (1)	0.0* (1)	0.0* (1)	331	I
Northwest	0.0 (73)	0.0 (68)	0.0 (67)	0.0 (67)	6.3 (32)	6.9* (29)	33.3* (12)	0.0* (1)	0.0* (4)	100.0* (2)	50.0* (4)	359	47.6
Southeast	0.0* (15)	0.0 (45)	0.0 (48)	0.0* (23)	0.0* (22)	0.0* (17)	0.0* (3)	I	I	0.0* (4)	I	177	I
Southwest	0.0 (43)	0.0 (175)	0.0 (183)	2.6 (153)	3.0 (101)	13.3 (105)	22.7* (22)	9.1* (11)	50.0* (2)	23.1* (13)	50.0* (6)	814	47.9

* Estimation based on less than 30 observations
 () No. of observations
 I Estimation impossible

Table 96 : Percentage of Ever-Married with a Self-Reported Infecundity (Non-Menopausal) Status by Age and State

States	Current Age											Total Cases	Mean Age a Becoming Infecund
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48	49		
Anambra	0.0 (53)	0.0 (142)	0.0 (107)	0.0 (110)	1.4 (71)	2.9 (68)	11.8* (17)	42.9* (7)	0.0* (2)	0.0* (12)	12.5* (8)	597	49.1
Bauchi	0.0 (67)	0.0 (101)	0.0 (83)	10.3 (58)	17.6 (51)	10.0* (20)	I	I	I	I	0.0* (1)	381	I
Bendel	0.0 (10)	0.0 (27)	0.0 (16)	0.0 (39)	5.6* (18)	0.0* (17)	0.0* (3)	I	0.0* (1)	50.0 (2)	I	133	I
Benue	0.0* (21)	0.0 (50)	2.2 (45)	0.0 (38)	3.1 (32)	3.6* (28)	25.0* (4)	I	0.0* (1)	0.0* (2)	100.0* (1)	222	I
Borno	3.7 (107)	4.1 (97)	0.0 (130)	3.9 (102)	10.7 (121)	6.7 (60)	17.4* (23)	0.0* (1)	0.0* (1)	0.0* (1)	0.0* (1)	644	47.8
Cross-River	0.0* (27)	0.0 (87)	0.7 (136)	1.2 (86)	5.7 (70)	18.6 (43)	18.2* (1)	87.5* (8)	0.0* (2)	75.0* (8)	100.0* (2)	480	45.9
Gongola	0.0 (92)	4.9 (102)	1.4 (145)	4.2 (142)	13.3 (75)	32.0 (50)	50.0* (14)	0.0* (4)	50.0* (2)	72.7* (11)	76.7* (13)	650	44.3
Imo	0.0* (20)	0.0 (112)	0.0 (179)	1.9 (162)	0.7 (145)	11.5 (113)	26.5 (34)	20.0* (10)	0.0* (3)	45.8* (24)	60.0* (5)	807	47.7
Kaduna	0.0 (83)	0.0 (109)	0.0 (146)	3.5 (115)	4.3 (69)	11.3 (62)	26.3* (19)	0.0* (3)	0.0* (1)	12.5* (8)	100.0* (1)	616	48.0
Kano	0.0 5177	0.0 (169)	0.6 (160)	1.3 (153)	0.0 (75)	4.6 (65)	22.2* (18)	0.0* (3)	20.0* (10)	83.3* (12)	25.0* (12)	854	47.9
Kwara	0.0* (17)	0.0 (40)	0.0 (69)	4.3 (47)	0.0 (33)	21.1* (19)	33.3* (9)	100.0* (1)	I	0.0* (3)	75.0* (4)	242	I
Lagos	0.0* (13)	0.0 (77)	0.0 (56)	1.8 (56)	5.1 (39)	8.1 (37)	13.3* (15)	0.0* (3)	100.0* (1)	0.0* (3)	0.0* (2)	302	48.6
Niger	0.0* (22)	0.0 (50)	0.0 (79)	0.0 (71)	0.0 (36)	13.5 (37)	18.2* (11)	0.0* (2)	0.0* (2)	50.0* (4)	I	314	I
Ogun	0.0* (20)	0.0 (39)	0.0* (29)	0.0* (17)	0.0* (23)	6.5 (31)	16.7* (12)	0.0* (3)	I	0.0* (3)	0.0* (1)	178	I
Ondo	0.0* (7)	0.0 (43)	0.0 (74)	4.7 (86)	12.2 (41)	17.3 (52)	20.0* (5)	50.0* (4)	I	50.0* (6)	0.0* (2)	320	I
Oyo	0.0* (6)	0.0 (56)	0.0 (76)	0.0 (68)	2.1 (47)	11.4 (70)	58.3* (12)	0.0* (5)	33.3* (3)	18.2* (11)	0.0* (2)	356	47.8
Plateau	7.1* (14)	1.9 (52)	6.8 (44)	9.8 (51)	4.0* (25)	0.0* (14)	0.0* (4)	0.0* (1)	I	0.0* (2)	100.0* (2)	209	I
Rivers	0.0 (38)	0.0 (55)	1.6 (62)	0.0 (42)	0.0 (35)	4.5* (22)	0.0* (1)	0.0* (2)	I	50.0* (6)	80.0* (5)	268	I
Sokoto	0.0 (59)	0.0 (56)	0.0 (66)	0.0 (71)	0.0 (47)	22.6 (31)	33.3* (18)	0.0* (5)	I	I	I	353	I

* Estimation based on less than 30 observations

() No. of observations

I Estimation impossible

Table 97 : Percentage of Ever-Married with a Self-Reported Infecundity (Non-Menopausal) Status by Age and Subgroup

Subgroup	Current Age										Total Cases	Mean Age at Becom: Infecund	
	15-19	20-24	25-29	30-34	35-39	40-44	45	46	47	48			49
Type of Place of Residence													
Rural	0.7 (670)	0.9 (1105)	0.7 (1319)	2.8 (1220)	5.5 (853)	11.7 (668)	25.4 (189)	28.0 (50)	18.2 (22)	42.9 (98)	49.0 (51)	6245	47.3
Urban	0.0 (102)	0.0 (186)	0.0 (245)	0.0 (170)	3.1 (130)	12.5 (104)	16.7 (30)	12.5* (8)	0.0* (2)	21.4* (14)	50.0* (8)	999	48.2
Large Urban	0.0 (81)	0.0 (173)	0.0 (138)	3.2 (124)	1.4 (70)	6.0 (67)	36.4* (11)	0.0* (4)	20.0* (5)	33.3* (6)	33.3* (3)	682	48.1
Literacy Woman													
Can Read	0.0 (196)	0.0 (454)	0.2 (415)	1.8 (278)	1.2 (170)	10.0 (80)	22.2* (18)	0.0* (4)	0.0* (3)	25.0* (8)	14.3* (7)	1633	48.5
Cannot Read	0.8 (657)	1.0 (1010)	0.6 (1287)	2.7 (1236)	5.7 (883)	11.5 (759)	25.0 (212)	25.9 (58)	19.2* (26)	40.9 (110)	52.7 (55)	6293	47.3
Literacy Partner													
Can Read	0.3 (387)	0.5 (751)	0.5 (737)	1.6 (570)	3.2 (372)	10.7 (244)	16.7 (66)	15.8* (19)	27.3* (11)	40.0 (30)	50.0* (10)	3197	47.9
Cannot Read	0.9 (466)	0.8 (713)	0.5 (965)	3.1 (944)	5.9 (681)	11.6 (597)	28.0 (164)	27.9 (43)	11.1* (18)	39.8 (88)	48.1 (52)	4729	47.2
Religion													
Catholic	0.0 (74)	0.0 (211)	0.0 (243)	2.6 (195)	0.0 (134)	9.5 (116)	3.8* (26)	8.3* (12)	0.0* (2)	52.9* (17)	57.1* (7)	1037	48.2
Protestant	0.0 (68)	0.0 (166)	0.0 (194)	2.2 (134)	3.9 (127)	14.0 (100)	40.0 (30)	14.3* (7)	16.7* (6)	35.3* (17)	62.5* (16)	865	47.0
Other Christians	0.0 (57)	0.0 (243)	1.2 (245)	2.6 (227)	4.4 (159)	11.6 (112)	24.3 (37)	66.7* (12)	50.0* (2)	31.0* (29)	60.0* (5)	1119	47.2
Moslem	0.8 (604)	1.4 (715)	0.5 (865)	2.7 (788)	6.6 (517)	11.1 (386)	31.1 (106)	4.5* (22)	18.8* (16)	44.7 (38)	38.5* (26)	4083	47.3
Traditional	0.0 (40)	0.0 (97)	1.1 (93)	0.9 (114)	5.8 (69)	13.2 (76)	12.5* (16)	50.0* (6)	0.0* (2)	25.0* (12)	28.6* (7)	532	47.8
Years of Education Woman													
0 yrs	0.8 (640)	1.0 (964)	0.6 (1261)	2.8 (1209)	5.8 (818)	12.0 (749)	25.1 (211)	25.9 (58)	19.2* (26)	39.8 (108)	50.0 (58)	6162	47.3
1-4 yrs	0.0 (41)	0.0 (162)	0.6 (164)	1.5 (133)	1.3 (76)	5.1 (39)	40.0* (10)	0.0* (2)	0.0* (1)	42.9* (7)	0.0* (2)	637	48.0
5-7 yrs	0.0 (140)	0.0 (235)	0.0 (183)	1.8 (113)	0.0 (76)	2.7 (37)	0.0 (8)	I	0.0* (2)	33.3* (3)	50.0* (2)	799	I
8+ yrs	0.0 (32)	0.0 (103)	0.0 (94)	0.0 (59)	0.0* (23)	14.3* (14)	0.0* (1)	0.0* (2)	I	I	I	328	I
Region of Residence													
Northeast	1.7 (301)	2.5 (402)	1.3 (447)	5.4 (391)	11.2 (304)	13.4 (172)	26.7 (45)	0.0* (6)	25.0* (4)	50.0* (16)	72.2* (18)	2106	46.3
Northwest	0.0 (341)	0.0 (384)	0.2 (451)	1.5 (410)	1.3 (227)	11.3 (195)	25.8 (66)	0.0* (13)	15.4* (13)	54.2* (24)	30.8* (13)	2137	47.9
Southeast	0.0 (138)	0.0 (396)	0.4 (484)	1.0 (400)	1.9 (321)	9.8 (246)	20.6 (63)	44.4* (27)	0.0* (7)	40.0* (50)	50.0* (20)	2152	47.7
Southwest	0.0 (73)	0.0 (282)	0.0 (320)	2.2 (313)	4.5 (201)	11.5 (226)	26.8 (56)	18.8* (16)	40.0* (5)	21.4* (28)	27.3* (11)	1531	47.8
Years of Education Partner													
0 yrs	1.3 (317)	1.1 (533)	0.5 (808)	3.1 (767)	6.6 (619)	12.9 (526)	29.8 (161)	32.4 (37)	18.2* (11)	38.0 (79)	50.0 (46)	3904	47.0
1-4 yrs	0.0 (40)	0.0 (111)	0.8 (120)	3.6 (110)	4.4 (68)	7.9 (38)	0.0* (9)	11.1* (9)	0.0* (2)	0.0* (1)	100.0* (1)	509	48.7
5-7 yrs	0.8 (27)	0.0 (309)	0.8 (247)	1.9 (210)	3.1 (128)	5.9 (102)	5.0* (20)	28.6* (7)	40.0* (5)	50.0* (16)	100.0* (3)	1174	47.8
8+ yrs	0.0 (96)	0.5 (195)	0.0 (207)	0.8 (123)	0.0 (73)	9.1 (33)	0.0* (9)	0.0* (2)	0.0* (2)	25.0* (4)	50.0* (2)	746	49.0
Last Work Status Woman													
Family Farm	2.8 (144)	0.0 (330)	0.9 (452)	2.9 (475)	8.3 (338)	11.5 (288)	20.7 (82)	39.3* (28)	14.3* (7)	42.0 (50)	60.7* (28)	2222	47.0
Family Employed	0.0* (20)	0.0* (27)	0.0* (14)	0.0* (14)	13.0* (23)	23.1* (13)	0.0* (1)	0.0* (1)	I	0.0* (1)	I	114	I
Other Paid Cash	0.0* (24)	0.0 (110)	0.0 (143)	3.1 (96)	0.0 (78)	9.3 (43)	27.3* (11)	0.0* (3)	0.0* (1)	0.0* (4)	I	513	I
Other Employed	0.0* (28)	3.2 (63)	1.2 (85)	3.5 (86)	8.8 (68)	33.3 (51)	42.9* (14)	50.0* (2)	0.0* (1)	70.0* (10)	20.0* (5)	413	45.2
Self Employed	0.0 (214)	0.0 (462)	0.4 (515)	1.6 (327)	1.8 (327)	9.4 (286)	29.4 (85)	13.6* (22)	25.0* (16)	32.4 (37)	47.4* (19)	2485	47.9
Did Not Work	0.2 (423)	1.7 (472)	0.4 (493)	2.9 (341)	4.1 (219)	7.0 (158)	16.2 (37)	0.0* (6)	43.8* (4)	30.0* (16)	2179 (14)	48.1	

* Estimation based on less than 30 observations
 () Number of observations
 I Estimation impossible

CHAPTER 5

CONTRIBUTION OF THE MAIN INTERMEDIATE FERTILITY VARIABLES TO OVERALL FERTILITY LEVELS AND DIFFERENTIALS

5.1. Introduction

In the previous sections, an attempt was made to describe in some detail, the role played by the proximate determinants at each stage of a woman's reproductive life-time. In this section, the fertility-reducing impact of three major proximate determinants – (i) marriage, (ii) contraception and (iii) post-partum infecundity – are examined together. The objective is to unravel the mechanisms that are at play in producing current overall levels of fertility and to assess the relative role of each of these variables to overall of fertility levels. To structure the analysis, the multiplicative model proposed by Bongaarts (1978, 1982) is adopted. A brief exposition of the model is required to provide the necessary background for the issues discussed in this chapter.

5.2. A Short Presentation of Bongaarts' Model

The model expresses the actual level of total fertility rate (TFR) as the outcome of the fertility-reducing effects of the main proximate determinants on a total fecundity rate (TF). The TF measures the total number of live births occurring to women who are exposed from age 15 to 50 to a regime of natural fertility (no contraception), with artificial infant feeding (minimal lactational amenorrhoea) and no postpartum abstinence. In the absence of such fertility reducing factors, the total fecundity rate (TF) would depend on the frequency of sexual intercourse and on the patterns of biological sterility and sub-fecundity. The TF for populations that are not affected by the latter factor and in which frequency of intercourse is normal is put by Bongaarts at 15.3 children.

The TF is lowered to the level of natural marital fertility rate (TNFR) by the child-spacing variables, amenorrhoea and abstinence. The index of overall postpartum non-susceptibility, which measures this lowering effect, is estimated as the ratio of the average birth intervals without and with lactation/abstinence:

$$C_i = 20 / (18.5 + i) \quad (1)$$

In this equation, a duration of 20 months is assumed to be the mean birth interval without spacing while the interval with spacing can be obtained as

$$(20 - 1.5) + i$$

where

1.5 months represent the minimum of lactational amenorrhoea, and
i is the average duration (in months) of the overall non-susceptible period.

Thus the index C_i reflects the relative loss of potential fertility due to extension of the post-partum non-susceptible period by lactation-related amenorrhoea and abstinence. Therefore,

$$TNFR = TF \times C_i \quad (2)$$

The TNFR itself is reduced to the level of the total marital fertility rate (TMFR) by the fertility inhibiting effect of contraception, C_c . The value of C_c depends on the use and effectiveness of contraception. The index is unity if no contraception is used and zero if all fecund women use 100% effective contraception. The index is estimated as

$$C_c = 1 - 1.08ue \quad (3)$$

where

- u = average proportion of currently married women currently using contraception;
- e = average contraceptive effectiveness (the proportionate reduction in the monthly probability of conception produced by contraception).

The factor 1.08 adjusts for users who may no longer be fertile. If this index of loss of potential fertility due to contraceptive use is added to the chain, we obtain

$$TMFR = TF \times C_i \times C_c \quad (4)$$

The TMFR is in turn reduced to total fertility rate (TFR) by the proportion of women who are not exposed as a result of non-marriage. This index of nuptiality, C_m , equals zero if nobody is married and unity if all women are married during the entire reproductive period. Adding C_m to the chain, we have:

$$TFR = TF \times C_i \times C_c \times C_m \quad (5)$$

For our purpose this step completes the chain. The equation ignores the index of abortion, C_a , which Bongaarts included in his original formulation. The omission is justified by the non-availability of reliable data on the prevalence of induced abortion and by the presumably low level of induced abortion among Nigerian women.

It should be noted that the model assumes a fixed ordering of effects: C_i modifies TF; C_c has an impact on TNMF and C_m transforms the TMFR. In other words, C_m does not measure the amount of the TF avoided through non-exposure, it measures the amount of the TMFR not realized through non-marriage.

Each of the indices in the original Bongaarts' model can be decomposed into two or more components to produce a much more detailed framework. In the extended model, the following changes are effected:

1. C_m is split into two indices:
 - (a) C_{em} , which reflects the effect of delayed entry into marriage and of the proportion never married. C_{em} is obtained as

$$TFR/TEMFR$$

where

TEMFR is the total ever-married fertility rate.

- (b) C_{dis} , which reflects the effect of marital dissolution, is computed as

$$TEMFR/TMFR$$

2. C_c is subdivided into three distinct elements: C_{ster} , C_{tab} and C_{oth} , each of which estimates respectively the impact of sterilization, terminal abstinence and other forms of contraception. In determining the loss of exposure attributable to each of these indices, sterilization and terminal abstinence are assumed to be 100% effective while the effectiveness of other forms of contraceptive is the average effectiveness of each group of method. The indices are obtained as:

$$C_{ster} = 1 - 1.08U_{ster} \quad (6)$$

$$C_{tab} = 1 - (1.08U_{tab}/C_{ster}) \quad (7)$$

$$C_{oth} = 1 - 1.08 [\sum u(m)e(m)] / C_{ster} \times C_{tab} \quad (8)$$

where

U_{ster} is the proportion of currently married sterilized women;

U_{tab} is the proportion of currently married women who are practising contraception;

$U(m)$ and $e(m)$ are respectively the proportions using other methods of contraception and the average effectiveness of each group of methods.

3. C_i is decomposed into two elements: C_{ppamen} and C_{ppab} which respectively evaluate the effect of extended lactational amenorrhoea and the effect of post-partum abstinence beyond the period of postpartum amenorrhoea. They are estimated as:

$$C_{ppamen} = 20/(18.5 + i) \quad (9)$$

$$C_{ppab} = (18.5 + i)/(18.5 + i + j) \quad (10)$$

where

i is the mean duration of post-partum amenorrhoea measured in months for a sample of births;

j is the average number of months by which the combined postpartum period (amenorrhoea or abstinence) exceeds the period of postpartum amenorrhoea.

The extended Bongaarts formulation is thus:

$$TFR = TF \times (C_{em} \times C_{diss}) \times (C_{ster} \times C_{tab} \times C_{oth}) \times (C_{ppam} \times C_{ppab}) \quad (11)$$

It should be noted that C_a has also been omitted in this model.

5.3. Application of the Bongaarts Model to the NFS data

In applying the Bongaarts framework to the Nigerian data, one is faced with the problem of measurement of each of the variables involved in the estimation of the components of the model. Some of the problems have already been discussed when computing two of the input variables required for the estimation of the components. These are the proportion of married women currently using contraception (u) and the mean duration of the postpartum non-susceptible period for all births regardless of the survival status of the child (i). In what follows, the remaining inputs of the model are examined.

5.3.1. Fertility Rates

Both the TFR and TMFR are calculated conventionally as

$$5 \sum_{15}^{49} f(a)$$

where the $f(a)$ are age-specific (overall or marital) fertility rates for five year age groups between ages 15 and 49. The rates are calculated for the five-year period preceding the survey. In other words the rates reflect fertility during the period August 1977 and September 1982.

The adoption of the period fertility measure has been dictated by both technical and practical reasons. The latter pertains to the link between the fertility measures and the timing of measurement of the variables. These variables relate to the characteristics of women at the time of the survey. Although these characteristics are not static, most of them are persistent enough over time, to make it reasonable to assume little change over the few years immediately preceding the survey. Hence the use of some of these variables in the analysis of fertility in the five-year period preceding the survey is probably on surer footing than the use of these variables in the analysis of cumulative or life-time fertility.

The issue of cumulative fertility is closely associated with the technical problem as its result is affected by the inability of women to report accurately events which occurred in the distant past. The tendency for older women to misreport the number of their children ever born has already been noted in section one. Such a misreporting of events which spans the whole reproductive life of a woman cannot but adversely affect indices based either solely or partly on cumulative fertility. One such index is the fertility rate computed with the Brass technique.

Two measures of the TFR (i.e. one based on Brass technique and one based on births in the last five years) are compared in Tables 98-100. The TFR based on Brass technique is, on average, about four-fifths of a child higher than the TFR based on the conventional method using births in the last five years. The difference is smallest for women residing in Cross-River (0.03 births) followed by those in Rivers (0.18) Kaduna (0.30) and Niger (-0.32). The greatest difference occurs in Plateau State with an incredible difference of nearly five births. In five other states and among women with more than eight years of education differences of at least two births are recorded. These large differences can be attributed mainly to over-reporting of children ever-born and provide justification for using period fertility rates which form the basis of subsequent discussion and analysis.

Figure 33 indicates the distribution of the TFR. The most striking feature of the map is the large range, with the TFR ranging from about 5.00 to 8.50. The area of highest fertility appears to be in Rivers and Benue States. A ridge of high fertility extends from Kwara in the west to the western borders of Gongola and Borno in the east with an outlier in Ogun state of western Nigeria. Medium levels of the TFR (6.00 - 6.99) are found to the northwest and the south of the country. The lowest fertility in the country is in the eastern borderland states of Borno and Gongola where TFR is less than 6.00. The relatively low fertility in this region is consistent with the low fertility in the neighbouring northern Cameroon and the Niger Republic and with the higher incidence of sub-fecundity in the North-East. Finally, two islands of low fertility stand out: Imo and

Table 98

Comparison of Fertility Indices Calculated by Different Methods by State

TFR				TMFR		TF	
1981/82				1952/53	1981/82		
Brass Technique	Conventional (period)	Difference between index obtained by Brass and conventional method				Direct Method	Indirect Method
Anambra	8.50	6.67	1.83	7.1	8.08	16.3	15.3
Bauchi	10.24	7.67	2.57	6.4	7.71	14.9	13.4
Bendel	8.31	6.65	1.66	7.5	7.82	13.7	13.4
Benue	7.93	8.49	-0.56	6.2	9.12	17.7	14.3
Borno	6.67	5.97	0.70	5.8	6.54	11.7	9.8
Cross-River	6.65	6.62	0.03	7.6	8.28	14.3	14.5
Gongola	5.33	5.76	-0.43	7.1	6.08	10.6	9.3
Imo	6.19	5.13	1.06	8.1	6.83	11.5	15.1
Kaduna	7.19	6.89	0.30	6.9	7.09	13.1	9.9
Kano	3.88	6.40	-2.52	6.4	6.68	13.7	9.6
Kwara	10.00	7.52	2.48	6.7	8.28	17.9	15.9
Lagos	10.17	6.69	3.48	6.0	8.06	14.5	14.5
Niger	5.79	6.11	-0.32	5.9	6.13	13.4	8.2
Ogun	6.87	7.52	-0.65	6.8	8.48	17.4	15.0
Ondo	8.38	5.84	2.54	7.9	6.87	14.2	13.5
Oyo	6.74	6.09	0.65	8.9	6.95	13.8	13.8
Plateau	12.70	7.81	4.89	6.3	8.34	17.3	12.3
Rivers	8.67	8.49	0.18	7.2	9.52	15.9	15.9
Sokoto	7.18	6.27	0.91	7.1	6.41	14.5	11.6
Nigeria	7.21	6.37	0.84	7.0	7.27	13.8	12.5

Table 99

Comparison of Fertility Indices Calculated by Different Methods by Place and Region

	TFR			TMFR	TF	
	Brass Technique	Conventional (period)	Difference between index obtained by Brass and Conventional methods		Direct method	Indirect method
Northeast						
Rural	7.89	6.74	1.15	7.12	13.4	10.2
Urban	5.58	6.56	-0.98	7.34	13.2	10.5
Northwest						
Rural	5.61	6.46	-0.85	6.67	14.0	9.6
Urban	7.26	6.91	0.35	7.20	14.0	9.4
Southeast						
Rural	7.70	6.33	1.37	8.01	14.5	14.3
Urban	4.27	5.09	-0.82	6.49	10.1	12.9
Southwest						
Rural	9.12	6.83	2.29	7.64	15.7	12.4
Urban	7.39	6.38	1.01	7.49	14.2	13.6

Table 100
Comparison of Fertility Indices Calculated by Different Methods by Subgroups

	TFR		Difference between index obtained by Brass and conventional method	First country Report	TMFR		TF	
	Brass Technique	Conventional (period)					Direct method	Indirect method
Type of Place of Residence								
Rural	7.39	6.44	0.95	6.39	7.29	14.0	12.5	
Urban	6.65	5.96	0.69)	6.16	7.04	11.1	12.1	
Large urban	6.99	6.83	0.16)		7.77	14.0	12.9	
Literacy of Woman								
Can read	7.80	6.38	1.42		8.00	12.3	14.5	
Cannot read	6.73	6.65	0.13		7.08	13.9	12.2	
Literacy of Partner								
Can read	6.31	7.61	-1.30		7.77	14.2	14.2	
Cannot read	6.18	6.79	-0.61		6.94	13.7	11.7	
Religion								
Catholic	7.22	5.93	1.29	5.81	7.30	13.2	14.8	
Protestant	8.37	6.74	1.63	6.73	8.23	15.6	15.0	
Other christian	7.81	6.62	1.19	6.47	8.12	14.2	14.1	
Moslem	6.63	6.51	0.12	6.49	6.90	13.7	10.7	
Traditional	7.78	6.86	0.92	6.48 ¹	7.33	14.0	14.1	
Years of Educ., Woman								
0 Years	6.69	6.70	-0.01	6.41 ²	7.08	13.8	12.1	
1-4 years	8.63	7.00	1.63	6.75	7.95	15.2	15.2	
5-7 "	7.95	7.67	0.28	6.02	8.96	15.6	15.2	
8+ "	6.62	4.23	2.39	6.64	6.19	10.4	12.6	
Region of Residence								
Northeast	7.32	6.71	0.61		7.16	13.4	11.3	
Northwest	5.83	6.50	-0.67		6.72	13.9	9.7	
Southeast	7.36	6.17	1.19		7.82	13.9	15.1	
Southwest	8.20	6.57	1.63		7.57	14.8	14.2	
Years of Educ. Partner								
0 Years	6.77	6.80	-0.03		6.81	13.4	12.0	
1-4 years	5.82	7.66	-1.84		8.03	14.2	14.8	
5-7 "	5.99	7.85	-1.86		8.00	14.5	14.4	
8+ "	5.13	7.34	-2.21		7.57	13.4	14.4	

1 includes "others"

2 represents mean of no education (6.58) and Koranic education (6.76)

Table 100 Contd.

	TFR			TMFR	TF	
	Brass Technique	Conventional (period)	Difference between index obtained by Brass and Conventional method	First country Report	Direct method	Indirect method
<hr/>						
Last Work Status, Woman						
Family farm	7.96	7.19	0.77	7.69	14.7	13.9
Family employed	7.08	5.62	1.46	6.11	11.2	11.1
Other paid cash	4.46	5.59	1.13	6.87	11.3	13.5
Other employed	5.84	4.99	0.85	6.11	11.8	10.0
Self-employed	6.35	7.14	-0.79	7.68	15.1	12.7
Did not work	6.94	6.03	0.91	7.03	13.3	10.7

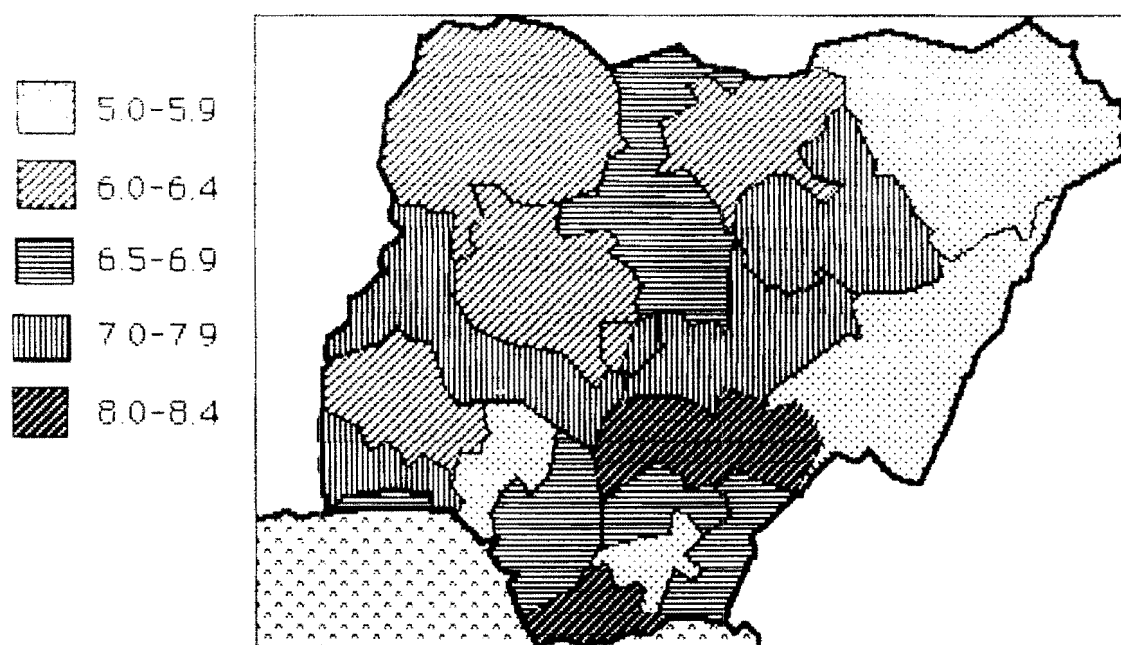


Figure 33. Total Fertility Rates by State

Ondo states. There is no obvious reason why fertility in Imo should be so much lower than in Anambra (the other Igbo state) and the same holds for Ondo when compared to Ogun or Oyo (Yoruba states). The only explanation is substantial measurement error.

The current regional fertility pattern within the country largely reflects the stage of fertility transition reached in the Federation. A comparison of the TFR's obtained in 1952/53 (col.4, table 98) with those obtained in 1981/82 (col.2, table 98) shows that at one extreme are ten states (seven in the north and three in the south) where fertility levels are not only high but also appear to be rising. This characteristic of pre-transitional fertility is a function of declines in breast-feeding, post-partum abstinence and sterility. The remaining nine states had experienced declines in fertility with appreciable declines of over two births being shown in Imo, Ondo and Oyo states. However, it is difficult to compare these results as there are no data by state for periods intermediate between 1952/53 and 1981/82. A set of time-series data is available only for the major regions of the country. Differences in the definition of regions at different dates, together with different methodological approaches impair a meaningful analysis of trends in the reproductive behaviour of different regions of the Federation. However, a comparison of the TFR at the national level suggests that the country has experienced no major changes in fertility level in the recent past. Thus, the decline inferred from the NFS for a few states should not be allowed to convey the false impression that a fertility decline is underway in the country.

The variation in fertility according to sub-groups is recorded in table 100 and further emphasizes the high level of fertility in the country. In no subgroup is TFR and TMFR less than 4 and 6 births respectively. This relatively low rate is recorded among women with the highest level of education who not only marry later than women with lower levels of education, but also use more effective contraceptives. But the relationship between education and fertility is not monotonic. The moderately educated women appear to have higher fertility than women with either less or more education. This situation is explained by the practice of women with moderate levels of education to breastfeed for shorter durations than the least educated women and to use contraception less frequently when compared to the best educated women. The pattern exhibited by effects of husband's education is completely different: wives of the most educated husbands report higher fertility than wives of husbands with no schooling but slightly lower than the wives of primary graduates.

Fertility levels are higher in rural areas where marriage duration is longer than in urban areas. Rural-urban differences are greatest in the southeast where the urban TFR is 5.1 and the rural TFR is 6.3 (Table 99) and disappear in the north-west where fertility is slightly higher in urban areas. The latter type of association is observed when urban areas are categorized according to size of urban centres. Women resident in large towns have the highest fertility rate while fertility is higher among rural women than among women living in small towns. Since age at first marriage is highest in small towns and lowest in villages, the pattern suggests differential intensity of fertility during marriage. The difference between the TMFR and the TFR shows that the intensity of fertility is lowest in rural areas and highest in small towns. The most plausible explanation for this pattern is the breakdown of traditional birth-spacing mechanisms in urban areas.

Unlike variations by size of place of residence, regional patterns show, rather surprisingly, very little variation in TFR although variations in TMFR are relatively large. The highest TFR (6.7) recorded for the northeast is only half a birth higher than the lowest TFR (6.2) obtained for the southeast. This pattern is rather surprising given the socio-economic factors still differentiating regions in terms significant for fertility. Regions of the country are dissimilar in education and income and in attitude to contraceptive use. The pattern suggests that the regions attain nearly the same TFR via different paths. By contrast, the difference between the lowest and the highest TMFR recorded for northwest and southeast respectively is more than one birth. This pattern seems consistent with the intrinsic cultural traits still differentiating the regions. In the north where procreation outside marriage is insignificant the overall level of fertility is determined by both the fertility of married women and the proportion married among women of childbearing ages. The latter has been shown to favour the north. It is therefore not a surprise that the difference between TFR and TMFR is lowest in the two northern regions.

The differentials by religion are intriguing. The TFR suggest a distinction in fertility behaviour between Catholics and all other religions. Catholic women have experienced the lowest fertility, with an average of .6, .7, .8 and .9 fewer births than moslems, other christians, protestants and traditional women respectively. The low TFR of Catholics are in some measure a function of their education and economic characteristics. As shown in section one, Catholic educational levels and economic status are higher than those of other religious groups. Among women of other religious faiths, there seems to be no definite pattern. Indeed, the TFR-values are not markedly different among them, suggesting that identical TFR's can be attained by different methods. An important source of divergence is the age at marriage. This is reflected in TMFR-values which exhibit other dissimilarities across religious groups.

The relationship between women's employment and fertility shows that women employed in the modern sector have lower fertility rates than those women employed in the traditional sector of the economy. For example, women employed by others (that is those in paid employment) average two children fewer than women employed on family farms.

5.3.2. Contraceptive Effectiveness (e)

The other major input is the average contraceptive effectiveness (weighted average of the effectiveness of the different methods used) represented by (e). As noted in section 3, the practice of contraception in the country is rare while the few users employ different methods of varying effectiveness. The effectiveness levels by method are usually calculated from one-year failure rates using such formulae as that proposed by Ryder (1973). In the absence of the required data for such a calculation in Nigeria, values for use-effectiveness were based on two factors. The first is the simplifying assumption that effectiveness levels deviate a little for those obtained from developed countries where reliable data are available. The second is the ability of Nigerians to exercise the type of discipline required in the use of some inefficient methods - withdrawal, abstinence, rhythm and the douche - which are generally harder to use than the efficient methods. In computing the average contraceptive effectiveness for the country, therefore, provisions must be made for the motivation of the average Nigerian user. Such provisions imply that the effectiveness of some of the contraceptive methods available for developed

countries must be modified according to the cultural background which shapes the motivation of users.

In the light of the foregoing, contraceptive methods have been divided into five categories of effectiveness. The first category consists of the most effective method which carries a score of unity. It is only the non-reversible sterilization that falls into this category in the Nigerian case. The second group of methods, assigned a score of 0.95, consists of modern contraceptions which, though highly effective, are susceptible to human errors. In this group are IUD and hormonal methods. A score of 0.75 allotted to the third group of methods also reflects the high degree of susceptibility of the methods in this group to human errors especially in a society where desired family size is still very large. The methods in this category consists of the condom, the diaphragm, tampon, sponge, foam, tablets, jelly and cream. The use of douche, rhythm, withdrawal and abstinence fall into the fourth category allocated a score of 0.60. Experience has shown that Nigerian couples, particularly men, do not have the strong commitment which this group of methods demands. Furthermore, the reproductive sophistication of the Nigerian population is not high enough to make them possess the essential knowledge of the biological facts of conception - the time during the ovulatory cycle when a woman is most likely to become pregnant required for successful use of these methods.

The score for the last group of techniques has been set at zero. This category is made up of folk methods, the resort to which, although widespread among Nigerian women, is the most inefficient method of fertility prevention. To all intent and purposes none of these methods does actually offer any protection against pregnancy if a couple engages in sexual relations. The only efficacy they produce, as pointed out in section 3, is that of creating a psychological barrier which may put off husbands or which may serve as a mental support for women during periods of abstinence. Their effect may thus be the lowering of coital frequency.

It must be stressed, however, that the values of e are of little consequence in the Nigerian case. This sequel is due to the very small values of u themselves.

The results obtained for contraceptive use-effectiveness ($u.e$) using the above measurement techniques show that at the national level the effectiveness of contraception is as low as .031. Table 101 reveals that the position varies considerably among the states with Kwara recording the highest value of .094 and four states - Bauchi, Gongola, Niger and Sokoto - recording no contraceptive protection at all. Among the subgroups (Table 103), the chief factor determining the level of use-effectiveness seems to be degree of modernization. The higher the modernization attribute of women or of the area where the women are found, the higher the level. Thus use-effectiveness not only varies positively with size of place of residence and level of education but also declines sharply from south to north and as employment status becomes more and more traditional. Turning to religious differences we see that the level of efficacy is highest among Catholics followed by Protestants, other Christians, traditional religionists and Moslems in that order.

From the indices discussed in this sub-section - TFR, TMFR, e - and those treated in section 3 - u and i - three components of the Bongaarts' model are estimated. Attention is now focussed on an examination of the ways in which these components have been obtained and

how their fertility reducing impact varies across the country and among subgroups.

5.3.3 Index of Marriage (C_m)

The values of C_m have been estimated as the ratio between independently measured values of the TFR and the TMFR. Hence

$$C_m = \frac{TFR}{TMFR} \quad (12)$$

The indices of marriage are given in column six of Tables 101 through 103. A regional contrast in C_m is apparent between the north where the fertility – depressing effect of nuptiality is weak and the south where the average effect is stronger. This regional generalization overlies some intra-regional variations. Within the north, there is a clear-cut distinction between the predominantly far north where loss of union exposure seems to exert the least constraint and the middle belt where the non-muslim populations of the north are concentrated.

Differentials across subgroups also reflect the age of marriage noted in section 2. Thus, although a constant average association of C_m with urbanity is not observed, the pattern conforms to the distribution of age at marriage. While the strength of the marriage factor is greater in urban than in rural settlements, large urban settlements have an index value close to that found in the village. On the other hand, the fertility-reducing effect of marriage increases monotonically with ascending levels of education. Within the religious groups, the largest and the smallest fertility reducing effects of marriage are found among the Catholics and the Moslems respectively. Finally, the general expectation that the values of C_m will be high among women employed in the traditional sector of the economy is fulfilled.

In the extended Bongaarts' model, C_m is split into two components: C_{em} and C_{diss} . These two indices, which distinguish the loss of union exposure due to delayed marriage or celibacy from that due to union dissolution (separation/divorce or widowhood), are tabulated in columns ten and eleven of tables 104, 105 and 106. The most conspicuous feature of the columns is the uniform nature of the minimal impact on fertility of C_{diss} . By contrast C_{em} is dispersed, recording a range of about .20. It appears that the loss of union exposure is attributable mainly to the delay in first union formation. The insignificant impact of C_{diss} on the fertility levels is not evidence of marriage stability. Rather, it is a reflection of the high incidence of remarriage.

Available evidence suggests that the rates of both marital dissolution and remarriage vary considerably among states and subgroups. Table 107 reveals that the percentage of women whose first marriage ended in divorce or by the death of their husbands is 9.8 and 5.2 respectively. For women married for over twenty years, the percentage of divorce and widowhood is 15.4 and 12.1 respectively. Particularly noteworthy in the table is the absence of a sharp north-south dichotomy. Both the highest and the lowest rates of first marriage dissolution are found in the northern states. States with particularly high rates (over 20%) are Anambra, Ogun, Rivers (in the south) Borno and Kaduna (in the north). In nearly all the states of the federation, more than half of the dissolution rate is contributed by divorce. Given that the timing pattern of divorce

Table 10 : Indices of the Proximate Determinants and of their Impact on Fertility (Bongaarts model) : States

	TFR	TMFR	u	u.e	i	C _m	C _c	C _i
Anambra	6.67	8.08	.198	.068	21.3	.825	.985	.503
Bauchi	7.67	7.71	.000	.000	20.0	.995	1.000	.519
Bendel	6.65	7.82	.247	.082	15.8	.850	.978	.583
Benue	8.49	9.12	.005	.008	20.3	.931	1.000	.515
Borno	5.97	6.54	.006	.006	17.3	.913	1.000	.559
Cross-River	6.62	8.28	.180	.087	15.6	.800	.983	.587
Gongola	5.76	6.08	.000	.000	16.3	.947	1.000	.575
Imo	5.13	6.83	.055	.059	15.0	.751	.996	.597
Kaduna	6.89	7.09	.081	.027	20.4	.972	.998	.514
Kano	6.40	6.68	.063	.023	22.3	.958	.998	.490
Kwara	7.52	8.28	.110	.094	24.3	.908	.989	.467
Lagos	6.69	8.06	.084	.072	17.3	.830	.993	.559
Niger	6.11	6.13	.000	.000	25.2	.997	1.000	.458
Ogun	7.52	8.48	.018	.007	22.5	.887	1.000	.488
Ondo	5.84	6.87	.049	.035	22.7	.850	.999	.485
Oyo	6.09	6.95	.025	.023	21.2	.876	.999	.504
Plateau	7.81	8.34	.034	.009	23.0	.936	1.000	.482
Rivers	8.49	9.52	.100	.061	14.8	.982	.993	.601
Sokoto	6.27	6.41	.034	.000	26.9	.978	1.000	.441
Nigeria	6.37	7.27	.062	.031	19.5	.876	.998	.526

Table 101 : Indices of the Proximate Determinants and of their Impact on Fertility (Bongaarts Model) : Place and Region

	TFR	TMFR	u	a.e	i	C _m	C _c	C _i
<u>Northeast</u>								
Rural	6.74	7.12	.005	.002	19.2	.947	1.000	.531
Urban	6.56	7.34	.012	.013	17.4	.894	1.000	.557
<u>Northwest</u>								
Rural	6.46	6.67	.049	.013	23.4	.969	.999	.477
Urban	6.91	7.20	.080	.038	20.2	.960	.997	.517
<u>Southeast</u>								
Rural	6.33	8.01	.130	.068	17.3	.790	.990	.559
Urban	5.09	6.49	.100	.057	12.3	.784	.994	.649
<u>Southwest</u>								
Rural	6.83	7.64	.069	.040	22.4	.894	.997	.489
Urban	6.38	7.49	.083	.061	19.2	.852	.995	.531
<u>Rural</u>								
Northeast	6.74	7.12	.005	.002	19.2	.947	1.000	.531
Northwest	6.46	6.67	.049	.013	23.4	.969	.999	.477
Southeast	6.33	8.01	.130	.068	17.3	.790	.990	.559
Southwest	6.83	7.64	.069	.040	22.4	.894	.997	.489
<u>Urban</u>								
Northeast	6.56	7.34	.012	.013	17.4	.894	1.000	.557
Northwest	6.91	7.20	.080	.038	20.2	.960	.997	.517
Southeast	5.09	6.49	.100	.057	12.3	.784	.994	.649
Southwest	6.38	7.47	.083	.061	19.2	.852	.995	.531

Table 103 : Indices of the Proximate Determinants and of their Impact on Fertility (Bongaarts Model) : Subgroups

Subgroups	TFR	TMFR	u	a.e	i	C _m	C _c	C _i
<u>Type of Place of Residence</u>								
- Rural	6.44	7.29	.060	.027	19.9	.883	.998	.521
- Urban	5.96	7.04	.056	.030	18.7	.847	.998	.538
- Large Urban	6.83	7.77	.088	.064	17.2	.879	.994	.560
<u>Literacy Status of Woman</u>								
- Can Read	6.38	8.00	.106	.076	16.3	.911	.991	.575
- Cannot Read	6.65	7.08	.051	.021	20.7	.939	.999	.510
<u>Literacy Status of Partner</u>								
- Can Read	7.61	7.77	.095	.061	17.8	.979	.994	.551
- Cannot Read	6.79	6.94	.040	.013	21.0	.978	.999	.506
<u>Religion</u>								
- Catholic	5.93	7.30	.127	.085	17.3	.812	.988	.559
- Protestant	6.74	8.23	.075	.065	19.3	.819	.995	.529
- Other Christian	6.62	8.12	.073	.040	16.4	.815	.997	.573
- Moslem	6.51	6.90	.035	.012	21.1	.943	1.000	.505
- Traditional	6.86	7.33	.116	.022	22.1	.936	.997	.493
<u>Years of Education of Woman</u>								
- 0 yrs	6.70	7.08	.048	.020	20.6	.946	.999	.512
- 1-4 yrs	7.00	7.95	.093	.059	19.5	.881	.994	.526
- 5-7 yrs	7.67	8.96	.102	.051	16.1	.856	.994	.578
- 8+ yrs	4.23	6.19	.192	.175	13.9	.683	.964	.617
<u>Region</u>								
- Northeast	6.71	7.16	.006	.004	18.9	.937	1.000	.535
- Northwest	6.50	6.72	.054	.017	22.9	.967	.999	.483
- Southeast	6.17	7.82	.127	.067	16.8	.789	.991	.567
- Southwest	6.57	7.57	.077	.051	20.6	.868	.996	.512
<u>Years of Education of Partner</u>								
- 0 yrs	6.80	6.81	.040	.013	20.7	.999	.999	.510
- 1-4 years	7.66	8.03	.109	.028	16.8	.954	.997	.567
- 5-7 years	7.85	8.00	.089	.067	17.6	.981	.994	.554
- 8+ years	7.34	7.57	.126	.096	16.6	.970	.987	.570
<u>Last Work Status of Woman</u>								
- Family Farm	7.19	7.69	.078	.035	19.7	.935	.997	.524
- Family Employed	5.62	6.11	.118	.109	17.8	.920	.986	.551
- Other Paid Cash	5.59	6.87	.122	.079	14.2	.814	.990	.612
- Other Employed	4.99	6.11	.041	.010	20.1	.817	1.000	.518
- Self Employed	7.14	7.68	.062	.028	20.7	.930	.998	.510
- Did Not Work	6.03	7.03	.035	.019	19.3	.858	.999	.529

Table 104 : Indices of the Proximate Determinants of Fertility and of their Impact on Fertility (Extended Model)

	TFR	TEMFR	TMFR	U _{ster}	U _{tab}	U _{oth}	e _{oth}	i	j	C _{em}	C _{diss}	C _{ster}	C _{tab}	C _{oth}	C _{ppamen}	C _{ppab}
Anambra	6.67	7.60	8.08	.000	.035	.143	.049	15.8	5.5	.878	.941	1.000	.962	.992	.583	.862
Bauchi	7.67	7.70	7.71	.000	.007	.000	.000	13.4	6.6	.996	.999	1.000	.992	1.000	.627	.829
Bendel	6.65	7.68	7.82	.000	.009	.194	.055	8.3	7.5	.866	.982	1.000	.990	.988	.746	.781
Benue	8.49	8.92	9.12	.000	.007	.004	.005	16.2	4.1	.952	.978	1.000	.992	1.000	.576	.894
Borno	5.97	6.38	6.54	.000	.000	.005	.003	14.2	3.1	.936	.976	1.000	1.000	1.000	.612	.913
Cross-River	6.62	8.14	8.28	.000	.028	.126	.047	12.6	3.0	.813	.983	1.000	.970	.993	.643	.912
Gongola	5.76	5.96	6.08	.000	.045	.000	.000	13.0	3.3	.966	.980	1.000	.951	1.000	.635	.905
Imo	5.13	6.56	6.83	.002	.021	.038	.036	11.7	3.3	.782	.960	.998	.977	.998	.662	.901
Kaduna	6.89	7.03	7.09	.001	.014	.061	.015	16.3	4.1	.980	.992	.999	.985	1.000	.583	.882
Kano	6.40	6.61	6.68	.000	.022	.049	.017	17.2	5.1	.968	.990	1.000	.976	.999	.560	.875
Kwara	7.52	8.27	8.28	.000	.078	.077	.065	16.5	7.8	.909	.999	1.000	.916	.994	.571	.818
Lagos	6.69	7.95	8.06	.000	.044	.065	.045	10.9	6.4	.842	.986	1.000	.952	.997	.680	.821
Niger	6.11	6.12	6.13	.000	.017	.000	.000	14.8	10.4	.998	.998	1.000	.982	1.000	.601	.762
Ogun	7.52	8.36	8.48	.000	.016	.016	.005	15.6	6.9	.900	.986	1.000	.983	1.000	.587	.832
Ondo	5.84	6.79	6.87	.000	.011	.015	.021	15.8	6.9	.860	.988	1.000	.988	1.000	.583	.833
Oyo	6.09	6.83	6.95	.009	.034	.012	.016	11.6	9.6	.892	.983	.990	.963	1.000	.664	.758
Plateau	7.81	8.29	8.34	.000	.000	.025	.006	8.3	14.7	.942	.994	1.000	1.000	1.000	.746	.646
Rivers	8.49	9.34	9.52	.005	.006	.069	.032	12.0	2.8	.909	.981	.995	.993	.998	.656	.916
Sokoto	6.27	6.40	6.41	.000	.033	.025	.000	17.1	9.8	.980	.998	1.000	.964	1.000	.562	.784
Nigeria	6.37	7.11	7.27	.001	.022	.047	.020	13.9	5.6	.896	.978	.999	.976	.999	.617	.853

Table 105 : Indices of the Proximate Determinants of Fertility and of their Impact on Fertility (Extended Model)

	TFR	TEMFR	TMFR	U _{ster}	U _{tab}	U _{oth}	\bar{e}_{oth}	i	j	C _{em}	C _{diss}	C _{ster}	C _{tab}	C _{oth}	C _{ppmen}	C _{ppab}
<u>Type of Place of Residence</u>																
- Rural	6.44	7.12	7.29	.000	.022	.045	.018	14.3	5.6	.904	.977	1.000	.976	.999	.610	.854
- Urban	5.96	6.91	7.04	.003	.013	.040	.022	13.1	5.6	.863	.982	.997	.986	.999	.633	.849
- Large Urban	6.83	7.60	7.77	.000	.034	.070	.044	11.3	5.9	.899	.978	1.000	.963	.997	.671	.835
<u>Literacy Status of Woman</u>																
- Can Read	6.38	7.72	8.00	.000	.015	.080	.047	10.8	5.5	.826	.965	1.000	.984	.996	.683	.842
- Cannot Read	6.65	6.95	7.08	.001	.023	.038	.014	15.0	5.7	.957	.982	.999	.975	.999	.597	.855
<u>Literacy Status of Partner</u>																
- Can Read	7.61	7.61	7.77	.001	.019	.072	.038	12.1	5.7	1.000	.979	.999	.979	.997	.654	.843
- Cannot Read	6.79	6.79	6.94	.001	.023	.030	.009	15.6	5.4	1.000	.978	.999	.975	1.000	.587	.863
<u>Religion</u>																
- Catholic	5.93	7.13	7.30	.005	.022	.088	.050	12.2	5.1	.832	.977	.995	.976	.995	.651	.858
- Protestant	6.74	7.97	8.23	.001	.015	.058	.045	13.8	5.5	.846	.968	.999	.984	.997	.619	.854
- Other Christian	6.62	7.84	8.12	.001	.021	.054	.027	10.9	5.5	.844	.966	.999	.977	.998	.680	.842
- Moslem	6.51	6.82	6.90	.000	.023	.026	.008	15.3	5.8	.955	.988	1.000	.975	1.000	.592	.854
- Traditional	6.86	7.15	7.33	.000	.018	.086	.016	16.5	5.6	.959	.975	1.000	.981	.998	.571	.862
<u>Years of Education of Woman</u>																
- 0 yrs	6.70	6.93	7.08	.001	.024	.035	.013	15.0	5.6	.967	.979	.999	.974	.999	.597	.857
- 1-4 yrs	7.00	7.30	7.95	.001	.019	.071	.034	13.2	6.3	.959	.918	.999	.979	.997	.631	.834
- 5-7 yrs	7.67	8.52	8.96	.000	.008	.077	.034	11.1	5.0	.900	.951	1.000	.991	.997	.676	.855
- 8+ yrs	4.23	6.03	6.19	.000	.012	.134	.098	8.8	5.1	.701	.974	1.000	.987	.986	.733	.843
<u>Region of Residence</u>																
- Northeast	6.71	7.01	7.16	.000	.015	.005	.002	13.4	5.5	.957	.979	1.000	.984	1.000	.627	.853
- Northwest	6.50	6.66	6.72	.000	.021	.041	.011	16.6	6.3	.976	.991	1.000	.977	1.000	.570	.848
- Southeast	6.17	7.53	7.82	.001	.023	.089	.041	13.1	3.7	.819	.963	.999	.975	.996	.633	.895
- Southwest	6.57	7.51	7.57	.002	.032	.057	.035	13.1	7.5	.875	.992	.998	.965	.998	.633	.808
<u>Years of Education of Partner</u>																
- 0 yrs	6.80	6.80	6.81	.001	.024	.030	.009	15.1	5.6	1.000	.999	.999	.974	1.000	.595	.857
- 1-4 yrs	7.66	7.66	8.03	.000	.034	.081	.019	11.7	5.1	1.000	.954	1.000	.963	.998	.662	.856
- 5-7 yrs	7.85	7.85	8.00	.003	.016	.066	.042	12.7	4.9	1.000	.981	.997	.983	.997	.641	.864
- 8+ yrs	7.34	7.34	7.57	.000	.015	.095	.060	10.2	6.4	1.000	.970	1.000	.984	.994	.697	.818
<u>Last Work Status of Woman</u>																
- Family Farm	7.19	7.53	7.69	.000	.022	.058	.022	14.6	5.1	.955	.979	1.000	.976	.999	.604	.866
- Family Employed	5.62	6.10	6.11	.000	.016	.083	.071	13.0	4.8	.921	.998	1.000	.983	.994	.635	.868
- Other Paid Cash	5.59	6.70	6.87	.000	.018	.089	.055	9.2	5.0	.834	.975	1.000	.981	.995	.722	.847
- Other Employed	4.99	5.97	6.11	.000	.057	.030	.009	13.0	7.1	.836	.977	1.000	.938	1.000	.635	.816
- Self Employed	7.14	7.47	7.68	.001	.028	.046	.018	14.5	6.2	.956	.973	.999	.970	.999	.606	.842
- Did Not Work	6.03	6.94	7.03	.001	.011	.027	.012	13.9	5.4	.869	.987	.999	.988	1.000	.617	.857

Table 106 : Indices of the Proximate Determinants of Fertility and of their Impact on Fertility (Extended Model)

	TFR	TEMFR	TMFR	U _{ster}	U _{tab}	U _{oth}	\bar{e}_{oth}	i	j	C _{em}	C _{diss}	C _{ster}	C _{tab}	C _{oth}	C _{ppamen}	C _{ppab}
Northeast																
Rural	6.74	7.02	7.12	.000	.018	.004	.001	13.5	5.7	.960	.986	1.000	.981	1.000	.625	.849
Urban	6.56	6.96	7.34	.000	.000	.010	.007	12.9	4.5	.943	.948	1.000	1.000	1.000	.637	.875
Northwest																
Rural	6.46	6.47	6.67	.000	.022	.038	.009	16.5	6.9	.998	.970	1.000	.976	1.000	.571	.835
Urban	6.91	7.00	7.20	.000	.015	.060	.023	16.9	3.3	.987	.972	1.000	.984	.998	.565	.915
Southeast																
Rural	6.33	7.70	8.01	.001	.025	.091	.041	13.5	3.8	.822	.961	.999	.973	.996	.625	.894
Urban	5.09	6.48	6.49	.003	.010	.074	.041	9.3	3.0	.785	.998	.997	.989	.997	.719	.903
Southwest																
Rural	6.83	7.59	7.64	.000	.023	.055	.025	14.6	7.8	.900	.993	1.000	.975	.998	.604	.809
Urban	6.38	7.46	7.49	.004	.040	.059	.044	11.7	7.5	.855	.996	.996	.957	.997	.662	.801
Rural																
Northeast	6.74	7.02	7.12	.000	.018	.004	.001	13.5	5.7	.960	.986	1.000	.981	1.000	.625	.849
Northwest	6.46	6.47	6.67	.000	.022	.038	.009	16.5	6.9	.998	.970	1.000	.976	1.000	.571	.835
Southeast	6.33	7.70	8.01	.001	.025	.091	.041	13.5	3.8	.822	.961	.999	.973	.996	.625	.894
Southwest	6.83	7.59	7.64	.000	.023	.055	.025	14.6	7.8	.900	.993	1.000	.975	.998	.604	.809
Urban																
Northeast	6.56	6.96	7.34	.000	.000	.010	.007	12.9	4.5	.943	.948	1.000	1.000	1.000	.637	.875
Northwest	6.91	7.00	7.20	.000	.015	.060	.023	16.9	3.3	.987	.972	1.000	.984	.998	.565	.915
Southeast	5.09	6.48	6.49	.003	.010	.074	.041	9.3	3.0	.785	.998	.997	.989	.997	.719	.903
Southwest	6.38	7.46	7.49	.004	.040	.059	.044	11.7	7.5	.855	.996	.996	.957	.997	.662	.801

Table 107

Percentage of First Marriages ending in Divorce and Widowhood by Years since First Marriage

	Divorce				Widowhood				Divorce & Widowhood			
	10	10-19	20+	All	10	10-19	20+	All	10	10-19	20+	All
Anambra	7.8	10.6	9.8	9.5	2.4	15.9	26.3	14.4	10.2	26.5	36.1	23.9
Bauchi	8.1	10.4	11.7	9.7	4.8	3.7	6.4	4.7	12.9	14.1	18.1	14.4
Bendel	6.5	13.0	21.1	12.4	2.5	5.0	3.4	3.7	9.0	18.0	24.5	16.1
Benue	1.6	6.2	9.1	5.5	0.5	1.8	12.0	3.9	2.1	8.0	21.1	9.4
Borno	6.1	18.3	38.0	20.4	2.5	5.6	1.9	3.5	8.6	23.9	39.9	23.9
Cross-River	6.5	13.1	14.3	11.1	1.8	5.1	16.0	7.2	8.3	18.6	30.3	18.3
Gongola	3.9	6.0	9.7	5.8	1.7	1.3	10.1	3.2	5.6	7.3	19.8	9.0
Imo	6.5	6.8	9.2	7.5	1.9	5.3	20.8	9.0	8.4	12.1	30.0	16.5
Kaduna	9.4	14.0	20.5	14.3	2.7	5.1	11.8	6.1	12.1	19.1	32.3	20.4
Kano	3.8	9.0	11.9	7.6	1.1	1.6	6.1	2.4	4.9	10.6	18.0	10.0
Kwara	1.4	8.7	14.5	6.9	0.0	1.9	5.5	1.9	1.4	10.6	20.0	8.8
Lagos	1.3	2.3	15.0	4.3	0.6	3.4	9.6	3.2	1.9	5.7	24.6	7.5
Niger	2.7	2.9	9.1	4.1	0.0	2.4	0.4	1.2	2.7	5.3	9.5	5.3
Ogun	8.3	27.0	31.6	19.0	0.0	1.3	17.7	4.8	8.3	28.3	49.3	23.8
Ondo	7.4	9.1	12.4	9.0	0.3	0.7	1.1	0.6	7.7	9.8	13.5	9.6
Oyo	4.7	6.1	6.5	5.7	0.0	0.0	7.5	2.0	4.7	6.1	14.0	7.7
Plateau	5.3	10.5	9.0	8.2	2.9	0.4	7.0	2.4	8.2	10.9	16.0	10.6
Rivers	7.1	17.0	14.0	12.6	0.7	6.1	27.0	9.6	7.8	23.1	41.0	22.2
Sokoto	8.3	11.2	18.2	11.4	1.4	1.8	14.7	4.2	9.7	13.0	32.9	15.6
Nigeria	5.7	10.1	15.4	9.8	1.6	4.2	12.1	5.2	7.3	14.3	27.5	15.0

is much earlier than that of widowhood, divorce in Nigeria tends to be the more important cause of loss of exposure time to the risk of a pregnancy. The exception to this general observation is Imo and Anambra states where widowhood contributes more than divorce to marriage dissolution. The Imo-Anambra phenomenon may reflect both the high mortality among husbands during the civil war and the high past outmigration of males from the states.

With regard to intra-population pattern of dissolution, it is expected that while the incidence of divorce will be positively associated with measures of westernization, the occurrence of widowhood and indices of modernization will be negatively related. Westernization is associated with a break from traditional economy and the consequent rise of career women whose wage-earning interests may conflict with marital obligations. It is also linked to female literacy with its attendant promotion of women's rights and freedom. The strain which these products of westernization put on the institution of marriage would engender marriage instability. But westernization also puts women with high indices not only at the upper end of the socio-economic scale but also at an advantageous position with respect to medical facilities. Given the positive correlation between socio-economic status of women and that of their husbands, these products of westernization should bring about conditions which reduce mortality of males and hence the proportion of widowed women.

As Tables 108 and 109 show, this expectation is not fulfilled. There is no association between urbanity and marital disruption. Dissolution is lowest in cities but highest in towns. The rate of disruption is inversely related to the level of female education. Religious differentials reveal that while the rate of disruption is similar and relatively high across the non-Catholic christians, it is identical and relatively low among better educated Catholics and less-educated Moslems. There is a considerable variance among women in the various work status categories, with career women recording a low incidence of disruption and women in traditional occupations the highest. None of these findings are in line with the thesis that marriage instability increases with wage employment, female education and urbanization.

As expected, most dissolutions among the various subgroups stem from divorce. The few exceptions are found among Catholics, traditional religionists and south-easterners (who are mainly Catholics).

Parallel with this incidence of marriage dissolution is the fast rate of remarriage. The total remarriage rate computed for subgroups which have sufficient observations is reported in Table 110. The table indicates that of all those experiencing a first dissolution before age 50, about 70 per cent had already remarried by that age (assuming women marrying before age 20 in order to reach durations of 30 or more years since first marriage). This rate varies from 45 per cent among women in the southeast to 90 per cent among Moslem women. The zone of slower remarriage starting in the south-east continues across the Cameroon border as indicated by the Cameroon Fertility Survey of 1978.

A striking feature of the table is that while the speed of remarriage is faster among the traditional women within some subgroups, it is slower among them within other subgroups. In the first category of subgroups belong literacy, religion and region of residence of women. In the second category are place of residence and literacy of husbands. One suspects that the basic explanation for both patterns lies in the

Table 108

Percentage of First Marriages ending in Divorce and Widowhood by Years since First Marriage

	Divorce				Widowhood				Divorce & Widowhood			
	10	10-19	20+	All	10	10-19	20+	All	10	10-19	20+	All
Northeast												
Rural	4.4	10.3	17.8	9.9	2.9	1.7	6.9	3.4	7.3	12.0	24.7	13.3
Urban	8.6	12.7	39.5	16.5	0.5	8.5	4.1	4.4	9.1	21.2	43.6	20.9
Northwest												
Rural	4.4	8.9	13.5	8.3	1.1	2.5	8.3	3.3	5.5	11.4	21.8	11.6
Urban	14.3	15.4	24.7	17.2	2.8	3.9	10.7	5.1	17.1	19.3	35.4	22.3
Southeast												
Rural	7.6	10.1	11.2	9.6	2.0	9.3	21.9	10.8	9.6	19.4	33.1	20.4
Urban	2.8	14.1	8.4	7.9	0.8	2.1	21.7	5.1	3.6	16.2	30.1	13.0
Southwest												
Rural	5.2	11.9	15.1	10.3	0.6	2.9	7.3	3.2	5.8	14.8	22.4	13.5
Urban	4.3	6.3	15.6	7.3	0.4	0.5	7.2	1.9	4.7	6.8	22.8	9.2
Rural												
Northeast	4.4	10.3	17.8	9.9	2.9	1.7	6.9	3.4	7.3	12.0	24.7	13.3
Northwest	4.4	8.9	13.5	8.3	1.1	2.5	8.3	3.3	5.5	11.4	21.8	11.6
Southeast	7.6	10.1	11.2	9.6	2.0	9.3	21.9	10.8	9.6	19.4	33.1	20.4
Southwest	5.2	11.9	15.1	10.3	0.6	2.9	7.3	3.2	5.8	14.8	22.4	13.5
Urban												
Northeast	8.6	12.7	39.5	16.5	0.5	8.5	4.1	4.4	9.1	21.2	43.6	20.9
Northwest	14.3	15.4	24.7	17.2	2.8	3.9	10.7	5.1	17.1	19.3	35.4	22.3
Southeast	2.8	14.1	8.4	7.9	0.8	2.1	21.7	5.1	3.6	16.2	30.1	13.0
Southwest	4.3	6.3	15.6	7.3	0.4	0.5	7.2	1.9	4.7	6.8	22.8	9.2

Table 109

Percentage of First Marriages ending in Divorce and Widowhood by Years since First Marriage

	Divorce				Widowhood				Divorce & Widowhood			
	10	10-19	20+	All	10	10-19	20+	All	10	10-19	20+	All
Type of Place of Residence												
Rural	5.4	10.0	14.0	9.4	1.9	4.4	12.8	5.6	7.3	14.4	26.8	15.0
Urban	7.6	11.2	22.3	12.2	0.7	4.1	9.9	4.0	8.3	15.3	32.2	16.2
Large urban	5.2	9.8	20.3	9.5	1.2	2.0	6.8	2.5	6.4	11.8	27.1	12.0
Literacy of Woman												
Can read	6.3	8.6	16.6	8.1	1.5	3.2	8.8	2.8	7.8	11.8	25.4	10.9
Cannot read	5.4	10.5	15.3	10.2	1.7	4.4	12.4	5.8	7.1	14.9	27.7	16.0
Literacy, Partner												
Can read	5.8	10.4	17.3	9.4	1.2	3.3	9.6	3.4	7.0	13.7	26.9	12.8
Cannot read	5.6	10.0	14.7	10.0	2.0	4.7	13.1	6.3	7.6	14.7	27.8	16.3
Religion												
Catholic	2.7	8.6	7.8	6.0	1.1	6.6	14.0	6.2	3.8	15.2	21.8	12.2
Protestant	9.2	8.7	13.6	10.1	1.6	3.4	16.7	5.9	10.8	12.1	30.3	16.0
Other christian	3.9	10.2	14.7	9.0	1.3	4.4	20.8	7.3	5.2	14.6	35.5	16.3
Moslem	6.0	11.2	18.3	10.9	1.7	2.7	7.5	3.4	7.7	13.9	26.8	14.3
Traditional	8.0	5.1	13.4	3.4	3.7	10.4	16.8	10.3	11.7	15.5	30.2	18.7
Years of Educ. Woman												
0 Years	5.5	10.2	15.5	10.3	1.8	4.5	12.1	5.8	7.3	14.7	27.6	16.1
1-4 years	8.8	10.7	16.6	10.8	2.1	2.4	18.6	4.6	10.9	13.1	35.2	15.4
5-7 "	5.1	10.0	14.4	7.3	0.8	3.2	3.9	1.8	5.9	13.2	18.3	9.1
Region of Residence												
Northeast	5.1	10.7	21.0	11.0	2.5	2.9	6.5	3.6	7.6	13.6	27.5	14.6
Northwest	6.0	9.8	15.4	9.7	1.4	2.7	8.7	3.6	7.4	12.5	24.1	13.3
Southeast	6.9	10.4	11.0	9.5	1.8	8.6	21.9	10.2	8.7	19.0	32.9	19.7
Southwest	4.7	9.3	15.3	8.7	0.5	1.8	7.2	2.5	5.2	11.1	22.5	11.2
Years of Educ. Partner												
0 Years	5.3	9.6	14.1	9.8	2.5	5.5	13.2	7.1	7.8	15.1	27.3	16.9
1-4 years	4.5	9.4	14.2	8.5	0.6	1.4	12.7	3.4	5.1	10.8	26.9	11.9
5-7 "	5.3	11.2	16.6	9.3	0.8	2.6	8.7	2.8	6.1	13.8	25.3	12.1
8+ "	5.9	6.1	22.3	7.4	0.4	4.1	10.0	2.4	6.3	10.2	32.3	9.8
Last Work Status, Woman												
Family farm	6.1	11.4	12.9	10.4	2.1	4.5	13.6	6.6	8.2	15.9	26.5	17.0
Family employed	4.5	2.8	25.6	8.1	0.0	1.8	20.9	4.8	4.5	4.6	46.5	12.9
Other paid cash	3.5	10.0	16.7	8.1	0.3	2.2	13.8	3.5	3.8	12.2	30.5	11.6
Other employed	6.6	5.0	13.9	8.0	2.0	7.9	13.5	7.7	8.6	12.9	27.4	15.7
Self-employed	7.8	10.9	18.6	11.8	1.3	3.6	12.6	5.1	9.1	14.5	31.2	16.9
Did not work	4.2	9.1	14.0	7.6	1.0	4.3	7.4	3.8	6.2	13.4	21.4	11.4

Table 110

Percentage of Disrupted First Marriage Leading to Remarriage by Years since First Marriage

Years Since First Marriage	0-4	5-9	10-14	15-19	20-24	25-29	30+	All Women	\bar{x} , woman married for more than 5yrs.
Nigeria	59.0(55)	77.1(166)	80.3(212)	76.9(234)	67.1(267)	65.5(165)	61.9(116)	71.5(214)	71.5
Place of Residence									
Rural	53.5(42)	75.4(122)	79.7(165)	75.5(196)	65.7(202)	65.8(134)	59.3(100)	70.2(959)	70.2
Urban	71.4(14)	81.8 (44)	84.8 (46)	84.2 (38)	70.8 (65)	62.5 (32)	75.0 (16)	76.9(255)	76.5
Literacy									
Can read	35.7(22)	59.8 (50)	74.7 (37)	63.5 (28)	68.1 (28)	59.6 (8)	00.0 (5)	59.9(178)	54.3
Cannot read	74.3(33)	84.7(116)	81.5(175)	78.7(207)	67.0(238)	65.8(157)	65.0(110)	73.6(1036)	73.8
Literacy, Partner									
Can read	54.6(31)	74.5 (56)	79.0 (80)	84.4 (63)	76.8 (55)	77.3 (48)	61.8 (29)	75.5 (409)	75.6
Cannot read	64.6(24)	79.3 (90)	81.1(132)	73.4(159)	63.4(195)	60.7(117)	61.9 (87)	69.6 (805)	70.0
Religion									
Christian	43.5(23)	56.4 (55)	63.0 (73)	65.9 (88)	48.0(100)	48.6 (74)	33.9 (56)	53.3 (467)	52.6
Moslem	75.5(27)	91.5 (91)	97.6(112)	92.8(104)	88.4(108)	82.7 (73)	91.3 (50)	90.4 (588)	90.7
Region									
Northeast	64.4(12)	90.4 (51)	87.7 (69)	94.3 (47)	87.9 (76)	88.5 (36)	89.2 (28)	88.5 (318)	89.7
Northwest	80.3(14)	90.6 (44)	95.3 (43)	95.0 (65)	88.1 (51)	81.7 (38)	95.1 (27)	90.6 (283)	91.0
Southeast	22.4(16)	46.7 (48)	61.1 (68)	52.5 (91)	34.9 (90)	47.7 (69)	25.9 (51)	44.5 (434)	44.8
Southwest	76.2(13)	85.8 (22)	85.6 (31)	84.5 (31)	72.2 (50)	54.8 (21)	83.2 (10)	77.2 (178)	77.7
Last Work Status									
Family farm	59.2(15)	90.7 (35)	84.0 (70)	75.5 (83)	56.1 (88)	72.6 (49)	39.0 (45)	68.8 (384)	69.7
Self employed	49.9(22)	73.5 (59)	71.2 (63)	85.3 (81)	75.9(105)	63.8 (65)	88.1 (35)	74.6 (433)	76.3
Did not work	57.2(12)	76.6 (54)	97.4 (56)	64.6 (44)	78.8 (41)	53.8 (31)	89.8 (15)	80.0 (253)	80.2

(N)

prevalence of polygyny which provides an efficient remarriage net for widows and divorcees. But while the classic polygyny fuels fast remarriage among traditional women in the first category, the emergent form of polygyny – the practice of "outside wives" or unions no longer based on co-residence of wives and husbands – provides the prop for fast "remarriage" among modern women in the second category.

The table also shows that the rate of remarriage increases up to the fourteenth year of marriage and declines thereafter. This trend emphasizes the unattractiveness of remarriage as women's reproductive capability approaches zero.

With this pace of remarriage, it is not surprising that the net effect of marital dissolution on fertility is so small. This can be appreciated from the age specific proportion currently widowed or divorced tabulated in Table 111. The table shows that while there is a continuous increase in the percentage of widowed women with age, the percentage divorced does not show any trend. Remarriage seems to follow divorce rather quickly irrespective of the woman's age (below 50), while this does not hold for remarriage following widowhood.

Religion does not seem to influence the pattern of current marriage dissolution. Although there is no basic difference in the doctrine of the major religions regarding attitude towards the remarriage of widows, the waiting time to remarriage varies among the religions. Moslem women are not allowed to remarry during the iddat. This is a period of about three months, stipulated by the Shari'a, to ensure that a widowed (or divorced) woman is not pregnant. If the woman is pregnant the period would be extended to about two years. In Christianity, there is no fixed time but by convention, the waiting period is one year. If it is assumed that a negligible number of widowed women is pregnant at the time of the death of their husbands, then remarriage will be more frequent among widowed Muslim women than among their Christian counterparts. It is therefore easy to see why northern Nigeria with its large muslim population records a small proportion of currently widowed women compared with the predominantly Catholic eastern Nigeria.

The explanation for the pattern of divorce is different. Here, fundamental doctrinal difference does exist. Islam prescribes a simple procedure for obtaining divorce whereas Catholicism virtually prohibits divorce. Therefore, one expects, *ceteris paribus*, a higher rate of ever divorce in the predominantly Moslem north than in the Catholic east. The observed pattern displays the exact opposite of what is expected. The easterners have the highest proportions ever-divorced (see Table 109) and they seem either to scale all the hurdles Catholicism puts in the way of divorce or disregard the Catholic injunction on divorce. The higher proportions currently divorced in the south east stems then from both higher proportions ever divorced and from slower remarriage. For the northerners, it seems that while the procedure for obtaining divorce may be easy, frivolous decision to divorce is prevented by the heavy responsibility that the action entails. Moreover, the speed of remarriage is higher in Islamicized populations, not only in northern Nigeria but also in other Islamic areas of West Africa.

5.3.4. Index of Contraception (C_c)

The contraceptive indices have been calculated by applying the original Bongaarts equation to the proportion of currently married women

Table 111 : Percentage of All Women Current Divorced or Widowed by Age

	DIVORCED				WIDOWED				DIVORCED PLUS WIDOWED				NO. OF CASES			
	25	25-34	35+	All ages	25	25-34	35+	All ages	25	25-34	35+	All ages	25	25-34	35+	All ages
Anambra	2.3	3.5	3.9	3.3	1.8	11.3	20.4	11.8	4.1	14.8	24.3	15.1	175	226	216	617
Bauchi	0.4	0.5	0.3	0.4	0.0	0.0	0.5	0.1	0.4	0.5	0.8	0.5	166	138	71	375
Bendel	2.6	1.7	5.9	3.2	1.3	2.2	1.5	1.77	3.9	3.9	7.4	4.9	61	92	68	220
Benue	0.0	1.5	3.0	1.6	0.0	0.0	3.8	1.2	0.0	1.5	6.8	2.8	91	125	104	320
Borno	0.3	1.4	5.6	2.5	0.0	2.5	0.7	1.1	0.3	3.9	6.3	3.6	199	234	215	648
Cross River	2.9	1.9	5.0	3.1	0.5	0.6	12.7	4.5	3.4	2.5	17.7	7.6	106	208	151	464
Gongola	2.9	1.4	3.1	2.3	0.0	0.2	3.2	0.9	2.9	1.6	6.3	3.2	186	272	164	622
Imo	0.8	4.1	3.7	3.4	2.0	2.2	16.5	8.6	2.8	6.3	20.2	12.0	130	338	380	848
Kaduna	0.8	0.5	2.3	1.1	0.0	0.2	3.0	0.9	0.8	0.7	5.3	2.0	181	245	156	582
Kano	0.7	1.5	1.5	1.2	0.5	0.2	0.8	0.5	1.2	1.7	2.3	1.7	343	318	199	860
Kwara	0.0	0.0	6.7	2.1	0.0	0.0	2.6	0.8	0.0	0.0	9.3	2.9	56	110	78	245
Lagos	1.3	0.0	5.0	2.1	0.0	2.4	2.5	1.8	1.3	2.4	7.5	3.9	80	109	105	293
Niger	2.6	0.0	0.0	0.6	0.0	0.0	0.0	0.6	2.6	0.0	0.6	0.6	68	135	83	286
Ogun	0.0	0.0	2.5	1.1	0.0	0.0	2.5	1.1	0.0	0.0	5.0	2.2	56	144	80	180
Ondo	0.0	0.7	1.5	0.9	0.0	0.2	0.9	0.4	0.0	0.9	2.4	1.3	46	157	113	316
Oyo	0.9	0.8	1.2	1.0	0.0	0.0	3.3	1.4	0.9	0.8	4.5	2.4	60	131	146	337
Plateau	1.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	1.0	0.0	0.0	0.3	69	99	53	221
Rivers	1.7	2.2	3.0	2.3	0.3	0.5	18.3	0.3	2.0	2.7	21.3	8.6	83	104	91	278
Sokoto	0.3	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.3	0.2	0.4	0.3	141	159	109	410
Nigeria	1.1	1.5	3.1	1.9	0.4	1.5	6.7	2.8	1.5	3.0	9.8	4.7	2296	3242	2582	8120

using contraception. The indices thus reflect levels of use-effectiveness at the time of the survey whereas the TFR and C_m pertain to the five-year period preceding it. These indices are reported in column 7 of tables 101, 102 and 103.

It is obvious from table 101 that the average fertility-reducing impact of contraception is virtually non-existent, being only 0.2%. There is very little variation in C_c across the nation, though a slightly greater effect can be discerned in some southern states which have the most educated population. In Bendel, Cross-River, and Anambra the impact reaches 4.2, 1.7 and 1.5% respectively. Rather surprisingly, Lagos which has the longest established family planning programme, records an impact of only 0.7%.

There is also very little variation to discuss among the sub-groups, an indication that there is probably not yet any intrinsic cultural quality differentiating women in terms significant for contraceptive use. The influence of rural and urban residence on C_c is small with slightly higher fertility reductions in cities. The religious groups provide interesting, though minor, differences. The impact is relatively even among non-Catholic Christians and traditional religionists. Conversely, while the effect of contraception is zero among Moslems, it is 1.2% among Catholics. The disparity reflects the level of education of the two religious groups. This educational factor also explains why contraceptive impact is weakest in the northeastern region (zero) and strongest in the southeast (0.9). While contraceptive impact is virtually non-existent among illiterates (0.1%), it is the same (0.6) among women with 1-4 and 5-7 years of education but increases to 3.6% among women with eight or more years of schooling. The results for work status are also similar, although the impact is greatest among women employed by the family.

The major components of C_c , namely C_{ster} , C_{tab} and C_{oth} , are presented in columns 12 to 14 of Tables 104, 105 and 106. Surgical sterilization, the most extreme mode of fertility prevention is virtual unknown in Nigeria. In only Oyo, Rivers, Imo and Kaduna states do 1.0, 0.5, 0.2 and 0.1% of women respectively report that they or their husbands had undergone a sterilizing operation. The infrequency is also reflected in the virtual non-existence of differentials among the sub-groups. No sterilization is reported by rural and city women while 0.3% have been sterilized in towns. The data for all other subgroups suggest that only the Catholic women record any sterilization of note (0.5%). This finding is unexpected given the doctrinal attitude of Catholicism to contraceptive use. Even more unexpected is the observation that no woman with more than five years of schooling report any sterilization whereas 0.1% of women with less than five years of education have been sterilized.

The tables show that also C_{oth} -values are close to unity, although its spread among the states is wider than that of C_{ster} . While the fertility reducing capacity is zero in eleven states, negligible in Kano (0.1%) and Imo (0.2%) states, it is as high as 1.2% and 0.8 in Bendel and Anambra states. While C_{oth} indices are the same for rural and urban centres, they are slightly lower in cities. Small declines in C_{oth} are recorded with successive increments in educational attainment, as expected. The pattern among the religious groups is identical with that of C_{ster} . Among the work status categories, only women who are either employed by the family or found in paid employment are affected by the impact of C_{oth} to the value of 0.6 and 0.5 respectively.

The major component of the index of contraception seems to be terminal abstinence. At the national level, the index is .976 compared with .999 recorded for C_{ster} and C_{oth} . Although the indices of C_{tab} vary among the states, there is no discernible pattern. The indices have no effect in Borno and Plateau states, both in the north. But while terminal abstinence reduces fertility from the potential maximum by only 0.8% in two other northern states – Bauchi and Benue – its effect is much greater in other northern states, being as high as 8.4% and 4.9% in Kwara and Gongola states respectively. In the south, the impact of terminal abstinence is least in Rivers state (0.7%) and highest in Lagos (4.8%), Oyo (3.7%) and Anambra (3.8%) states.

The pattern among subgroups also defies any logic. The index is greatest among town dwellers and least among city-dwellers. Among the educational categories, women with 5-7 years of schooling record the highest index while illiterate women record the least. The religious groups fall into two categories. The Catholics, Moslems and other Christians record identical indices while Protestants and traditional religionists have similar indices. Variations amongst categories are greatest within the work status subgroup. Women employed by others record the lowest index (.938) while women who did not work seems least inclined to use terminal abstinence for contraceptive reasons.

5.3.5. The Index of Post-Partum Non-susceptibility (C_i)

The indices of post-partum non-susceptibility obtained by the classical Bongaarts method are to be found in the last column of Tables 101 through 103. Whereas the marriage and contraception effect is weak, that of postpartum infecundability is strong, accounting for nearly 50% reduction in fertility at the national level. This national figure conceals a wide regional spread. The impact of postpartum infecundability is smallest in Rivers state where the C_i is about 0.60 and greatest in Sokoto state, with a value of about 0.45. There is a tight cluster of states in the eastern parts of the country (Bendel, Imo, Cross-River) where the fertility-reducing effect of postpartum infecundability is fairly high. The similarity in C_i values in this cluster is not surprising in view of the similarity of social and cultural settings. What is surprising are the results for the remaining states. Areas of modest impact (with values above 0.50 but below .58) and highest impact (with values below .50) are found across the country. Although the former areas (modest) bunch together in the east and latter in the west, both clusters bestride states of great social and cultural diversity.

By contrast, the expected association between C_i and the various independent variables is found when the distribution of C_i by subgroups is examined. There is a clear erosion of breastfeeding with increasing urbanity, probably because female employment outside the home increases with size of settlement. Also, the effect of postpartum non-susceptibility declines with increasing education, the potential increase in fertility represented by these differences amounting to 10% between the lowest and the highest educational stratum. One explanation for this pattern would be a tendency on the part of better educated women to supplement the child's diet, and decrease the intensity of breastfeeding, at a relatively earlier point in the breastfeeding period. Within the religious categories, the postpartum non-susceptibility effect is stronger among traditional religionists and Moslems than among Christians, because of the disinclination of the large educated Christian population to breastfeed.

Among the work status subgroup, there is remarkably little variation, the only notable exception being women in the modern sector among whom the fertility-reducing effect is particularly small by comparison with the other categories.

The components of C_i are given in the last two columns of Tables 104-106. It does appear that regional and subgroup differentials in C_i are the consequences of levels of abstinence rather than of amenorrhoea. Therefore C_{ppab} requires some further examination.

A stark regional contrast in C_{ppab} is revealed between the eastern parts of the country, where the fertility-depressing effect of post-partum abstinence is weak, and the western part where the average effect is much stronger. This east-west dichotomy contrasts with the north-south division typical of social and cultural characteristics of the population. It is thus unexpected to find that the fertility impact of postpartum abstinence is much the same in southeastern Nigeria with an overwhelming Christian population and high levels of education as in northeastern Nigeria where level of education is low and Islam the main religion. Even more surprising is the finding that postpartum abstinence has more effect on fertility in Sokoto than in Kaduna, Kano and Borno states although all these states have similar cultures and are located in the same ecological zone.

The distribution of C_{ppab} indices among the subgroup categories is complex. While some of the relationship between C_{ppab} and the variables flout our expectations, others confirm the expectations. Quite unexpectedly, the abstinence impact increases with not only increasing size of settlements but also increasing levels of education. However, the increase with educational level is not monotonic. Women with one to four years of schooling receive the strongest impact. This non-monotonic trend probably explains why the impact is higher among literate women than among illiterates. The trend across the occupational spectrum is also in the expected direction with the impact being higher among women in the modern sector than among those in the traditional sector. On balance, therefore it can be said that traditional spacing behaviour is affected by the attainment of non-traditional socio-economic characteristics.

5.3.6. The Total Fecundity Rate

The Total Fecundity Rate (TF) on which the three main proximate determinants act as fertility-reducing effects, bears up the rear in the classical Bongaarts equation. As noted earlier, it represents the hypothetical level of fertility that would result if the three measured proximate determinants had no impact on fertility and if two critical assumptions hold. The first assumption is that the measurements of the three determinants are not seriously in error. The second is that correct measures of both induced abortion and spontaneous foetal loss are included in the equation. Neither of these assumptions hold in the Nigerian case. Due to data restrictions, variables that are known to be major sources of fertility reductions in some populations have not been included in this analysis. Neither induced abortion nor spontaneous foetal loss nor coital frequency has been included. Data on these variables are so unreliable that it will be difficult, if not impossible to draw any conclusions from them. In the Nigerian case, therefore, TF cannot be assumed to be the classic value of 15.3 but must be estimated as a function of either the three measured determinants or sterility.

The first procedure for estimating TF, referred to here as the direct method, consists of dividing the observed TFR by the product of the three indices, C_j , C_c and C_m . The indirect method, valid for natural fertility populations, uses the African empirical relationship found between the TF and the proportion of women with long enough (15 years) exposure who have not progressed beyond two live births (LE2LB) (Lesthaeghe 1984):

$$TF = 16.5 - (0.225 \times LE2LB) \quad (13)$$

Since the indirect method supposes that the TF is predominantly conditioned by sterility in Africa, its estimate can be used to have a rough idea of the extent to which the TF-values obtained by the direct method reflect the sterility dimension. It can also be used as a test of the general validity of the model.

The TF-values calculated by the two procedures are given in the last two columns of tables 98-100. On the whole, TF estimated by the direct method are much higher than those obtained via the indirect procedure. This holds in 13 of the 19 states. It is possible, though, that the variations in the two estimates represent fundamental measurement errors in the components of the model. This is probably the case in those subpopulations where TF's estimated by the direct method exceed 16 children (5 states). It is not unlikely that other relevant proximate determinants have been omitted in these cases or that serious data problems are distorting the estimations of the TMFR and TFR.

The last two columns of tables 99 and 100 show that, in general, the TF-values obtained by the direct method are lower in urban localities of each of the regions than in their rural areas and among literates than illiterates. This apparent general pattern of lower TF among the more modernized sectors seems to be confirmed by the distribution of TF by work status. Women in paid employment have lower TF-values compared with women in traditional occupations. This relationship, however, breaks down when the settlement and education variables are decomposed into more than two categories. The TF then become appreciably higher in cities than in towns and among women with 1-7 years of education than among illiterates. The religious categories provide the more interesting differences. The TF-values are lowest but similar among Moslem and Catholic women even though their socio-cultural characteristics are divergent. Other Christians and traditional religionists, with their socio-cultural differences, also have identical TF. The Protestants with relatively high educational level record the highest TF. The paradoxes which these patterns produce make one suspect that the data quality problems become very serious when subgroup or regional comparisons are made.

5.3.7. Fertility Strategies: Accounting for the Difference Between Observed and Potential Fertility.

The overall fertility-reducing impact of all the measured determinants can now be assessed to appreciate the relative contribution of each of them to the emergence of observed fertility levels. Two approaches have been adopted to address the issue. The first is graphic and relies on equation (5) which specifies that observed fertility is the outcome of the joint impact of the three measured determinants on an estimated TF. It would be recalled that each of the fertility-inhibiting variables was defined in such a way that their order of introduction was fixed. The fertility measures produced by the application of each of the measured

determinants are represented on bar diagrams.

The sequential nature of the multiplicative chain distorts the visual impression presented by these diagrams and this leads to the second approach adopted to rank each of the measured determinants. The approach is a simple decomposition of the difference between observed and potential fertility using a logarithmic transformation of equation (5):

$$\ln(TF) - \ln(TFR) = \ln(C_i) + \ln(C_c) + \ln(C_m) \quad (14)$$

where \ln denotes the natural logarithm transformation. The proportional contribution of each determinant to the reduction of fertility from the TF to the TFR is then calculated as, for example:

$$100 \ln(C_i) / \ln(C_i) + \ln(C_c) + \ln(C_m) \quad (15)$$

Equation 15 yields the percentage contributions of C_i . The percentage contributions of C_c and C_m are calculated in the same manner. The contribution of all the three indices sum up to 100, the relative size of each directly reflecting the relative size of each index. This strategy is advantageous not only because absolute fertility levels and the difference between TF and TFR do not enter in but also because percentaging of the contributions is a form of standardization.

The results of this analysis at the regional level are summarized in Table 112 and figure 34. Considering the national configuration first, the illustrations reveal that of the three determinants, the fertility-reducing impact of postpartum non-susceptibility is the greatest, accounting for nearly 83% of the impact. Loss of union exposure, the next most important impact, is only one quarter of that of postpartum non-susceptibility. The impact due to contraceptive use is insignificant, being only 0.3%. These average relative impacts of the three determinants reinforce the pattern already noticed at the level of each of the determinants separately.

The regional (state) pattern shows that three families of strategies can be identified. In the first group are states containing women with virtually no fertility reducing effect of contraception and with only a minor impact of non-marriage. Among these women, the impact of postpartum non-susceptibility, particularly birth-spacing via abstinence, is overwhelming. The TFR-values in this group range from low (about 5.5) to high (about 8.5) depending on the presence of an infecundity problem and on the length of the abstinence period. Strategies of this type are followed in all the northern states except Borno and Kwara.

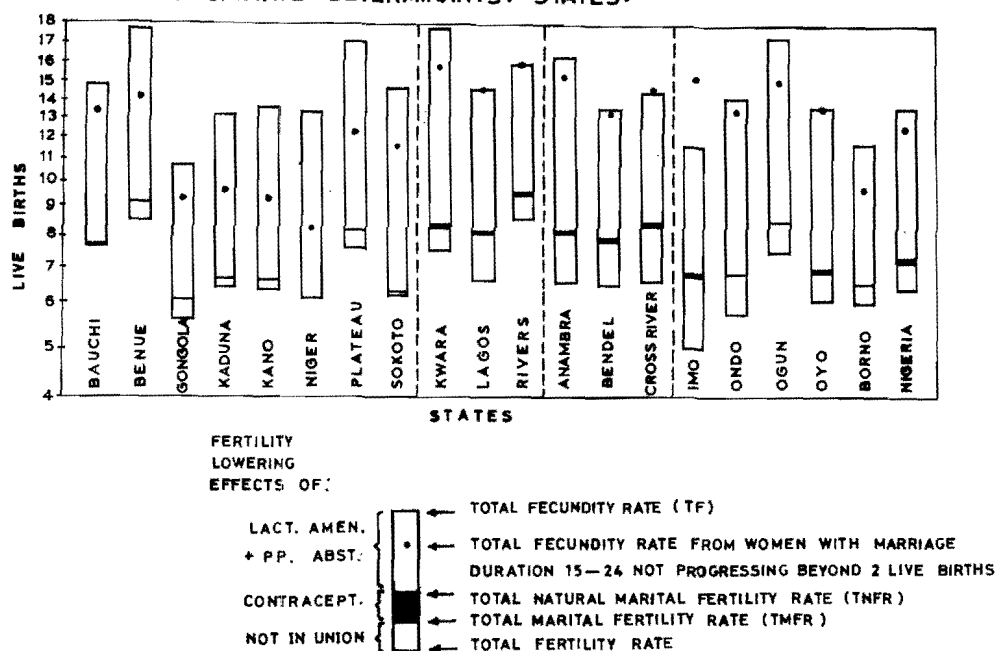
In the second group of states, women also rely heavily on child-spacing but the impacts of retarded entry into sexual union and contraceptive use are gradually assuming some importance. In Lagos, the effect of non-marriage is a third of that of birth-spacing. The state is the smallest state in the federation and nearly three-quarters of its population are concentrated in metropolitan Lagos. In Rivers state also, nearly a fifth of the overall impact is attributable to loss of union exposure. Again, there is a dominant metropolis (Port Harcourt) here, the influence of which is similar to that of Lagos. The third state in this group is Kwara state. Over 10% of the impact is accounted for by non-marriage. Although small, the nuptiality impact is significant in this Moslem state as the impact points to the buffer status of the state between the Islamic north where educational levels are low and the south where

Table 112

Percentage of overall reduction from total fecundity rate of observed
total fertility rate which is due to each determinant

	Percentage of reduction due to			Absolute reduction from TF to TFR
	Marriage	Contraception	Infecundability	
Anambra	21.47	1.68	76.85	9.63
Bauchi	0.76	0.0	99.24	7.23
Bendel	22.48	3.03	74.48	7.05
Benue	9.66	0.0	90.34	9.21
Borno	13.52	0.0	86.48	5.73
Cross River	28.85	2.20	68.95	7.68
Gongola	8.90	0.0	91.10	4.84
Imo	35.48	0.50	64.02	6.37
Kaduna	4.02	0.29	95.69	6.21
Kano	5.67	0.27	94.06	7.30
Kwara	11.16	1.27	87.57	10.38
Lagos	24.0	0.90	75.10	7.81
Niger	9.38	0.0	99.62	7.29
Ogun	14.36	0.0	85.66	9.88
Ondo	18.36	0.11	81.53	8.36
Oyo	16.14	0.12	83.74	7.71
Plateau	8.29	0.0	91.71	9.49
Rivers	18.10	1.11	80.79	7.41
Sokoto	2.62	0.0	97.38	8.23
Nigeria	17.01	0.26	82.73	7.43

Fig. 34: FERTILITY RATES AND FERTILITY LOWERING EFFECTS OF PROXIMATE DETERMINANTS: STATES.



Islam is not so pre-eminent and where educational levels are high. The sharing of some of the characteristics of the south is also reflected in the proportion of women in Kwara whose fertility reduction is achieved by contraceptive use.

The third category of populations employs a strategy that combines a noticeable contraceptive component with non-marriage and universal child-spacing. The three states in this category – Anambra, Bendel and Cross-River – are distinguished by the high levels of education of their women, a factor that might have contributed to relatively higher use of contraceptive and more delayed marriages. Delayed marriages accounted for as much as 27% of fertility inhibition in Cross-Rivers while contraceptive use contributes nearly 4% – the highest in the country – in Bendel. It would appear, however, that the practice of postponed marriage and contraceptive use is in its infancy as the TFR-values are still moderately high at about 6.5 children.

The last set of populations records the lowest TFR. The populations have achieved this fertility rate via prolonged abstinence and, significantly, delayed marriage, the effect of contraceptive use being either zero or very small. In Imo state (where the TFR-estimate is far too low), the effect of non-marriage is of the order of 35.5% while in the other states in the group, the effect of marriage postponement is also substantial. The development of this late marriage pattern in the southern states of Imo, Ondo, Ogun and Oyo is attributable to their level of literacy. Rather surprisingly, it is the southwestern states with their high urban population densities, that still retain longer durations of non-susceptible period in addition to the postponement of marriage. By contrast, in the very high rural population density of Imo state, prolonged celibacy seems to compensate for reduction in post-partum abstinence. The presence of Borno state in a cluster with a nuptiality strategy is remarkable for two reasons. The first is that marriage postponement cannot be the result of prolonged education for females in this predominantly Moslem state. The second is the low TF which are undoubtedly the result of high levels of sterility and sub-fecundity. One would have expected societies with low fecundity to marry at younger ages in order to enhance their reproductive potential. Of course, sub-fecundity fuels the practice of polygyny, a complicating factor which has been ignored in this volume.

The decomposition carried out for each subgroup is depicted in tables 113–114 and figures 35 and 36. One notable feature of these illustrations, as in the regional pattern, is the predominance of the contribution of post-partum infecundability in all categories although this general observation conceals a wide spread. The comparisons of the residence strata reveal that size of settlement has some effect on the contribution of postpartum non-susceptibility. Rather surprisingly, urbanity does not affect fertility inhibition via contraceptive use. The relatively low TFR observed for urban centres have been achieved through loss of union exposure, in addition to postpartum infecundability. The similar reductions in fertility for non-Catholic Christians are accomplished essentially by the same mechanisms on average, with slightly less reliance on nuptiality by Protestants compensated for by both slightly longer duration of postpartum infecundability and slightly higher contraceptive use. Characteristic of the religious groups, however, is the minor fertility reducing effect of non-marriage among the Moslems and traditional religionists. Reductions among the educational categories are achieved through markedly different combinations of nuptiality and contraceptive behaviours, both behaviours increasing in their impact with

Table 113

Percentage of overall reduction from total Fecundity rate to observed total fertility rate which is due to each determinant

Percentage of reduction due to				Absolute
	Marriage	Contraception	Infecundity	reduction from
				TF to TFR
Northeast				
Rural	7.86	0.0	92.14	6.66
Urban	16.07	0.0	83.93	6.64
Northwest				
Rural	4.02	0.13	95.85	7.54
Urban	5.82	0.43	93.75	7.09
Southeast				
Rural	28.50	1.21	70.29	8.17
Urban	35.68	0.88		5.01
Southwest				
Rural	13.49	0.36	86.15	8.87
Urban	20.05	0.63	79.32	7.82

Table 114

Percentage of overall reduction from total fecundity rate to observed total fertility rate which is due to each determinant

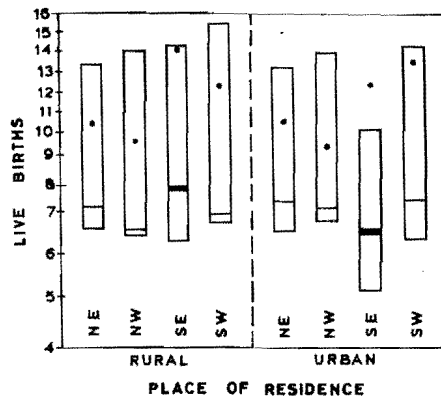
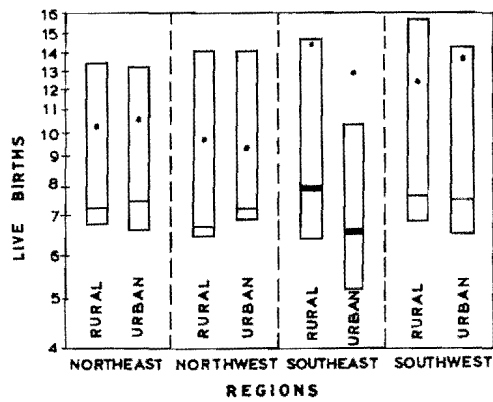
	Percentage of reduction due to:			Absolute reduction from TF to TFR
	Marriage	Contraception	Infecundability	
Type of Place of Residence				
Rural	15.94	0.26	83.80	7.56
Urban	21.07	0.25	78.68	5.14
Large Urban	18.04	0.84	81.12	7.17
Literacy of Woman				
Can read	14.20	1.37	84.43	5.92
Cannot read	8.55	0.13	91.32	7.25
Literacy of Partner				
Can read	3.37	0.96	95.67	6.59
Cannot read	3.13	0.14	96.73	6.91
Religion				
Catholic	25.93	1.50	72.57	7.27
Protestant	23.75	0.60	76.65	8.86
Other christian	26.80	0.39	72.81	7.58
Moslem	7.97	0.0	92.03	7.19
Traditional	8.51	0.39	91.11	8.04
Years of Edu. Woman				
0 Years	7.71	0.14	92.15	7.10
1-4 years	16.39	0.77	82.84	8.20
5-7 "	21.86	0.85	77.29	7.93
8+ "	42.29	4.10	53.61	6.17
Region of Residence				
Northeast	9.42	0.0	90.58	6.69
Northwest	4.46	0.13	95.41	7.40
Southeast	6.04	1.47	92.49	7.73
Southwest	17.42	0.49	82.09	8.23
Years of Educ. Partner				
0 Years	0.15	0.15	99.70	6.60
1-4 years	7.62	0.49	91.90	6.54
5-7 "	3.09	0.97	95.94	6.65
8+ "	4.95	2.15	92.89	6.06

Table 114 Contd.

	Percentage of reduction due to:			Absolute
	Marriage	Contraception	Infecundability	reduction from TF to TFR
<hr/>				
Last Work Status, Woman				
Family farm	9.36	0.42	90.22	7.51
Family employed	11.98	2.02	86.00	5.58
Other paid cash	29.14	1.41	69.45	5.71
Other employed	23.49	0.0	76.51	6.81
Self employed	9.76	0.27	89.97	7.36
Did not work	19.34	0.13	80.53	7.27

Fig. 35

FERTILITY RATES AND FERTILITY LOWERING EFFECTS OF PROXIMATE DETERMINANTS: PLACE AND REGION OF RESIDENCE.



FERTILITY LOWERING EFFECTS OF :

LACT. AMEN. + PP. ABST.

CONTRACEPT.

NOT IN UNION



← TOTAL FECUNDITY RATE (TF)

← TOTAL FECUNDITY RATE FROM WOMEN WITH MARRIAGE DURATION 15-24 NOT PROGRESSING BEYOND 2 LIVE BIRTHS

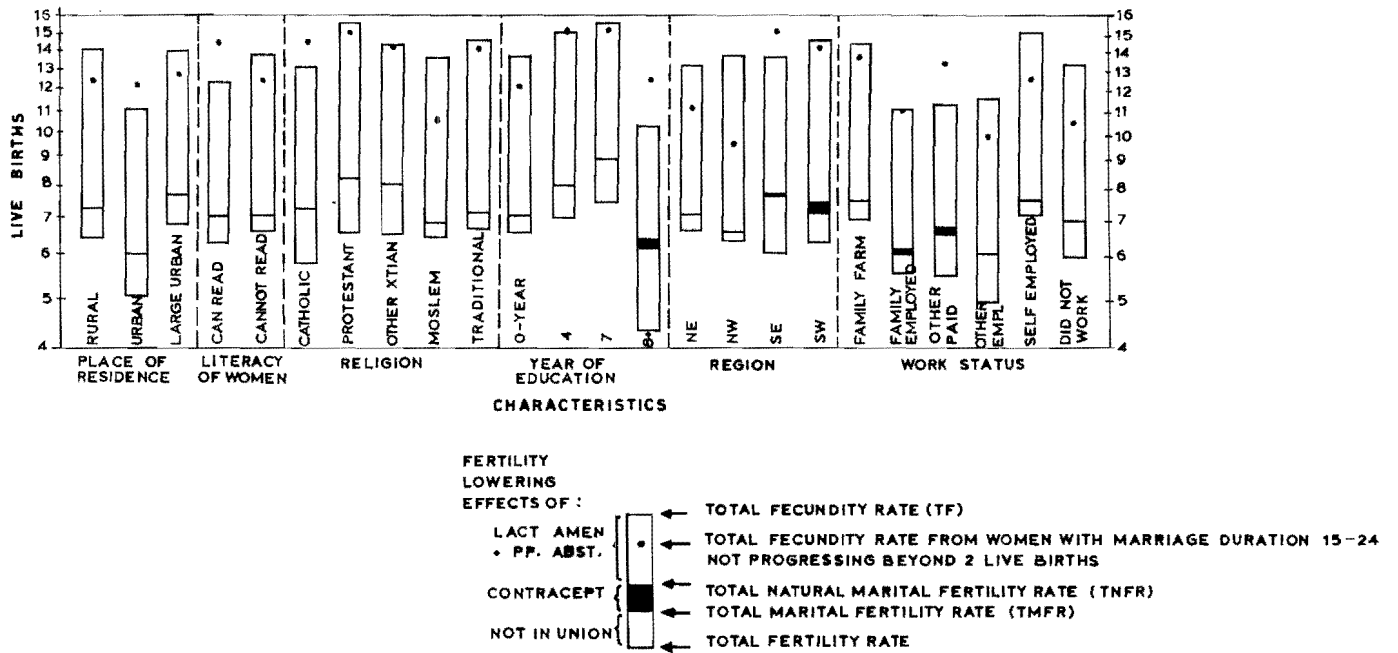
← TOTAL NATURAL MARITAL FERTILITY RATE (TNFR)

← TOTAL MARITAL FERTILITY RATE (TMFR)

← TOTAL FERTILITY RATE

Fig. 36

FERTILITY RATES AND FERTILITY LOWERING EFFECTS OF PROXIMATE DETERMINANTS:
SUB-GROUPS



successive increments in educational attainment. Not surprisingly, women with eight or more years of education have the highest fertility reduction due to contraceptive use and delayed marriage. Indeed, the latter effect is nearly of a similar order of magnitude as that of birth spacing through prolonged abstinence, indicating that their tendency not to observe prolonged lactation is being compensated by their greater use of contraception and delayed marriage. Similarly, reductions in the southern regions and among women employed in the modern sector come about through marked effect of retarded entry into sexual union and a noticeable contraception component.

5.4. Conclusions

The impression one gains in this section is that the TFR-level in Nigeria is still very high except in some areas where fecundity is low because of problems of sterility and sub-fecundity. The observed TFR is, however, accomplished by varying mixes of the proximate determinants in different populations. Overall the main fertility-inhibiting variable is postpartum non-susceptibility. This feature is particularly important where fertility reduction is relatively small. In this category are illiterates, Moslems, traditional religionists, northerners and women employed in the traditional sector. There is the tendency for the nuptiality and contraception contributions to be associated with population in which the absolute size of the reduction from the TF to the TFR is relatively large. These are populations undergoing the process of modernization such as education and urbanization. Nearly the entire joint impact of nuptiality and contraception is absorbed by them. Thus, for the educated women and women employed in the modern sector noticeable reductions come about through nuptiality and contraceptive behaviour.

A disaggregation of the component of nuptiality variables shows that delay of entry into marriage has a much greater impact than either non-marriage or marital dissolution. Similarly, a decomposition of contraceptive variables reveals that although the non-reversible forms of contraception has no impact in any group whatsoever, the very small impact produced by other forms of contraception is assimilated by modern women only. But it is also among these modern women that the traditional fertility-inhibiting mechanism is being systematically eroded. They need to adopt contraception in much larger numbers if they are to counterbalance their lesser observance of prolonged lactation and abstinence. Their present behaviour is pronatalist in effect, and gives a clear indication of a two-stage fertility transition, with declines in lactation and abstinence not being compensated by contraceptive use except among the highest socio-economic groups.

It is less reassuring to note that the integration of the fertility levels and the Bongaarts indices do not always produce convincing results. This is clearly visible, for instance, when the inferred TF values are compared to those that would correspond with the levels of sterility and subfecundity (see figures 34-36). Factors responsible for the unexplained differences include, first and foremost, differential misreporting among subgroups, and also the absence in the model used of such intermediate variables as temporary separation, induced abortion and frequency of intercourse. Despite these problems, the results presented here show that even though fertility levels are still high, reproductive behaviour in the country is undergoing significant changes. It is the compensatory effects among each of these changing intermediate variables that explain, at least in part, the fertility pattern in the country.

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Table A1 : List of Explanatory Variables Available in NFS

Variable Category	Variable Name	Variable Number [*]
1. Residence		
Respondent	Primary sampling unit	V004
	Region of residence	V701
	Type of place of residence	V702
	Childhood Place of Residence	V703
	Always lived in this locality	X701
	Lived in town up to age 12	S701
	How many years lived in a town	S702
Partner	Partner's childhood residence	V801
	Partner normally at home	X810
2. Education		
Respondent	Level of education	V704
	Literacy	V705
	Number of years of education	X704
	Other education	S703
	Number of years of other education	S704
	Adult literacy class	S705
	Son attend school	S711
	Daughter attend school	S714
Partner	Partner's level of education	V802
	Partner's literacy	V803
	Partner's number of years of education	X802
	Partner's other education	S801
	Number of years of partner's other education	S802
	Partner's adult class	S803
3. Occupation		
Respondent	Occupation before first marriage	V708
	(grouped categories)	
	Occupation before marriage	X708
	(detailed categories)	
	Work status before marriage	V709
	Most recent occupation	V710
	(grouped categories)	
	Last occupation	X710
	(detailed categories)	
	Most recent work status	V711
	Place of most recent work	V712
	Pattern of work	V713
	Years worked before first union	X722
	Years worked after first union	X726
	Year last worked	X727
Partner	Partner's occupation	V804
	(grouped categories)	
	Partner's occupation	X804
	(detailed categories)	
	Partner's work status	V805
4. Cultural variable	Religion	V706

* Refers to variable name as used in the NFS Standard Recode File dictionary. All analysis here are based on V701, V702, V705, X704, V803, X802, V711 and V706 (for details see Introcuton and the dictidary).

Table A2 : Mean Number of Years of Education by Age Groups and State

0.0 Estimation impossible

States	Current Age							All Ages
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Anambra	5.15 (157)	3.57 (162)	1.24 (105)	1.52 (126)	1.20 (74)	0.40 (93)	0.36 (50)	2.40 (770)
Bauchi	0.88 (74)	0.25 (98)	0.17 (79)	0.00 (58)	0.08 (49)	0.00* (19)	0.00* (2)	0.28 (380)
Bendel	7.41 (83)	6.68 (59)	3.69 (38)	2.36 (55)	1.47* (28)	1.05* (29)	0.71* (11)	4.49 (303)
Benue	2.76 (56)	1.18 (66)	0.30 (71)	0.05 (54)	0.00 (47)	0.13 (40)	0.21* (16)	0.76 (351)
Borno	0.95 (162)	1.13 (94)	1.46 (141)	0.64 (106)	0.10 (129)	0.18 (62)	0.00* (27)	0.77 (721)
Cross-River	7.39 (156)	3.91 (95)	3.09 (132)	2.46 (86)	0.73 (84)	0.12 (39)	0.12 (36)	3.52 (628)
Gongola	1.09 (107)	0.86 (105)	0.25 (137)	0.51 (136)	0.03 (72)	0.00 (47)	0.00 (45)	0.48 (648)
Imo	8.14 (420)	7.50 (234)	4.36 (204)	2.18 (159)	1.98 (151)	0.84 (117)	0.36 (115)	4.89 (1399)
Kaduna	0.44 (95)	0.59 (102)	0.16 (140)	0.16 (107)	0.21 (63)	0.16 (64)	0.00 (30)	0.27 (601)
Kano	0.15 (212)	0.13 (170)	0.10 (170)	0.32 (152)	0.13 (79)	0.00 (66)	0.00 (54)	0.15 (904)
Kwara	6.43 (78)	3.12 (42)	4.09 (64)	0.98 (46)	1.03 (38)	0.70* (23)	0.97* (17)	3.28 (309)
Lagos	8.15 (80)	6.86 (86)	6.62 (58)	4.60 (56)	4.25 (38)	4.40 (37)	2.42 (30)	5.93 (385)
Niger	0.00* (22)	0.66 (47)	0.00 (71)	0.02 (64)	0.00 (33)	0.00 (33)	0.00* (17)	0.11 (287)
Ogun	7.12 (69)	4.07 (41)	3.59* (27)	2.41* (17)	2.48* (25)	0.40 (35)	0.19* (22)	3.71 (235)
Ondo	8.45 (63)	5.47 (54)	2.56 (70)	1.52 (88)	1.95 (41)	0.86 (55)	0.82* (18)	3.30 (389)
Oyo	7.71 (64)	4.10 (62)	3.72 (72)	2.05 (62)	1.61 (45)	0.61 (66)	0.30 (36)	3.11 (406)
Plateau	2.33 (35)	1.64 (55)	0.14 (47)	0.26 (52)	0.31* (29)	0.33* (16)	0.37* (9)	0.86 (242)
Rivers	5.68 (86)	4.97 (58)	2.74 (61)	1.46 (44)	0.70 (37)	0.59* (26)	0.07 (30)	3.08 (342)
Sokoto	1.16 (79)	0.30 (81)	0.14 (80)	0.28 (80)	0.07 (49)	0.25 (37)	0.00* (23)	0.38 (429)
NIGERIA	4.7 (2101)	3.1 (1710)	1.8 (1766)	1.2 (1547)	0.9 (1110)	0.6 (904)	0.3 (591)	2.3 (9729)

() Number of observations

* Estimates based on less than 30 cases

Table A3 : Estimated Values of the Coale Index of Illegitimate Fertility

Reference Nigeria .061			
States for which Estimation is possible			
Values less than .061		Values greater than .061	
Lagos	.028	Kano	.095
Imo	.035	Cross-River	.106
Ondo	.036	Anambra	.140
Oyo	.039	Rivers	.271
Bende	.060		

SUBGROUPS		PLACE AND REGION	
<u>Type and Place of Residence</u>	<u>Years of Education of Partner</u>	<u>Northeast</u>	
- Rural .072	- 0 yrs .244	Rural *	
- Urban .022	- 1-4 yrs .169	Urban .047	
- Large Urban .071	- 5-7 yrs .388		
	- 8+ yrs .084	<u>Northwest</u>	
<u>Literacy of Woman</u>		Rural *	
- Can Read .029	<u>Last Work Status of Woman</u>	Urban .206	
- Cannot Read .137	- Family Farm .212		
	- Family Employed *	<u>Southeast</u>	
<u>Literacy of Partner</u>	- Other Paid Cash .045	Rural .096	
- Can Read .227	- Other Employed .040	Urban .017	
- Cannot Read .250	- Self Employed .132		
	- Did Not Work .030	<u>Southwest</u>	
<u>Religion</u>		Rural .034	
- Catholic .072		Urban .030	
- Protestant .063			
- Other Christian .054		<u>Rural</u>	
- Moslem .032		Northeast *	
- Traditional .204		Northwest *	
		Southeast .096	
<u>Years of Education of Woman</u>		Southwest .034	
- 0 yrs .119			
- 1-4 yrs .217		<u>Urban</u>	
- 5-7 yrs .051		Northeast .047	
- 8+ yrs .007		Northwest .206	
		Southeast .017	
<u>Region of Residence</u>		Southwest .030	
- Northeast .014			
- Northwest .052			
- Southeast .084			
- Southwest .031			

* Estimation impossible

Table A4 : Contribution to the Total Annual Number of Births in Each Age Group
by Non-Married Women

	AGE				
	14-19	20-24	25-29	30-34	35-44
1. No. of non-married women per 1000	600	169	56	43	83
2. Fertility rates for non-married women	.001	.025	.032	.125	.060
3. Births contributed by non-married women (1x2)	<1	4	2	5	5
4. No. of currently married women per 1000	400	831	944	967	917
5. Fertility rates for currently married women	.279	.325	.286	.237	.132
6. Births contributed by currently married women (4x5)	112	270	270	229	121
7. Total number of births by all women (3x6)	113	274	272	234	126
8. Per cent of all births contributed by non-married women	0.9	1.5	0.7	2.1	4.0