# Family Size Preferences and Fertility in Southern Nigeria

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## I. INTRODUCTION

Sub-Saharan Africa is usually said to be in the infancy stages of the demographic transition process. Except for a few pockets of high sterility, fertility rates are among the highest in the world and so are the mortality levels, particularly infant and child mortality - thus reinforcing the high fertility attitudes.[1] This phenomenon is generally linked with a lack of modernisation, i.e., a low economic and social development level and an absence of modern health services including maternity and child care.

The picture in Nigeria is not very different. The available evidence shows both fertility and mortality levels to be high. With a crude birth rate estimated to be around 50 per thousand population, Nigeria ranks among the highest fertility countries in the world. Such a high fertility level, one may argue, could result only from unregulated fertility. One purpose of the present study, however, is to establish the hypothesis that in traditional black African societies such as Nigeria, households do have a notion about desired family size and do practise fertility limitation. That is, in these societies, the phenomenon of an open-ended family size does not exist. The study will also explore the influences of different social and economic variables on fertility and draw inferences about the possible effects of socio-economic development. This will be achieved partly through a parallel analysis of rural and urban patterns under the assumption that the urban centres are the agents of the social, economic and cultural changes.[2]

The choice of Southwestern Nigeria (i.e., the area southwest of the river Niger) for the present study is a crucial one. Since the mid-1960's there has been in Nigeria an impressive sustained growth in Gross Domestic Product largely due to increasing revenues from oil. Investments specifically in physical infrastructure, education, and modern medical and health services have been increasing very rapidly. Within the country, the southwestern region[3] contains about 29 per cent of the 1963 census reported total population and is the most developed area. It has the highest degree of urbanisation and education and probably has the highest income level.[4] With the recent intensified drive at socio-economic advancement, this region is likely to benefit the most. This is because in the initial stages of economic development, efforts typically tend to be disproportionately concentrated in comparatively more developed regions. The present study hence could be explicative of the future fertility situation in the other regions of Nigeria and perhaps in other West African countries with similar social and cultural traits.[5]

## II. THE DATA

Like many other West African countries, Nigeria lacks a national vital registration system. The national censuses are not reliable sources for direct fertility estimates,[6] and only a few demographic sample surveys have been carried out.[7] Most of these surveys were very limited in their geographical scope. It was with this apparent urgent need for a national body of demographic data that the national Fertility, Family and Family Planning (FFFP) Survey of Nigeria was launched in 1971 by the former Institute of Population and Manpower Studies (University of Ife) with the help of a grant from the Population Council. Details of the Survey methodology are set out in an earlier publication.[8] In the latter it is noted that:

> the broad purpose of the survey was to obtain reliable information on demographic, social and economic traits of Nigeria's people, and, most especially, upon their fertility behaviour and prospects for its change.[9]

The present study is based on the Western phase data of the survey. In Appendix 1 we furnish information on localities selected into the study sample. This phase covering the four states of Southwestern Nigeria was com-

pleted during July-September 1971. Fertility information in the survey was obtained only for eligible women, defined as currently married women below age 50.[10] An eligible man was the husband of an eligible woman regardless of his age. A household form was completed for each member of the household and a male/female questionnaire was completed for every eligible male/female respondent within the household. Questions were asked on, among other aspects, births and deaths (per household) during the 12-month period preceding the survey, fertility and pregnancy history, marriage history of husband and wife including type of marriage, education, occupation, labour force status, income, desired and ideal number of children, attitude, knowledge, and practice of family planning.

Altogether a total of 3 016 households were selected into the western sample using the 1963 population distribution as frame. Of these, 1 429 (i.e. 47.4%) were urban. Thus the sample was very representative of the study population given the fact that as at 1963, 50.9% of the western state population lived in urban areas defined as habitats of at least 20 000 people.[11] About 9 520 people were enumerated in these urban households (i.e. 44.3% of the total enumerated sample population); the corresponding number of eligible females was 1 991 (i.e. 43.6% of all the eligible females). To the extent that the urban and rural population proportions were about equally represented in the study sample, they are comparable.

Survey statistics in Africa frequently contain large non-sampling errors. The 1971/73 national survey is not free of such errors and the results of the study should be treated with caution.[12] One obvious limitation of the survey is that all eligible women were supposed to be interviewed but for one-quarter of them the female questionnaire was not completed. Coverage was comparatively better in urban areas. Quite frequently, in polygynous households only one or at most two women would agree to provide information. The analysis of family size preference (Section IV) is restricted to a sample of about 3 400 wives who completed the female questionnaire. The study of fertility level and differentials (Section V) is based on a much larger sample - the 4 380 wives for whom it was possible to construct their fertility history.

## III. SOME SOCIO-ECONOMIC CHARACTERISTICS OF ELIGIBLE WOMEN

Women in the reproductive age span 15-49 years constitute less than one-quarter of the total sample population. This is because of the young age structure of the population - about one-half of the total sample is below 15. The customs of universality of marriage and young age at marriage partially compensate for this relatively unfavourable proportion of fertile-age women. Average at first marriage is 18 years; 88 per cent of all the women 15-49 years are currently married. By the age of 25 almost all women are married and remain so throughout the reproductive years. This is due to the widely practiced custom of "inheritance of wives". Separation or divorce is very limited.[13] As Table 1 shows, polygyny is widely practiced; of the sample of eligible women three-fifths in rural areas and more than two-fifths in urban areas are in polygynous marriages.[14] The majority of eligible women in both urban and rural areas are illiterate, but, the proportion with at least primary education (42 per cent) is quite substantial in urban areas.

As is typical in West African society, the role of a woman as a homemaker is compatible with her role as an earner. Activity rate continuously increases from 58 per cent for the age 15-19 years to 82 percent for 30-34 years and stabilises around 85 per cent for age 35 years and above. This high participation in labour activity is the result of the almost complete dominance of women in retail activity. As Table 1 shows, petty trading,forms the single largest activity for economically active wives. This type of economic activity, it has commonly been observed, poses no conflict to childbearing and rearing activity or any other home goods productive activity of the wife. As a corollary of a substantial number of women having secondary and higher education, the white-collar occupation of professional, administrative, etc. workers comprise 14 per cent of the urban women workers.

Questions were also included on approximate annual income of wife and household. These reported income levels may be on the low side, suggesting that there was a general suspicion among the respondents that the income information might be used for tax purposes.

## IV. FAMILY SIZE PREFERENCES

### Preferred Family Size

A number of questions were included in the female interview to explore attitudes to and perceptions of family size. Typically, an African survey finds large number of non-numerical responses to such questions. Almost all the respondents who gave a non-numerical response said that it is "up to God" when asked about the number of additional children wanted. It is not necessary that all these respondents want a very large number of children or that they do not comprehend the question. In an earlier study it was suggested that a non-numerical response may not necessarily be due to lack of understanding.[15] Discussions in the present and subsequent subsection will be based on the analysis of these quantitative responses.

The responses to surviving and additional number of children wanted yielded a mean preferred number of children of 7. For a developing society, a desired family size of 7 (excluding parents) is rather high as it has been observed that most people in developing countries want moderate-size families in the range of 3-5 children.[16] However, it should be obvious that for a desired family size of around 7 children to materialise, a household need not engage in an uncontrolled fertility drive. Many households are likely to face an excess children problem if effective fertility limitation is not practised. A frequently advanced hypothesis is that children being more of an investment good in rural areas, they are desired there in larger numbers; the opportunity cost of children is comparatively much higher in urbal areas and hence fewer children are desired. Also the child bearing and rearing costs including educational expenses are usually higher in urban areas. For possibly these reasons and others, on the average, in the study population, an urban wife's response to preferred number of children is two children fewer than her rural counterpart. The mean value is 6.3 in urban and 7.7 in rural areas.

Since parity and child mortality are causally related, we present in Table 2 the relationship between number of surviving children and number of children wanted additionally as reported by the 1 545 women who returned numeric responses to both questions out of the total 3 415 women in the study sample. The expectation is that women with more surviving children should want less

WOMEN IN THE SAMPLE[a] BY RESIDENCE IN SOUTH-WESTERN NIGERIA, 1971

| CHARACTERISTICS | URBAN PER CENT | RURAL PER CENT | TOTAL PER CENT |
|---|---|---|---|
| A. Type of Marriage | | | |
| Monogamous | 57.6 | 40.3 | 47.7 |
| Polygynous | 42.4 | 59.7 | 52.3 |
| B. Education Level | | | |
| None | 53.2 | 77.4 | 66.9 |
| Primary | 24.2 | 14.6 | 18.8 |
| Secondary | 15.7 | 5.5 | 10.0 |
| College or Higher | 2.5 | 0.2 | 2.1 |
| Unknown | 4.4 | 2.3 | 3.1 |
| C. Labour Force Status | | | |
| In Labour Force | 77.4 | 77.5 | 77.5 |
| Not in Labour Force | 21.0 | 20.9 | 20.9 |
| Unknown | 1.6 | 1.6 | 1.6 |
| D. Occupation | | | |
| Farmers, Fishermen, etc. | 7.9 | 28.8 | 19.1 |
| Professional, Administrative and Clerical Workers | 14.2 | 4.4 | 8.7 |
| Petty Traders | 46.8 | 48.0 | 47.5 |
| Other Sales Workers, Craftsmen, Production Progress, Transport and Service Workers[b] | 15.2 | 16.6 | 16.0 |
| E. Wife's Annual Income[d] (in N) | | | |
| Less than 50 | 43.1 | 59.6 | 52.4 |
| 50-109 | 16.2 | 16.2 | 16.2 |
| 110-209 | 11.4 | 7.7 | 9.3 |
| 210-309 | 12.9 | 4.5 | 8.2 |
| 310 | 5.4 | 0.8 | 2.8 |
| Unknown | 11.0 | 11.2 | 11.1 |
| F. Household Annual Income (in ₦) | | | |
| Less than 190- 309 | 15.9 | 28.0 | 22.8 |
| 190- 309 | 12.1 | 13.8 | 13.0 |
| 310- 609 | 17.1 | 17.1 | 17.4 |
| 610-1009 | 17.5 | 11.4 | 14.1 |
| 1,010 | 14.5 | 17.5 | 16.2 |
| TOTAL PER CENT | 100.0 | 100.0 | 100.0 |
| NUMBER | 1908 | 2472 | 380 |

[a]Excludes women with fertility history unknown and women below age 15.

[b]Only 17 eligible women in urban and 14 in rural areas were reported as transport and service workers

[c]Total excludes women with unknown occupation - 1473 (R = 1914)

[d]at the current exchange rate, N1.00 = US $1.60

additional children. The consistent negative relationship between both variables is exemplified by the data in Table 2. The observed contingency coefficient (c) of 0.493 equally testifies to the strong relationship in this context given an expected C of 0.866 for a 4 x 4 contingency table.[17] Obviously this provides support for the hypothesis that in a traditional society such as Southwestern Nigeria, there does not exist an open-ended family size phenomenon.

Quite a large number of wives in the region do have some notion and do state what size their families should be. Equally the respondents were aware of the improving mortality conditions in the region. In response to the question: "Do you believe that children have more chance to live to adulthood than when you were a child?", about three-fourths of the rural wives and more than four-fifths of the urban wives answered affirmatively. If true, this means that the perceived extent of excess fertility required to ensure the desired number of surviving children is now being reduced. This usually entails a positive attitude to fertility limitation. Given the implied desire to reduce family size, this analysis suggests the implementation of an effective and viable family planning programme in the region.

## Socio-Economic Defferentials and Preferred Family Size

Table 3 to 5 are attempts to discern the influence of different socio-economic variables on preferred family size, controlling for residence literacy and age respectively. The fact that young wives desire such large numbers of children implies that the inter-generation taste factors may not have changed much and/or the change in socio-economic environment has not reached such a level as to alter significantly the preference structure of young wives from that of their parents. The latter seems to be the case in light of the observed effects of education.[18] Education level appears to be a strong factor influencing desired family size in both urban and rural areas. Wives with college and higher education want 2-3 children less, on the average, than uneducated wives. The differential is even wider among younger women. In other words, the recent development efforts have not sufficiently improved the education level among the present young married female cohort vis-a-vis the older cohort to produce significant changes. In the context of a developing society, education could generate a number of effects. It may raise aspirations for material goods and lower the relative desire for children. In-

creasing education raises the opportunity cost of children in terms of the wife's participation in paid economic activity, as well as reduce the investment value to the family as more education for children will be desired and hence their entry into the labour force will be delayed.

TABLE 2: RELATION BETWEEN ADDITIONAL NUMBER OF CHILDREN WANTED AND SURVIVING NUMBER OF CHILDREN IN SOUTHWESTERN NIGERIA, 1971/73

| SURVIVING CHILDREN | ADDITIONAL CHILDREN WANTED (PER CENT) | | | | | |
|---|---|---|---|---|---|---|
| | ZERO | 1-3 | 4-6 | 7+ | TOTAL | NO. |
| Zero | 1.8 | 7.2 | 56.8 | 34.2 | 100.0 | 111 |
| 1-3 | 4.6 | 24.7 | 47.7 | 23.0 | 100.0 | 992 |
| 4-6 | 40.7 | 23.2 | 24.0 | 12.1 | 100.00 | 379 |
| 7+ | 76.2 | 9.5 | 12.7 | 1.6 | 100.0 | 63 |
| Number | 250 | 347 | 635 | 313 | 1545 | |
| Percent | | | | | 100.0 | |
| Contingency Coefficient | | 0.493 | | | | |

The C values shown in Table 3 to 5 indicate that literacy is the most important factor likely to influence the change in attitude towards the existing large family norm in the region. The next important variable is urbanisation. On the other hand, with age, the association gets stronger as the women get older. Obviously it is the older women with more surviving children who are better disposed to opt for less additional children. This is quite rational as the women have to make allowance for infant mortality in their desire to get a certain number of children who will survive to maturity. The policy implication of these findings is obvious. It is not a family planning program above that would facilitate the process of reduced family size in South Western Nigeria. Increased literacy and urbanisation in the course of socio-economic development would coalesce in providing the needed panacea.

## Child Spacing

In a traditional society such as the present one, child spacing is likely to be more a function of customs and traditions than of the usual socio-economic factors. In the context of the Davis-Blake framework of intermediate variables through which cultural and socio-economic factors influence fertility, social taboos on coitus after a live birth (i.e., voluntary abstinence) may form the single most important factor influencing birth spacing in such a society.[19] A lactation taboo is widely prevalent in Nigeria, especially among the Yorubas. The traditional weaning period is reported to be around three years. Sexual relations during this period are considered to be harmful to the health of the child. So the average childbearing interval is in the range of three to four years, comprising the lactation taboo for two to three years and one year for conception and delivery.[20] In such a situation, socio-economic development is likely to loosen lactation taboos and shortening of the postpartum abstinence period.

In the national survey, an attitudinal question on child spacing was asked f rom eligible women in the form of: "What interval between two successive deliveries do you think is the most healthy?" It was anticipated that the response would give indirectly the preferences and perhaps more important the extent of lactation taboo practice. It is apparent from Table 6 that a large number of wives still adhere to the traditional taboos and state 3-4 years (mostly three years) as the healthy

interval between two births.[21] If we take 1-2 years birth interval as an indication that a wife does not believe in the lactation taboo, it seems that the custom has comparatively less influence in urban areas. Almost one-half of the urban wives (compared to 38 per cent of rural wives) regard 1-2 years as a healthy birth interval. Nevertheless, still a substantial proportion of urban wives (44 percent) prefer the 3-4 year interval.

Education emerges as a much stronger factor in relaxing the sex taboo than does urbanisation. In both urban and rural areas, consistently the proportion of wives preferring 3-4 year birth interval decreases and the proportion preferring 1-2 year interval increases with the level of education. For example, preference for 1-2 year birth interval is almost twice as high among wives with secondary or higher education as among wives with no education. To state the obvious, the educated households with relatively small preferred family size and shorter child spacing will have to engage in effective fertility limitation practice in order not to experience excess fertility.

## Knowledge and Practice of Family Planning

More than half of the urban wives (56 percent) and one-third of the rural wives (36 percent) in the national survey approved family planning to "have just the number of children that they want, and have them when they want them". Educational level is significantly related to approval rate - more than seven-tenths of women with secondary or higher education approve of family planning compared to one-third of the uneducated women.[22]

A large majority of women know traditional methods of family planning such as abstinence, rhythm and breast-feeding. Knowledge of modern methods appears to be limited. Only slightly more than one-tenth of wives are aware of the condom and the pill. More than one-half of the respondents have used abstinence as the method of fertility control - a direct corollary of the prevalence of lactation taboos. Less than 5 percent has ever used condom or the pill. As expected, extent of knowledge and practice of birth control methods increase consistently with level of education and is higher among the urban wives.[23]

## V. FERTILITY LEVEL AND DIFFERENTIALS

### Fertility Level

Table 7 provides marital age-specific fertility rates estimated from the number of live births occurring to currently married women during the 12-month period preceding the date of interview. Both urban and rural schedules depict high levels of fertility. As is typical of high fertility situations, rates are uniformly high up to age 34, with 20-24 years being the most fertile age group. After age 39 the rates drop appreciably. It appears that the social terminal age for having children is between the late thirties and early forties. This supports our earlier hypothesis that women in ages 30 years or more have comparatively a lower mean preferred number of children as a number of them may have reached this terminal age of childbearing and realise that they cannot make up the deficit between the actual number of children they have and the number they may desire.

Urban and rural specific rates follow more or less the same pattern with one noticeable difference. Compared to rural women, fertility among urban women below age 25 is higher but the gradient of decline after age 24 is steeper. This leads to higher rural fertility above age 29. The net result is that the current fertility level as depicted by the over-all rate of marital fertility is about the same in urban and rural areas. The urban pattern is in line with the patterns generally observed elsewhere. The rural one could largely be the result of stricter adherence to lactation taboos and extended postpartum abstinence intervals which follow from the higher incidence of polygyny and lower education level in rural areas, as discussed before. So, on average a rural wife would take a longer period to produce the desired number of children.

The over-all urban total fertility rate of the married women (7.61) is virtually identical with the rural one (7.63). On the average, completed family size for currently married women in Southwestern Nigeria was about 8 in 1981. Certainly marital fertility is quite high in the region. The standardized GFR values show that on the average, every year one out of four currently married women in the region had a live birth as at the survey date.

Another convenient summary measure of fertility is Coale's index of marital fertility, $I_g$, which reprents over-all marital fertility of a given population as a proportion of the fertility level of Hutterite women. The $I_g$ values are the same for urban and rural wives and show that the women are about three-fifths as prolific as the most fertile females on record. The $I_g$ value of 0.59 for Southwestern Nigeria falls within the range found in Western European countries and Australia when the practice of birth control had been growing for some time.[24] It is quite possible, however, that the $I_g$ values (especially the rural) are low partly because of the high incidence of involuntary sterility and pregnancy wastage,[25] and the prevalence of lactation taboos.

The retrospective fertility information on number of children ever born (CEB) indicates that rural fertility is slightly higher than urban (Table 8). On the average, for all currently married women the mean CEB is 3 per cent higher in rural areas. The differential is reduced to 9 per cent when over-all mean CEBs are standardised for age. In fact, it appears that up to age 44 years there is no appreciable urban-rural differential in cumulative fertility. Figures on the proportion of children surviving suggest a high incidence of infant and child mortality ir both urban and rural areas. By the end of their reproductive age span (i.e., age group 45-49), urban wives lose thirty one per cent of their offspring and rural wives, thirty-four per cent.[26] Such a high level of infant and child mortality may be one of the major factors responsible for the high-fertility attitude.

Table 9 presents duration of marriage specific fertility rates. In Southwestern Nigeria almost all the reproductive activity takes place within marriage. Universality of marriage together with the young age at marriage for girls discounts the importance of age at marriage in explaining fertility differentials. Duration-specific rates correspond quite closely to age-specific marital fertility rates and duration of marriage appears to be a close proxy for age and vice versa. So either rate may be used as a measure of fertility. However, information on marriage duration is obtained only from the female questionnaire and the wives who completed the questionnaire may have slightly different fertility experience from those who did not. But, even if true, the difference is not large enough to prefer duration-specific marital fertility rates over the age-specific

marital fertility rates and thus exclude from the analysis about one-fourth of currently married women who did not complete the questionnaire but whose fertility history is known.

On average, an urban or a rural wife has six live births during her reproductive age span. Even if we discount the high incidence of infant and child mortality as a phenomenon of the past and, with the improving mortality conditions of recent years, assume that the majority of rural and urban wives genuinely believe their children will survive to adulthood, the actual reproductive level still falls short of the mean ideal or preferred number of children by about two live births in the rural area. Unless the desired family size declines, which is not likely to happen in the short run, the rural fertility level is likely to increase with socio-economic advancement. For example, as discussed before, with socio-economic development the practice of lactation taboos may recede, shortening the present, prolonged postpartum abstinence. Better nutrition, improving health services including maternal and child care will reduce the incidence of sterility, pregnancy wastage, etc. and will improve the natural fertility level.[27] In urban areas, on the other hand, it seems that the desired family size is largely being achieved and with a shorter childbearing interval households may be engaging in voluntary fertility limitation. It is likely that in contrast to the situation in rural areas, the effect of socio-economic advancement may be to lower the fertility level by reducing the desired family size. This hypothesis will be further tested in the following sub-section.

## Fertility Differentials

In this sub-section, we attempt to explain fertility differentials by different socio-economic factors and check for consistency of the findings with the patterns observed for family size preferences and, more importantly, draw inferences about future fertility levels and trends

### A. Type of Marriage:

There is a high incidence of polygyny in South-Western Nigeria. It is likely that with increasing socio-economic development there will be shift towards monogamous marriages. For example, using education as one important indicator of socio-economic development and modernisation, a signifi-

cant (large $x^2$ value) negative relationship is observed between education level and incidence of polygyny in South-Western Nigeria.[28] It goes without saying that a shift to monogamous marriages as a result of increasing education and such modernising factors could substantially alter the over-all fertility level if women in monogamous marriages engage in significantly different fertility behaviour than those in polygynous marriages.

The relationship between polygyny and fertility can work both ways[29] - and empirical findings todate have been largely inconclusive.[30] However, the type of marital union may only be an intermediative variable. Between cultures it may indirectly be reflecting, among other factors, the variation in coitus-fertility restricting customs and practices,[31] and the incidence of subfecund women. It is beyond the scope of the present study to go into further details on this.

In the case of South-Western Nigeria, fertility differences by type of union are clearcut (Table 10). In both urban and rural areas, the fertility rate is consistently higher for monogamous women in all age groups (except 20-40 years in rural areas). The over-all standised CEB for polygynous women is lower than that for monogamous women by 14 per cent in the urban areas and 10 per cent in the rural areas. However, it is quite possible that a number of polygynous marriages occur as a result of (a) the wife having only a few children i.e., is subfecund, and hence husband taking another wife or (b) women of proven subfecundity ending up as second wives. When controlled for a subfecundity, the fertility differentials observed in Table 10, though considerably reduced, still persist.[32]

Relating the realised fertility levels to mean preferred number of children discussed earlier, it is clear that both urban and rural women in polygynous marriages fall significantly short of achieving their desired family size. In fact, in the rural areas the relatively large prevalence of polygyny may at least be partly associated with the over-all reproduction level being lower than the mean preferred number of children. On average, monogamous women by the end of their reproductive age span do achieve 6 live births, which is not much lower than the desired number.

B. Educational Level:

Empirically education is often observed to be among the most important socio-economic variables exerting a significant negative effect on the fertility behaviour of households during the process of socio-economic development. The strong negative influence of the education level on preferred family size was discerned from Table 2. Table 11 presents mean CEB by educational status of wives. The relationship in both urban and rural areas is of a curve-linear form. Women with primary education show the highest fertility level and women with secondary or higher education, the lowest. The pattern of differentials persists over most age groups. The over-all standardised mean CEB for urban wives with no education is 10 per cent lower, and that for wives with secondary or higher education 13 per cent lower, than that for wives with primary education.

The results obtained in Table 11 are, however, quite consistent with those in Table 2. Mean CEB for ages 40 years and over largely match mean preferred number of children for wives with primary or higher education. It is the uneducated-wife households which fall short of desired family size by 1.6 children in the urban areas and 1.8 in rural ones. This fits in with the early demographic transition hypothesis[33] that in the initial stages of socio-economic development an increase in education will increase the fertility level partly by loosening the lactation taboo practice. Also spread of education as discussed above will have negative effect on incidence of polygyny, curtailment of which may have some positive effects on fertility level.

C. Labour Force Status and Occupation:

Female participation in economic activity in the household theory of fertility behaviour is taken as a rough measure of the extent of choice between market productive activity and home or non-market goods productive activity including childbearing and child care. Usually a negative relationship is expected between female labour force participation and fertility. The relationship is, however, complex and is significantly influenced by the level of economic development. Normally, the more industria-

lised and economically developed a society is, the more clearcut and more incompatible are the two roles of market activity and reproductive (and home) activity. However, in a traditional society which lacks a substantial modern sector and in which there are no social customs inhibiting female work participation, there may not be any serious conflict between the two roles. In such cases, ceteris peribus, the extent of female work participation may not have a significant bearing on household fertility behaviour. This was borne out by Goldstein's study of Thailand[34] and appears to be more or less the case for South-Western Nigeria as shown by Table 12.

Only women engaged in the relatively modern occupation of "professional, etc." and "other sales workers" have a lower mean CEB and in the urban area they are responsible for the over-all standardised mean CEB working wives being slightly lower than that for non-working wives. Most of these women are probably engaged in the modern sector where the opportunity cost of children is high. As discussed before, most of these women also have higher educational attainment level and a lower desired number of children.

In the case of rural areas, and excluding the two above mentioned occupations, work participation may be behaving more like an income variable. Given that the mean preferred number of children is very large (i.e., investment value of children is high) it is a reasonable hypothesis that wives with more financial resources will be in a better position to afford more children especially, as is largely the case among Yorubas, if they are financially responsible for the upbringing of the children. For example the standardised mean CEB for wives working as farmers, etc. is 16 per cent higher than that for non-working wives.

D. Income:

Unfortunately, the least reliable information collected from the national survey is that on the annual income.[35] The findings from Table 13, which give mean CEB by wife's annual income should at best be treated as exploratory.

Standardised mean CEB in the urban areas increases consistently with wife's income until the middle in-

come group (210-609). Close inter-relationships usually exist between educational level, occupation and income level. So the curvilinear form of relationship between fertility and income level is in line with earlier findings. In the highest income category (610 +) which largely consists of educated women who are engaged in white-collar occupations, the fertility rate is the lowest. Rural fertility rates follow more or less the same pattern though not as consistently.

The relationship between household income and fertility level in both urban and rural areas is essentially the same as observed above but the picture is not as clear-cut (table not included here). This may be the combined result of (i) the influence of the wife's own income on fertility behaviour being more direct and significant than that of the husband or combined household income, and (ii) the reporting bias in wife's income (question was directly answered by eligible women in the female questionnaire) being less than that in the household income (husband provided this information and was more likely to misreport for the fear of taxation).

## VI. CONCLUSION

The majority of the sample wives in the national Fertility, Family and Family Planning survey conducted in South-Western Nigeria have a definite notion about the number of children they want. A complex of socio-economic and cultural factors with varying, often opposing, influences appear to be operating on fertility behaviour concurrently with the recent socio-economic development in the region.

Urban wives with primary or higher education, in monogamous marriages and engaged in relatively modern economic activities appear to be equating actual fertility to their desired family size. Given that their desired family size is small, these households will be engaging in the active fertility limitation practice.

Uneducated and polygynous women in both urban and rural areas do not achieve their desired number of children. Such women constitute the majority in rural areas. It is quite likely that in line with the early demographic transition hypothesis, with socio-economic advancement their fertility will increase. This will be as the

result of a number of factors including general improvements in medical and health conditions and in sanitation, and the control of diseases linked with interruptions of pregnancy and involuntary abortion, and a higher nutrition level, all of which will raise the natural fertility level. Also the socio-economic development process with a concomitant increase in education may reduce the incidence of polygyny, loosen the lactation taboos, and so may contribute to the increase in fertility levels.

It is quite possible that the above factors may result in an increase in the over-all fertility level in South-Western Nigeria at least in the short run until the deficit in desired family size is eliminated and/or desired number of children is reduced.

TABLE 3: RELATION BETWEEN ADDITIONAL NUMBER OF CHILDREN WANTED AND SURVIVING NUMBER OF CHILDREN BY RESIDENCE AND REGION IN SOUTHWESTERN NIGERIA, 1971/73

| SURVIVING CHILDREN | ADDITIONAL CHILDREN WANTED (PER CENT) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ZERO | | 1 - 3 | | 4 - 6 | | 7 + | |
| | URBAN | RURAL | URBAN | RURAL | URBAN | RURAL | URBAN | RURAL |
| ZERO | 0.7 | 0.9 | 2.2 | 1.7 | 11.6 | 7.9 | 12.1 | 12.1 |
| 1 - 3 | 19.9 | 16.7 | 72.2 | 55.6 | 76.2 | 72.4 | 80.4 | 68.9 |
| 4 - 6 | 62.5 | 60.5 | 4.3 | 36.7 | 11.6 | 17.6 | 7.5 | 18.5 |
| 7 + | 16.9 | 21.9 | 1.3 | 6.0 | 0.6 | 2.1 | 0.0 | 0.5 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| NUMBER | 136 | 144 | 313 | 34 | 345 | 290 | 107 | 206 |

CONTINGENCY COEFFICIENT URBAN = .507
RURAL = .485

TABLE 4: RELATION BETWEEN ADDITIONAL NUMBER OF CHILDREN WANTED AND SURVIVING NUMBER OF CHILDREN BY EDUCATION AND REGIONS IN SOUTHWESTERN NIGERIA, 1971/73

| SURVIVING CHILDREN | ADDITIONAL CHILDREN WANTED (PER CENT) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ZERO | | 1 - 3 | | 4 - 6 | | 7 | |
| | ILLITE-RATES | LITE-RATES | ILLITE-RATES | LITE-RATES | ILLITE-RATES | LITE-RATES | ILLITE-RATES | LITE-RATES |
| ZERO | - | 1.7 | 2.0 | 1.8 | 7.4 | 12.2 | 13.2 | 10.7 |
| 1 - 3 | 17.6 | 2.0 | 49.7 | 75.1 | 68.7 | 79.2 | 69.1 | 82.1 |
| 4 - 6 | 64.8 | 57.5 | 41.6 | 22.5 | 21.8 | 8.0 | 17.3 | 6.7 |
| 7 | 17.6 | 20.0 | 6.7 | 0.6 | 2.1 | 0.6 | 0.4 | - |
| NUMBER | 125 | 120 | 197 | 325 | 284 | 336 | 220 | 75 |

CONTINGENCY LITERATES = .589

COEFFICIENT ILLITERATES = .443

TABLE 5: RELATION BETWEEN ADDITIONAL NUMBER OF CHILDREN WANTED AND SURVIVING NUMBER OF CHILDREN BY AGE AND REGIONS IN SOUTHWESTERN NIGERIA, 1971/73

| SURVIVING CHILDREN | ADDITIONAL CHILDREN WANTED (PER CENT) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ZERO | | | 1 - 3 | | | 4 - 6 | | | 7 + | | |
| | 15-24 | 25-34 | 35-49 | 15-24 | 25-34 | 35-49 | 15-24 | 25-34 | 35-49 | 15-24 | 25-34 | 35-40 |
| ZERO | 66.7 | - | - | 3.6 | 1.4 | 0.7 | 16.8 | 4.9 | 6.4 | 16.2 | 8.4 | 11.5 |
| 1 - 3 | 33.3 | 23.1 | 16.8 | 89.3 | 66.2 | 44.9 | 82.0 | 79.2 | 45.9 | 83.8 | 70.6 | 55.8 |
| 4 - 6 | - | 65.4 | 59.6 | 7.1 | 31.7 | 44.2 | 1.2 | 14.8 | 43.1 | - | 20.3 | 32.7 |
| 7 + | - | 11.5 | 23.6 | - | 0.7 | 10.2 | - | 1.1 | 4.6 | - | 2.1 | - |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| NUMBER | 3 | 78 | 161 | 112 | 287 | 138 | 250 | 265 | 109 | 111 | 143 | 52 |

CONTINGENCY COEFFICIENT
15-24 = .237
25-34 = .391
35-49 = .431

TABLE 6: PERCENT DISTRIBUTION OF STATED IDEAL (HEALTHY) BIRTH INTERVAL AMONG WIVES BY EDUCATION AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971

| HEALTHY BIRTH INTERVAL | NO EDUCATION | PRIMARY | SECONDARY | HIGHER | ALL % | WIVES N |
|---|---|---|---|---|---|---|
| URBAN | | | | | | |
| 1-2 Years | 35.8 | 57.8 | 70.3 | 72.9 | 49.3 | 737 |
| 3-4 Years | 54.7 | 38.3 | 27.1 | 25.0 | 44.2 | 660 |
| 5 Years or More | 0.8 | 0.9 | - | - | 0.7 | 10 |
| Do Not Know or Unknown | 8.6 | 2.9 | 2.6 | 2.1 | 5.8 | 86 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 1,493 |
| RURAL | | | | | | |
| 1-2 Years | 33.2 | 51.2 | 60.3 | | 38.0 | 688 |
| 3-4 Years | 53.8 | 38.0 | 27.0 | | 49.3 | 891 |
| 5 Years or More | 1.3 | 0.3 | - | | 1.1 | 18 |
| Do Not Know or Unknown | 11.8 | 10.6 | 12.7 | | 11.7 | 211 |
| TOTAL | 100.0 | 100.0 | 100.0 | | 100.0 | 1,808 |

TABLE 7: CURRENT FERTILITY RATES[a] PER CURRENTLY MARRIED WOMEN BY AGE AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971

| AGE | URBAN | | RURAL | | ALL WIVES |
|---|---|---|---|---|---|
| | RATE | NUMBER OF WOMEN | RATE | NUMBER OF WOMEN | RATE |
| 15 - 19 | 0.351 | 111 | 0.317 | 145 | 0.332 |
| 20 - 24 | 0.368 | 418 | 0. 358 | 475 | 0.363 |
| 25 - 29 | 0. 296 | 561 | 0.295 | 606 | 0.296 |
| 30 - 34 | 0.238 | 362 | 0.248 | 415 | 0.245 |
| 35 - 39 | 0.158 | 241 | 0.173 | 318 | 0.165 |
| 40 - 44 | 0.057 | 158 | 0.101 | 277 | 0.083 |
| 45 - 49 | 0.053 | 76 | 0.034 | 147 | 0.040 |
| OBSERVED TFR | 7.61 | | 7.63 | | 7.62 |
| GFR STANDARDIZED FOR AGE | 0.240 | | 0.250 | | |
| $I_g$[b] | 0.588 | | 0.589 | | 0.588 |

[a]Based on births during the 12-month period prior to the survey.

[b]$I_g$ is an index representing the ratio of births that the married women actually had to the number they would have had if they had experienced the highest recorded fertility schedule i.e., of Hutterite women. See A.J. Coale, "The Decline of Fertility in Europe from the French Revolution to World War II", in S.J. Behrman, et. al. (eds.), Fertility and Family Planning (Ann Arbor: University of Michigan, 1969).

TABLE 8: MEAN NUMBER OF CHILDREN EVER BORN AND LIVING CHILDREN FOR CURRENTLY MARRIED WOMEN BY AGE AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971

| AGE | URBAN | | | RURAL | | | ALL AREAS | | |
|---|---|---|---|---|---|---|---|---|---|
| | CHILDREN EVER BORN | LIVING CHILDREN | PROPORTION OF CHILDREN SURVIVING | CHILDREN EVER BORN | LIVING CHILDREN | PROPORTION OF CHILDREN SURVIVING | CHILDREN EVER BORN | LIVING CHILDREN | PROPORTION OF CHILDREN SURVIVING |
| 15-19 | 1.0 | 0.8 | .82 | 0.7 | 0.6 | .85 | 0.8 | 0.6 | .84 |
| 20-24 | 1.5 | 1.3 | .88 | 1.7 | 1.4 | .83 | 1.6 | 1.4 | .86 |
| 25-29 | 2.7 | 2.3 | .86 | 2.9 | 2.4 | .83 | 2.8 | 2.3 | .84 |
| 30-34 | 3.6 | 2.9 | .80 | 4.0 | 3.1 | .76 | 3.8 | 3.0 | .78 |
| 35-39 | 4.6 | 3.6 | .78 | 4.7 | 3.6 | .75 | 4.7 | 3.6 | .76 |
| 40-44 | 5.1 | 3.7 | .71 | 5.4 | 3.8 | .71 | 5.3 | 3.7 | .71 |
| 45-49 | 5.5 | 3.8 | .69 | 6.2 | 4.1 | .66 | 5.9 | 4.0 | .67 |
| TOTAL | 3.0 | 2.4 | .81 | 3.4 | 2.6 | .77 | 3.2 | 2.5 | .78 |
| AGE STANDARDIZED | 3.2 | 2.6 | .81 | 3.5 | 2.7 | .77 | 3.2 | 2.5 | .78 |

TABLE 9: MEAN NUMBER OF CHILDREN EVER BORN PER CURRENTLY MARRIED WOMAN BY DURATION OF MARRIAGE AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971

| DURATION OF MARRIAGE (YEARS) | URBAN | | RURAL | | ALL AREAS |
|---|---|---|---|---|---|
| | CHILDREN EVER BORN | NUMBER OF WOMEN | CHILDREN EVER BORN | NUMBER OF WOMEN | CHILDREN EVER BORN |
| 0-1 | 0.6 | 156 | 0.5 | 125 | 0.6 |
| 2-4 | 1.5 | 285 | 1.4 | 239 | 1.4 |
| 5-9 | 2.9 | 404 | 2.8 | 361 | 2.8 |
| 10-14 | 4.1 | 283 | 4.2 | 349 | 4.2 |
| 15-19 | 4.8 | 184 | 5.0 | 271 | 4.9 |
| 20 AND OVER | 5.9 | 188 | 6.1 | 409 | 6.1 |
| UNKNOWN | 3.8 | 11 | 3.5 | 27 | 3.6 |
| TOTAL | 3.2 | 1,512 | 3.8 | 1,783 | 3.6 |

TABLE 10: MEAN NUMBER OF CHILDREN EVERN BORN PER CURRENTLY MARRIED X WOMAN BY AGE, TYPE OF MARRIAGE AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971

| AGE | URBAN | | RURAL | |
|---|---|---|---|---|
| | MONOGAMOUS | POLYGYNOUS | MONOGAMOUS | POLYGYNOUS |
| 15-19 | 0.7 | 0.6 | 1.0 | 1.0 |
| 20-24 | 1.6 | 1.8 | 1.6 | 1.5 |
| 25-29 | 3.0 | 2.8 | 2.8 | 2.6 |
| 30-34 | 4.4 | 3.8 | 3.9 | 3.3 |
| 35-39 | 5.3 | 4.5 | 5.1 | 4.2 |
| 40-44 | 6.0 | 5.1 | 6.0 | 4.5 |
| 45-49 | 7.0 | 5.7 | 5.9 | 5.1 |
| TOTAL | 3.5 | 3.4 | 3.1 | 3.0 |
| TOTAL STANDARDISED FOR AGE | 3.6 | 3.2 | 3.4 | 2.9 |

NOTE: 1. For number of currently married women in each category in Tables 8-11, See Table 1. Women with fertility history unknown are excluded from calculations.

2. Age composition of the total eligible women in ages 15-49 in Northwestern Nigeria is used as the standard in Tables 8-11.

TABLE 11: MEAN NUMBER OF CHILDREN EVER BORN PER CURRENTLY MARRIED WOMAN BY AGE, EDUCATION STATUS AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971

| AGE | URBAN | | | RURAL | | |
|---|---|---|---|---|---|---|
| | NO EDUCATION | PRIMARY | SECONDARY OR HIGHER | NO EDUCATION | PRIMARY | SECONDARY OR HIGHER |
| 15 - 19 | 1.1 | 0.9 | 1.0 | 0.7 | 0.6 | ( 1.1 |
| 20 - 24 | 1.5 | 1.7 | 1.4 | 1.7 | 1.8 | ( |
| 25 - 29 | 2.8 | 2.8 | 2.5 | 2.9 | 3.1 | 2.5 |
| 30 - 34 | 3.6 | 4.2 | 3.4 | 4.0 | 4.3 | 3.6 |
| 35 - 39 | 4.3 | 5.9 | 4.8 | 4.8 | 5.0 | |
| 40 - 44 | 5.0 | ( | | 5.3 | | |
| 45 - 49 | 5.6 | (5.8 | (5.6[a] | | (6.4 ( | ( (4.8[b] |
| TOTAL | 3.3 | 2.9 | 2.6 | 3.6 | 2.9 | - |
| TOTAL STANDARDISED FOR AGE | 3.1 | 3.4 | 3.0 | 3.3 | 3.6 | - |

[a] Consists of only 13 women

[b] Less than 10 women

TABLE 12: MEAN NUMBER OF CHILDREN EVER BORN PER CURRENTLY MARRIED WOMAN BY AGE, LABOUR FORCE STATUS, OCCUPATION AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971

| AGE | ECONOMICALLY INACTIVE | IN THE LABOUR FORCE | FARMERS, FISHERMEN, ETC. | PROFESSIONAL, ADMINISTRATIVE, ETC. | PETTY TRADERS | OTHER SALES WORKERS | CRAFTSMEN, ETC. |
|---|---|---|---|---|---|---|---|
| URBAN | | | | | | | |
| 15-19 | 0.9 | 1.1 | 1.0 | ... | 1.2 | 0.8 | 1.0 |
| 20-24 | 1.4 | 1.6 | 1.9 | 1.4 | 1.7 | 1.4 | 1.6 |
| 25-29 | 3.1 | 2.6 | 2.6 | 2.2 | 2.9 | 2.6 | 2.7 |
| 30-34 | 4.1 | 3.5 | 4.0 | 3.4 | 3.5 | 3.6 | 3.3 |
| 35-39 | 4.5 | 4.6 | 3.7 | 4.6 | 4.8 | 4.1 | 4.8 |
| 40-44 | 5.5 | 5.1 | ( 5.8 | | 5.1 | 4.3 | ( 5.9 |
| 45-49 | 5.2 | 5.6 | ( | 5.4 | 4.0 | ... | ( |
| TOTAL | 2.8 | 3.1 | 3.4 | 2.6 | 3.4 | 2.7 | 2.9 |
| TOTAL STANDARDISED FOR AGE | 3.3 | 3.1 | 3.2 | 3.8 | 3.2 | 2.8 | 3.1 |
| RURAL | | | | | | | |
| 15-19 | 0.4 | 0.8 | 0.8 | ... | 0.9 | ... | 0.6 |
| 20-24 | 1.3 | 1.8 | 2.0 | 1.2 | 1.7 | 1.5 | 2.0 |
| 25-29 | 2.7 | 2.9 | 3.2 | 2.4 | 2.9 | 2.4 | 2.8 |
| 30-34 | 4.4 | 4.0 | 4.6 | 3.4 | 3.7 | ( | 4.0 |
| 35-39 | 4.8 | 4.8 | 5.0 | ... | 4.5 | ( | 5.4 |
| 40-44 | 4.7 | 5.5 | 5.9 | ... | 5.2 | ( 4.2 | 6.0 |
| 45-49 | 6.1 | 6.2 | 7.2 | ... | 5.9 | (... | 5.6 |
| TOTAL | 2.7 | 3.6 | 4.1 | 3.6 | | | 3.2 |
| TOTAL STANDARDISED FOR AGE | 3.2 | 3.4 | 3.7 | 3.3 | | | 3.4 |

... Less that 5 women in the category

[a]Contains only 20 women in the two combined age groups

TABLE 13: MEAN NUMBER OF CHILDREN EVER BORN PER CURRENTLY MARRIED WOMAN BY AGE, RESPONDENT'S ANNUAL INCOME, AND RESIDENCE IN SOUTHWESTERN NIGERIA, 1971 (IN N)

| AGE | URBAN | | | | | RURAL | | | |
|---|---|---|---|---|---|---|---|---|---|
| | LESS THAN 50 | 50-109 | 110-209 | 210-609 | 610+ | LESS THAN 50 | 50-109 | 110-209 | 210+ |
| 15 - 19 | 1.0 | 1.0 | 0.7 | 1.0 | 0.7 | 0.6 | 0.8 | 0.9 | ... |
| 20 - 24 | 1.5 | 1.8 | 1.6 | 1.4 | 1.7 | 1.7 | 1.8 | 2.0 | 1.3 |
| 25 - 29 | 2.8 | 2.7 | 2.8 | 2.7 | 2.0 | 2.9 | 2.8 | 3.3 | 2.2 |
| 30 - 34 | 3.7 | 3.8 | 3.5 | 3.4 | 3.3 | 4.3 | 3.7 | 3.8 | 3.4 |
| 35 - 39 | 4.5 | 4.9 | 4.9 | 5.1 | 4.9 | 4.7 | 4.6 | 5.6 | 4.9 |
| 40 - 44 | 5.3 | ( | 6.4 | | | 5.2 | 5.8 | ( | ( |
| 45 - 49 | 6.1 | ( 4.6 | 6.3 | (4.6 | (5.0 | 6.1 | 6.2 | 5.6 ( | 4.5 ( |
| TOTAL | 3.0 | 3.1 | 3.2 | 2.9 | 3.1 | 3.3 | 3.8 | 3.8 | 2.9 |
| TOTAL STANDARDISED FOR AGE | 3.2 | 3.2 | 3.3 | 3.0 | 2.8 | 3.3 | 3.3 | 3.6 | 2.9 |

Less than 5 women

Includes 21 women with income of 610 or more