Fertility change in sub-Saharan Africa: a review of the evidence

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Nelson Onuoha died in a traffic accident in Nigeria in May 1993.
This chapter is dedicated to the memory of a valued colleague and good friend.

Fertility Change in Sub-Saharan Africa: A Review of the Evidence

Introduction

The central issue addressed in this chapter is whether or not fertility decline has started in sub-Saharan Africa. As is true for many research questions, this one contains concealed implications. The first such implication is that fertility decline, once established, is likely to be irreversible and sustained and thus of huge long term demographic significance. An alternative perspective is that any fall in African fertility might be a temporary response to the adverse economic conditions of the 1980s and that birth rates might rebound to previous high levels in parallel with any future upturn in economic growth. Past demographic transition in other regions suggests that fertility decline, at least when driven by rising fertility regulation within marriage, is indeed irreversible and sustained. Over the last century, there have been few major exceptions to the generalization that fertility decline, once underway, proceeds until the level of childbearing is within the range of 1.5 to 3.5 births per woman. While the pace of change has varied greatly and there may be plateaus or even temporary reversals, such as the post-second world war baby boom, nevertheless the generalization has proved to be remarkably robust. It follows, therefore, that any fertility decline in Africa is much more likely to mark the onset of sustained transition than to represent a temporary aberration.

The second implication concerns the level of generalization. Is it valid to discuss fertility decline in regional terms? Or should fertility analysis in Africa be regarded as no more than a set of unconnected country-specific studies? There is much to commend the second approach. The region exhibits greater cultural and economic diversity than, for instance, Latin America, the Arab states or South Asia; the empirical evidence for fertility change has to be assembled on a country-by-country basis; and it is totally untenable to assume that trends will be uniform across the region. Yet, to treat each country in Africa as an isolated individual case-study would be to deny a massive body of evidence that there is a strong underlying regional patterning to fertility transition. The fertility decline in Europe and its associated ex-colonies is clearly distinct in its timing from trends in other regions. More recently, fertility trends in Latin America have shown a remarkable synchronicity, as have those in the Sino-influenced countries of East Asia. This regional imprint stems from the importance of cultural influences on the

timing and speed of transition, that are often as strong, if not more so, than economic influences. Despite its internal diversity, sub-Saharan Africa possess features of social organization and cultural values that distinguish it from other major regions. While it is implausible to expect transition in those countries afflicted by war, civil strife and other natural and man-made disasters, it is reasonable to expect some degree of synchronicity in the African fertility transition.

Political changes in the last decade serve to reinforce this expectation. In 1980, few African governments expressed great concern about rates of population growth or gave serious support to the provision of family planing services. By 1990, political attitudes had changed substantially; many more countries had announced population policies and investment in family planning had increased. According to Mauldin and Ross (1991), sub-Saharan Africa recorded greater increases in the strength of family planning programmes in the 1980s than any other region. No doubt, pressure from international organizations played a part in this shift but much of the change stemmed from genuine indigenous concern about the effect of population growth on development. Of course, favourable government policies and programmes are no guarantee of successful demographic transformation but their existence greatly enhances the prospects for widespread fertility declines in Africa. In sum, it is reasonable to discuss fertility at a regional level. Documentation of a change in any specific country has implications for neighbouring countries. They are likely to share common languages and cultural traits that permit a ready flow of ideas and the spread of new models of behaviour.

We assess fertility trends in Africa by a review of published data and by the application of standard diagnostic tests to data tabulations specially prepared for the analysis. The task is made possible by a rapidly expanding body of evidence. Data sources are discussed in the next section. The more detailed analysis concentrates on those countries that have conducted one or more fertility surveys. We start by examining fertility trends derived from successive surveys and changes in median ages at first birth. Results of the classic P/F ratio technique are then analyzed. The analysis continues with the presentation of cohort parity progression ratios for countries that have conducted at least two relevant enquiries. This central demographic material is complemented by information on contraceptive use.

At the outset, it should be made clear that our aim is not to obtain the best possible estimate of fertility level and trend for each country with relevant data. This would require comprehensive evaluations of many data

sets. Rather, by subjecting data from a number of countries to standard screening and analytic procedures, we hope to identify regularities that will permit reasonably confident verdicts about the direction of fertility change, if not its precise magnitude. Such comparative analysis has a long history in demography and frequently has provided insights that had eluded analysts of data from a single country.

Sources of Data

The pioneering study of African demography (Brass et al., 1968) had few direct sources of information on fertility and mortality. It had to rely heavily on stable population analysis of age structures. Since that time, the detail and scope of the data available has improved steadily. Large sums of money have been invested in the African census programme and, in the 1970s, an increasing number of countries conducted more specialized single or multi-round demographic surveys. Towards the end of that decade and in the early 1980s, a fresh development occurred with the advent of the World Fertility Survey (WFS). Ten African countries participated in this programme, making possible for the first time analysis of birth histories collected at the national level. Under the successor to the WFS, the Demographic and Health Survey (DHS) programme, a further twelve fertility surveys were conducted in Africa during the period 1985 to 1990, and the number has continued to grow since then.

Though demographic data collection in the region has been dominated by large centrally funded programmes, other ad hoc national or quasi-national surveys should not be overlooked. Most notably, the Republic of South Africa has conducted two birth history surveys; Ethiopia undertook a Family and Fertility Survey in 1990; and Malawi had a Family Formation Survey in 1984. In addition the World Bank has supported surveys in Côte d'Ivoire, Ghana and Mauritania that collected a considerable amount of demographic data, though the measurement of standard of living was their main focus.

Table 1 summarizes the situation for countries with a population of one million or more. There are remarkably few countries that failed to conduct a census or national survey in the period 1985 to 1990. In terms of population size, Zaire is the most significant exception.

[TABLE 1 ABOUT HERE]

Internal evidence of changes in fertility rates: WFS v DHS

We start the main analysis with a simple comparison of WFS and DHS data. The collection of retrospective birth histories permits the calculation of age-specific fertility rates for past as well as more recent periods, though truncation of the data on older women limits the historical record. Table 2 shows the percent change in fertility rates cumulated to age 35 for ten WFS and fourteen DHS enquiries. For the WFS set, rates in the period 10 to 14 years prior to each survey are compared to the most recent quinquennium, 0 to 4 years prior. If changes of less than 10 per cent are ignored, attention can be focused on three countries: Cameroon, Nigeria and Sudan (North). In Cameroon, a 10 per cent increase in cumulated fertility is recorded. A detailed assessment by Santow and Bioumla (1984) concluded that this change was probably genuine and reflected declines in pathological sterility. For Nigeria and Sudan (North), similar detailed examinations detected serious defects in the data that accounted for much of the large apparent increase in Nigerian fertility and an even larger decline for Sudan (Morah, 1985 and Rizgalla, 1985). The overall impression from the WFS evidence is one of constant fertility. The number of surveys recording a decline is matched by the number recording an increase, and most of these differences are, in any case, small.

[TABLE 2 ABOUT HERE]

A very different overall impression is given by the DHS set. In all but one of these fourteen surveys, higher fertility is recorded in the more distant period than for the more recent one. Moreover the apparent declines are of appreciable size. In eight cases, the change exceeds 10 per cent and it amounts to about 20 percent in Botswana, Senegal and Zimbabwe and over 30 per cent in Sudan (North).

Could this striking difference in the results of the two survey programmes reflect different methodologies or data quality? In many key regards, the procedures for collecting demographic data in the two types of survey are very similar. In both the WFS and DHS, a count of numbers of children ever born is taken first and this is followed by a more detailed birth history which starts with the first-born child. The contents of the birth histories are similar: name; sex; date of birth and/or age; survival status; and age at death. The only potentially important difference is that the WFS also collected information on abortions and still-births, while the DHS did not. All the evidence

suggests that this divergence has little impact on the number of live-births reported (Jemai and Singh, 1987)

There is, however, one crucial difference between DHS and WFS collection procedures. The DHS core questionnaires contain a much longer battery of questions for each child aged less than five years, combined with anthropometric measurement. In some DHS enquiries, this characteristic has led to a pernicious form of motivated bias, that results in a deficit of four year old children and a surplus of five-year olds. Among the African surveys, this problem is particularly serious in Burundi, Liberia and Togo (Institute for Resource Development, 1990). It is because of this transference from age four to five that the DHS fertility trends, shown in Table 2, take the form of a comparison of rates in the period 0 to 3 and 8 to 11 years prior to each survey. By avoiding the deficit at year 4 and the surplus at year 5, distortions in the reported timing of births are reduced. It is uncertain, however, whether they are altogether eliminated. While there is little evidence that the ages of children who are less than four years old have been badly misrecorded, or that young children have been omitted, it is obviously possible that such errors have occurred, albeit on a much smaller scale. In conclusion, the DHS data collection procedures may be more vulnerable than WFS to underreporting of recent fertility. The evidence of constant fertility in the 1980s followed by widespread fertility decline in 1980s, derived from Table 2, is suggestive but by no means convincing.

Age at First Birth

Rising age at marriage played an important role in the Asian fertility transition, often preceding falls in marital fertility and contributing substantially to declines in overall fertility. In Africa, the measurement of marriage ages is particularly complex, both because there are many different types of partnership and because entry into partnerships may be a long and gradual process rather than a precise event. This process may involve childbearing, thus further complicating the relationship between marriage and the onset of fertility. Thus postponement of marriage in Africa may not have the direct consequences for the age pattern of childbearing that are typically found in Asia.

These problems of definition and interpretation can be circumvented by analysis of age at first birth rather than age at marriage. In Table 3, cohort changes in the median ages at first birth are presented for WFS and DHS enquiries. Once again, a difference is apparent between the earlier WFS surveys and the later DHS surveys, though it is less marked than was the case for fertility trends. In most of the WFS enquiries, women aged 20 to 24 reported

later ages at first birth than women aged 30 to 34. However, the trend towards postponement of motherhood exceeds half a year in only three surveys.

[TABLE 3 ABOUT HERE]

The set of DHS results suggests a much more pronounced shift in median ages at first birth. The majority of these enquiries show a rise of over half a year and the trend towards a later onset of childbearing is apparent in all the sub-region of the continent. Could this reflect differences in methodology or data quality between the two surveys programmes? We are sceptical of this possibility, because we can identify no plausible grounds for suggesting that DHS estimates of the timing of first births might be subject to a greater upwards bias than WFS estimates. Indeed, the problem of backwards displacement of births in some DHS enquiries, discussed in the previous section, would have the opposite effect.

It seems reasonable to conclude, therefore, that there was an accelerated trend towards postponement of first births throughout much of sub-Saharan Africa in the 1980s. The possible reasons underlying this development are beyond the scope of this chapter. No doubt the rise in the educational level of young women is an important consideration, as perhaps is the economic recession and falling living standards. Two important conclusions to be drawn for the purposes of our investigation are that many African fertility regimes are changing, rather than static, and that delayed attainment of motherhood by young African women in the 1980s may have depressed period fertility rates.

Comparison of parity (P) and current fertility (F)

Under conditions of constant fertility the mean number of children ever born should correspond closely to the cumulated age-specific fertility rates for each age group of women. This principle underlies the classic P/F ratio technique designed by William Brass primarily as a means of both assessing the quality of African fertility data and adjusting the (Brass et al., 1968). When fertility is constant and data contain no errors, P/F ratios for each age group should be close to unity. Departures from unity indicate data errors or changes in fertility. For instance, ratios that are close to 1.0 for younger age groups but progressively decline at older age groups often indicate

omission of children ever born by older women. Conversely, P/F ratios that are consistently above 1.0 suggest that underreporting of recent births (F) has occurred.

When the assumption of constant fertility is no longer tenable, interpretation of P/F ratios becomes more complex. The classic sign of marital fertility decline is a set of ratios that are close to unity at younger age groups but rise above 1.0 among older age groups, indicating a reduction in recent fertility among women over the age of 30 who have already born several children. This pattern can be distorted by omission of children ever born, however, and, in Africa, the assumption that the onset of fertility control will be most marked for women aged 30 to 39 may not be valid. As we have already seen, the African fertility transition may well involve postponement of motherhood, thereby depressing fertility rates at young ages. Moreover, the cultural importance of birth spacing in Africa may lead to the use of birth control earlier in marriage than was typical of Asian or Latin American populations. Accordingly, while a set of ratios that is high for all ages rouses suspicion of underreporting of recent births, it may also be consistent with fertility decline that is uniform across age groups.

The P/F ratios in Table 4 need to be interpreted with these caveats in mind. Four main patterns may be discerned. Group A comprises data sets where P/F ratios are reasonably close to 1.0 for all age groups. The most plausible diagnosis is that the data are of reasonable quality and that no major change in fertility has taken place. The second main group (B) contains data sets where ratios are high at younger age groups but then decline. The most obvious explanation is that the data suffer from underreporting of current fertility which gives rise to high ratios at young ages. The ratios decline because of omission of children ever born by older women. The main alternative explanation is that fertility has declined at younger but not at older ages: a possible, but in most cases, an unlikely scenario.

[TABLE 4 ABOUT HERE]

Only three surveys (Group C) display the classic signs of declining marital fertility, with an upwards gradient in ratios. An additional seven surveys (Group D) exhibit a pattern that is consistent both with underreporting of current fertility and with a genuine decline that has affected most age groups as the P/F ratios are constantly high across all ages. Finally, there is the maverick pattern found in the Cameroon survey of 1978, where

ratios are below 1.0 at younger age groups and fall further. Rising fertility is the most likely explanation.

It is of special interest to consider changes in P/F ratios for the eleven countries with more than one data set. For Kenya and Botswana, there is convincing evidence of decline between the two surveys. In both cases, P/F ratios calculated from the earlier survey are rather constant across age groups and close to unity. The later survey exhibits rising ratios, consistent with a decline in recent fertility. In Zimbabwe, both the 1984 and 1988 surveys give sets of ratios that suggest a decline in fertility that is rather even across age groups. Ratios tend to be higher in 1988 than in 1984.

The remaining eight countries yield results that contain less obvious indications of fertility decline. In Ghana, the 1981 and 1988 surveys give rather similar ratios, that are constant across age groups. A verdict of little change in fertility seems justified. Similarly in Uganda and Malawi, there is little suggestion of decline. The 1969 Ugandan census probably suffers from severe reference period error and omission of births by older women. The DHS enquiry appears to have obtained estimates of better quality. There is no evidence of omission of births by older women, but slight underreporting of recent fertility is implied by the P/F ratios. In Malawi, the 1982 demographic survey probably suffers from rather severe backwards displacement of recent births. The birth history survey in 1984 provides estimates of current and cumulative fertility that are more mutually consistent.

In the remaining four countries - Swaziland, Senegal, Nigeria and Cameroon - rather sharp increases in P/F ratios are observed in the more recent compared to the earlier enquiry. This pattern is consistent with a decrease in fertility though, in no instance, do ratios rise across age groups in a manner that is highly suggestive of fertility control in the middle and later phases of marriage.

To sum up,the P/F ratio analysis yields evidence of fertility decline in the late 1980s for Kenya, Botswana, and Sudan (North). In a further four countries, the ratios offer weaker evidence of recent decline. In none of the remaining data sets, is there clear evidence of decline. In the majority of such instances (mainly Group A), the data appear reasonably sound and the verdict of no major fertility change can be advanced with some confidence. In other cases (mainly Group B), the ratios suggest that there are serious flaws in the reporting of current and/or cumulative fertility. It is possible that the latter may have concealed signs of fertility decline and thus a verdict of no change is more tentative than for Group A.

Cohort Parity Progression Ratios

In this section, we assess fertility change by a comparison of cohort parity progression ratios for countries with two or more data sets. In most cases, WFS and DHS enquiries constitute the data sources. The two main exceptions are Swaziland where data from the 1976 and 1986 censuses were available and Zimbabwe for which three sources were available: the 1969 and 1982 censuses and the 1988 DHS. The findings are presented in Figure 1 for three broad cohorts of women. For the oldest cohort, the results are a close approximation to completed fertility. For the two younger cohorts, however, family formation is still in progress and any differences may reflect timing of births rather than the ultimate number that will be born.

The most convincing evidence of fertility decline is apparent for Kenya, Zimbabwe and Botswana. In Kenya, the progression ratios for the 1989 survey (indicate by the broken line) are consistently lower than those for the earlier survey in all three cohorts. Greater omission of children ever born in 1989 than in 1978 is unlikely to be an explanation because any such defect would surely be more pronounced among older than younger women. Figure 1 thus provides strong evidence of an appreciable fall in Kenyan fertility that has affected all age groups.

In Zimbabwe, the results for the oldest cohort - those aged 40 to 49 years are identical, indicating constant fertility. For the middle and younger cohorts, however, the DHS in 1988 yields appreciably lower probabilities of parity progression than the two censuses. Underreporting in the survey is an unlikely explanation for this pattern and a conclusion of fertility decline therefore can be advanced with some confidence.

The results for Botswana are remarkable in view of the short interval between the two surveys. For all three cohorts, lower ratios are recorded in 1988 than in 1984. It is, of course, possible that omission of children was more pronounced among all groups in the later than in the earlier survey, but this is inherently unlikely.

[FIGURE 1 ABOUT HERE]

The results for the remaining country (Sudan) on the first page of figure 1 are surprising. The P/F ratios analysis gave indications of a substantial fertility decline at older ages. This diagnosis receives no confirmation from a cohort-based approach. For women aged 40 to 49 years, the later survey shows higher progression ratios than the earlier survey and for the cohort aged 30 to 39 years there is no difference between the two surveys. Better

reporting of children ever born in 1990 than in 1979 is probably responsible for the pattern observed for the oldest cohort. To the extent that 1990 DHS also gathered better quality data among women aged 30 to 39, a genuine fall in cohort fertility may have been masked. This possibility must remain speculative. However for the youngest cohort, a drop in fertility is observed. The steep rise in age at first birth (see Table 3) is consistent with the parity - progression evidence,though it is surprising that progression to first birth appears to have remained constant between 1979 and 1990.

In Swaziland and Senegal, the findings suggest that a slight fall in fertility has taken place among women aged 20 to 40 but not among older women. In Ghana, there is no clear difference between the results of the 1980 and 1988 surveys while in Cameroon, higher ratios are recorded in 1991 than in 1978.

The last page of figure 1 shows progression ratios for Nigeria, disaggregated by region because of the huge cultural and economic diversity of this country. The most notable feature is that the DHS enquiry in 1990 gives higher progression ratios than the 1982 WFS among women aged 40 to 49. For three of the four regions, this observation also holds true for the 30 to 39 cohort. It appears, therefore, that reporting of children ever born was appreciably better in 1990 than in 1982.

For the cohort aged 20 to 29, there is little evidence of change in the two northern regions but in south-east and south-west Nigeria the comparison between 1982 and 1990 suggest that fertility may have declined. Progression to first birth has dropped steeply in both regions. In the south-west, progression to second and to third births is also slightly lower in the later survey, while in the south-east higher order ratios also tend to be lower in 1990 than in 1982. These results are unlikely to reflect differential omission of children and thus constitute reasonable evidence of fertility change among younger women in these two regions of the country. Clearly, postponement of motherhood is the major expression of change but it also appears possible that second and third births are being delayed.

To sum up, this examination of changes in cohort parity progression ratios has yielded evidence of appreciable fertility declines in Kenya, Zimbabwe and Botswana. In Swaziland and Senegal, slight falls in fertility among women aged 20 to 39 are suggested, and in Sudan (North) and south-east and south-west Nigeria, fertility may have dropped among women aged less than 30 years. In Ghana, there are no signs of change and in Cameroon, fertility may have increased.

Contraceptive use

The world wide declines in fertility over the last 40 years have been fuelled primarily by increased resort to contraception by married couples, though, as noted earlier, rising age at marriage has also made an appreciable contribution particularly in Asia. The role of abortion has been significant in some countries but has proved difficult to document. Large scale sample surveys have a good record in furnishing reasonably reliable information on the use of contraceptive methods by couples; trends in the use of specific modern methods are usually plausible, though this is less true of traditional methods. Moreover, there is a high correlation between levels of use and fertility rates.

For these reasons, survey data on levels of contraceptive practice in African population constitute a critically important type of evidence in any attempt to review fertility trends. Table 5 summarizes the results from nationally representative surveys in terms of the percentage of currently married women who reported current use of any method of contraception. Perhaps the most important feature of these data is the high levels of reported use among the black population of the Republic of South Africa. According to Mostert's (1991) analysis of the 1987-89 survey, the total fertility rate of the black population was 4.6 in the late 1980s. In the absence of detailed published tabulations it is impossible to evaluate this estimate but, clearly, this country is in the forefront of fertility transition.

[TABLE 5 ABOUT HERE]

In Kenya, Zimbabwe and Botswana, the contraceptive use data further buttress earlier evidence of appreciable falls in fertility in these countries. The next highest level of reported use is found in Swaziland, which strengthens the impression from the parity progression analysis that a modest drop in fertility has occurred. For the remaining eleven countries with recent data, levels of use are well below 20 per cent, consistent with constant or with modest changes in fertility. The figure for Sudan suggests that any decline in that country may arise primarily from marriage postponement rather that fertility regulation. Similarly the results from the 1990 Nigerian DHS enquiry lend no further support to the tentative conclusion from the cohort parity progression analysis that fertility

may have declined among women aged under 30 years. In the south-east region, contraceptive prevalence is 9 per cent, though is somewhat higher in the south-west (15 per cent).

A more detailed analysis by Onuoha (1993) of fertility and its proximate determinants in Senegal and Ghana, however, serves as a warning that we should not ignore the possible impact of proximate determinants of fertility apart from contraception. In both countries, he finds evidence of an increase over time in the fertility-depressing effect of the post-partium variables. Hitherto, most scholars have assumed that lengths of post-partum abstinence and lactational amenorrhoea will diminish under the onslaught of modernizing influences. This appears not to be the case, at least in these countries. Onuoha's analysis raises the interesting possibility that west African fertility may fall more than might be suggested by levels of contraceptive use. In Senegal, for instance, he adduces convincing evidence of a modest fall in fertility at the national level, which is much more pronounced among the educated and urban strata of the population. In Ghana, on the other hand, he found no signs of fertility decline in the 1980s.

Conclusions

For seventeen African countries, fertility data from censuses or surveys are available for the period 1985 to 1990. In all but two cases (Tanzania and South Africa), we have been able to subject the data to at least one evaluative test. For a smaller set of countries, the data from two or more enquiries have been examined for evidence of change. Our substantive conclusions are contained in Table 6, which summarizes fertility levels and trends in Africa since 1965. All the estimates up until 1980 are taken from Althea Hill's comprehensive review of Africa demography (Hill, 1990). Estimates for the period 1980 to 1984 are a mixture of Hill's work and our own results, while those for the period 1985 to 1990 are predominantly derived from our analyses. For countries where no clear evidence of data defects was found, our total fertility rate estimates are unadjusted. In other countries, we have used P/F ratios to derive adjusted rates. A comparison of rates in Table 6 with the unadjusted rates of Table 4 reveals which rates have been adjusted in this manner. It should be stressed again that our intention in this chapter was not to reach a best possible estimate for each country; this task would have required a series of detailed case studies. No doubt, some the estimates shown in Table 6 will prove to be incorrect. However, the broad impression of fertility change in Africa is likely to be valid.

What picture emerges from Table 6? The first point to note is about half of all large African countries have no recent data by which fertility can be assessed. In some cases, these gaps will be filled shortly by DHS enquiries (e.g. Zambia, Malawi, Côte d'Ivoire). In other cases, civil unrest or other problems make it unlikely that a national census or survey can be conducted successfully in the near future. The recent demographic evidence for Africa is thus selective; countries that have chosen to participate in the DHS programme, or have published recent survey or census data, are perhaps more likely to have experienced fertility decline than other countries.

Among the seventeen countries with recent relevant data, our analysis suggests that period fertility declined in the 1980s in about half of them. The declines in Kenya, Zimbabwe and Botswana are clear-cut and caused primarily by rising contraceptive use. This diagnosis is also true for the black population of South Africa though lack of well documented evidence precludes any statements about the magnitude of decline. We also conclude that appreciable declines have occurred in Sudan (North), primarily because of rising age at marriage.

In Tanzania, Swaziland, Senegal and Nigeria, the verdict is one of modest decline. For Tanzania, the analysis of the 1988 census by Chuwa et al (1991) adduces convincing evidence of a slight decline in fertility that is largely confined to urban areas and fuelled primarily by rising at marriage. In Swaziland, we conclude from our analysis of the 1976 and 1986 censuses that fertility has fallen slightly among younger women. This diagnosis is consistent with reported contraceptive use in a 1988 survey. In Senegal and Nigeria, conclusions have to be tentative but, in both cases, we suspect that modest falls in fertility have occurred among younger women. In Nigeria, this change is restricted to the south-west and south-east regions of the country.

In remaining countries, for which recent data are available - Ethiopia, Uganda, Burundi, Mali, Liberia, Ghana, Togo, and Cameroon - we have detected no convincing evidence of fertility falls.

Does this very mixed picture justify any claim that sub-Saharan Africa stands on the brink of widespread fertility transition? At the very least, the scepticism about prospects of fertility decline in Africa, that were so prevalent until recently, has lost its credibility. We anticipate that, in east and southern Africa, fertility declines, that are already underway in several countries, will spread to other states. In west and central Africa, the outlook is more uncertain. The experience of Ghana serves as a warning that fertility regimes in this sub-region may be rather impervious to change. Despite relatively high educational standards, a large urban population and some government support for family planning, it appears that Ghana experienced no fall in fertility during the 1980s.

This stability of childbearing patterns is even more surprising when the severe economic recession of the late 1980s and early 1980s is taken into account. Why this combination of an educated, rather urbanized population whose living standards were threatened did not translate into widespread falls in fertility remains a mystery. It is also uncertain whether this resilience of Ghanaian child bearing patterns applies to other countries of west Africa.

TABLE 1: Censuses & Major Sample Surveys, Sub-Saharan Africa, 1960-1990

Region & Country	1965-69	1970-74	1975-79	1980-84	1985-90
Horn of Africa					
Sudan		**1973**	1979	**1983**	1990
Ethiopia			*1981*	*1983*	1986
				1984	1990
Somalia			**1975**	*1980*	**1986**
East & Central Africa					
Kenya	**1969**	*1973*	*1977*	*1983*	1989
			1978	*1984*	**(1989)**
			1979		
Uganda	**1969**			**1980**	1989
Rwanda		*1970*	**1978**	1983	**(1989)**
Burundi	*1965*	*1971*	**1979**		1987
Zaire		*1974*		**1984**	
Tanzania	**1967**	*1973*	**1978**		**1988**
Zambezi Countries					
Malawi		*1972*	**1977**	*1982*	**1987**
				1984	
Zambia	**1969**	*1974*		**1980**	**(1990)**
Mozambique		**1970**		**1980**	**(1990)**
Zimbabwe	**1969**			**1982**	*1987*
				1984	1989
Southern Africa					
Botswana		**1971**		**1981**	1988
				1984	
Swaziland	**1966**		**1976**		**1986**
Lesotho	**1966**	*1973*	**1976**		**(1986)**
			1977		
South Africa		**1970**		**1980**	*1985*
					1989
Sahel					
Mauritania			**1977**	1981	**1988**
					1990
Mali			**1976**		1987
					1987
Niger			**1977**		**1988**
Chad					
Senegal		*1971*	**1976**		1986
			1978		**1988**
Burkina			**1975**		**1985**
Coastal strip					
Guinea				**1983**	
Sierra Leone		**1974**			**1985**
Liberia		*1971*	*1978*	**1984**	1986
		1974			
C. Ivoire			**1975**	*1981*	1986
			1979		**(1988)**
Ghana	*1968*	**1970**		1980	1988
		1971		**1984**	1990
Togo		**1970**		**1981**	1988
		1971			
Benin			**1979**	1981	**(1990)**
West & Central Africa					
Nigeria	*1966*	*1973*		1982	1990
Cameroon			**1976**		**1987**
			1978		
CAR			**1975**		**1988**
Gabon		**1970**		**1981**	
Congo		**1974**		**1984**	
Angola		**1970**			

Legend:**Census,** Birth history survey, *Other survey.* Unpublished results are in parentheses.

Sources: Hill (1990) & recent additions.

TABLE 2 Percent change in age-specific fertility cumulated to age 35: WFS v DHS

World Fertility Surveys: period 0-4 compared to 10-14 years prior to survey			Demographic and Health Surveys: Period 0-3 compared to 8-11 years prior to survey		
Survey	Year	Change	Survey	Year	Change
Sudan (North)	1979	-38	Sudan (North)a/	1990	-33
Kenya	1978	-9	Kenya	1988	-14
Lesotho	1977	+3	Uganda	1989	-6
Mauritania	1981	-9	Burundi	1987	-5
Senegal	1978	0	Zambiaa/	1992	-16
Côte d'Ivoire	1980/81	+2	Zimbabwe	1988	-18
Ghana	1981	-7	Botswana	1988	-22
Benin	1982	+4	Mali	1987	-7
Nigeria	1982	+26	Senegal	1986	-18
Cameroon	1978	+10	Liberia	1986	0
			Ghana	1988	-7
			Togo	1988	-11
			Nigeria	1990	-17
			Cameroon	1990	-8

a/ Periods of comparison are 0-4 and 10-14

Sources: WFS, Goldman et al., 1985; DHS, Arnold and Blanc, 1990 and country reports.

TABLE 3 Absolute changes in median ages at first birth recorded by cohorts aged 20-24 and 30-34 years: WFS v DHS

World Fertility Surveys		Demographic and Health Surveys	
Survey	Change in Years	Survey	Change in years
Sudan (North)	+3.4	Sudan (North)	+3.6
Kenya	+0.3	Kenya	+1.0
Lesotho	+0.2	Uganda	+0.6
Mauritania	+1.2	Burundi	+0.8
Senegal	+1.1	Zambia	+0.9
Côte d'Ivoire	-0.3	Zimbabwe	+0.7
Ghana	-0.4	Botswana	+0.4
Benin	+0.5	Mali	-0.2
Cameroon	-0.4	Senegal	0
		Liberia	-0.9
		Ghana	+0.7
		Togo	+0.8
		Nigeria	+0.7
		Cameroon	-0.2

Source: WFS, Goldman et al. 1985; DHS, country reports.

TABLE 4 P/F ratios and unadjusted total fertility rates

Group A	20-25	25-30	30-35	35-40	40-45	45-50	Unad TFR
Kenya 1978	1.00	1.04	1.06	1.00	0.96	0.95	7.92
Uganda 1989	1.10	1.03	1.07	1.10	1.09	1.09	7.30
Burundi 1987	1.12	1.08	1.04	1.05	1.06	1.04	6.95
Malawi 1984	0.98	0.92	0.90	0.95	0.97	0.95	7.71
Mali 1987	1.04	1.10	1.06	1.07	1.10	1.11	6.93
Botswana 1984	1.08	1.06	1.06	1.07	1.06	1.05	6.46
Senegal 1978	0.99	1.08	1.05	0.96	0.95	0.96	7.15
Liberia 1986	1.08	1.01	0.98	1.00	1.00	0.98	6.61
Ghana 1981	1.05	1.02	1.06	1.09	1.07	1.06	6.26
Ghana 1988	1.04	1.04	1.08	1.10	1.12	1.11	6.40
Benin 1982	0.98	0.99	1.00	0.95	0.92	0.90	7.08
Group B							
Sudan(North) 1979	1.17	1.19	1.18	1.09	1.01	0.99	6.00
Ethiopia 1990	1.27	1.20	1.14	1.06	1.05	1.03	6.63
Uganda 1969	1.36	1.23	1.15	1.03	0.98	0.96	5.35
Malawi 1982	1.26	1.24	1.22	1.20	1.18	1.13	6.68
Swaziland 1976	1.22	1.24	1.23	1.18	1.16	1.13	5.70
Mauritania 1981	1.34	1.27	1.13	1.09	1.06	1.04	6.25
Nigeria 1962	1.12	1.04	0.99	0.93	0.86	0.82	6.34
Congo 1984	1.37	1.33	1.26	1.19	1.15	1.14	4.95
Group C							
Kenya 1988	1.10	1.12	1.12	1.18	1.21	1.22	6.71
Botswana 1988	1.10	1.15	1.21	1.25	1.22	1.20	5.00
Sudan(North) 1990	1.13	1.26	1.40	1.50	1.53	1.55	4.96
Group D							
Zimbabwe 1984	1.16	1.08	1.10	1.13	1.15	1.18	6.52
Zimbabwe 1988	1.16	1.17	1.16	1.18	1.21	1.22	5.70
Swaziland 1986	1.56	1.52	1.51	1.53	1.50	1.51	4.30
Senegal 1986	1.08	1.08	1.13	1.13	1.11	1.10	6.62
Togo 1988	1.04	1.12	1.13	1.10	1.13	1.11	6.59
Nigeria 1990	1.06	1.15	1.15	1.12	1.12	1.08	6.04
Cameroon 1990	1.13	1.10	1.10	1.11	1.11	1.11	5.97
Group E							
Cameroon 1978	0.96	0.96	0.94	0.90	0.87	0.85	6.39

Sources:WFS, CPS or DHS surveys, except: censuses in Uganda (1969), Swaziland (1976 and 1986) and Congo (1984); Family and Fertility survey in Ethiopia (1990) and demographic survey (1982) and Family Formation Survey (1984) in Malawi

TABLE 5: Percentage of currently married women using any method of contraception

	Period		
	1975-79	1980-84	1985-90
Sudan (North)	5		9
Ethiopia			4
Kenya	6	17	27
Uganda			5
Rwanda		10	
Burundi			9
Malawi		7	
Zambia			15
Zimbabwe		38	43
Botswana		28	33
Swaziland			21
Lesotho	5		
South Africa (black popl.)			47
" " (black popl. excl homeland)		44	53
Mauritania		1	
Mali			5
Senegal	4		11
Liberia			6
Côte d'Ivoire		3	
Ghana	10		13
Togo[a/]			12
Benin[a/]		9	
Nigeria		5	6
Cameroon	2		16

[a/]Excluding abstinence

Sources: WFS, CPS and DHS surveys except: Ethiopia, Family and Fertility Survey, 1990; Rwanda, Enquête Nationale sur la fécondité, 1983; Malawi, Family Formation Survey, 1984; Swaziland, Family Health Survey, 1988; South Africa, Fertility Survey, 1982 and Demographic and Health Survey, 1987-89.

TABLE 6 Total Fertility Rates: Estimates for selected African countries, 1965-1990

Region & Country	1965-69	1970-74	1975-79	1980-84	1985-90
Horn of Africa					
Sudan (North)	-	6.8	7.1	-	6.2
Ethiopia	6.4	-	-	-	7.9
Somalia	-	-	7.1	7.4	-
East & Central Africa					
Kenya	7.6	-	7.9	7.7	6.7
Uganda	7.1	-	-	-	7.3
Rwanda	7.7	-	8.0	8.4	-
Burundi	6.2	-	6.5	-	7.5
Zaire	-	-	-	-	-
Tanzania	6.6	6.3	6.9	-	6.5
Zambezi Countries					
Malawi	-	7.8	7.8	7.8	-
Zambia	7.0	7.0	6.8	-	-
Mozambique	6.5	-	-	-	-
Zimbabwe	8.0	-	-	6.5	5.7
Southern Africa					
Botswana	-	6.5	-	6.5	5.0
Swaziland	6.9	-	7.0	-	6.5
Lesotho	-	-	5.6	-	-
S. Africa (Black pop)	-	-	-	-	4.6
Sahel					
Mauritania	-	-	-	7.9	-
Mali	-	-	-	-	7.6
Niger	-	-	-	-	-
Senegal	-	6.4	7.7	-	7.2
Burkina Faso	-	6.6	-	6.5	-
Coastal strip					
Guinea	-	-	-	-	-
Sierra Leone	-	6.4	-	-	-
Liberia	-	6.0	-	-	6.6
Côte d'Ivoire	-	-	7.0	7.4	-
Ghana	7.1	-	-	6.4	6.4
Togo	6.6	-	-	-	7.4
Benin	-	-	-	7.1	-
West & Central Africa					
Nigeria	-	-	-	6.3	6.0
Cameroon	-	-	6.5	-	6.6
Central African Rep.	-	5.0	-	-	-
Gabon	-	-	-	-	-
Congo	-	6.0	-	6.6	-
Angola	-	-	-	-	-

Sources:Althea Hill (1990) and recent estimates by authors, except for Tanzania (Chuwa et al., 1991) and South Africa (Mostert, 1991)

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