

# **THE FERTILITY TRANSITION IN GHANA REVISITED**

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**PAPER PREPARED FOR THE XXV IUSSP INTERNATIONAL POPULATION  
CONFERENCE, TOURS, FRANCE, 18-23 JULY 2005.**

## INTRODUCTION

Despite the ambiguity that surrounds the concept of fertility transition (Agyei-Mensah 1996), there is a near-consensus that fertility transitions involve a sustained and usually irreversible decline in fertility driven by the increasing use of contraception, sterilization and abortion to limit family size (Onuoha and Timaeus 1995). Van de Walle (1992) has argued that the transition is not far away when people start conceptualising their family size, and cannot take place without such conceptualizing. Fertility transitions are generally characterized by four main stages: (i) pre-transition; (ii) onset of decline; (iii) mid-transition and (iv) post-transition level of fertility (Rosero-Bixby and Casterline 1993). Each stage is characterized via different parameters: for (i) and (iv), level of fertility; for (ii), historical dates and level of fertility; for (iii), pace of decline. Even though a number of countries within the Sub-Saharan African region have gone through the first three stages of the transition, none of them has yet reached the post- transitional stage. Nevertheless, post-transitional fertility levels have been observed among the white population of South Africa (Mostert 1990). Moreover, with the exception of a few studies (see Bongaarts and Watkins 1996, Cohen 1998, Smith 2004, Casterline 2001), most of the literature on the Sub-Saharan African fertility transition, has focused mainly on the onset of decline. Yet, onset is but one stage of the overall fertility transition process.

The past two decades have witnessed a growing interest in fertility transitions in Sub-Saharan Africa. Not only have the transitions varied in rhythm and intensity, the explanations have also varied in both time and space. South Africa was the first to experience a significant decline in fertility in the mid 1960s, but the South African fertility decline did not become apparent to the demographic community until the 1990s, because of the apartheid policy (Caldwell and Caldwell 2002). Kenya, Botswana and Zimbabwe followed suit in the mid-1980s with Ghana evidencing fertility decline in the early 1990s. Generally, the declines have been more pronounced in Southern Africa than in West Africa. Within the West African region, Ghana's decline has been the most substantial. The main aim of this paper is to describe the Ghanaian fertility transition to date, with particular attention to patterns across time and space. A secondary objective is to consider the factors that might account for this decline. The paper is restricted to the period 1960 to 2003, for which I have access to more reliable and pertinent empirical materials.

The data used in paper are mainly from the Ghana Demographic and Health Surveys (GDHS) that have been carried out since the mid/late 1980s. To date, Ghana has participated in four rounds of the DHS (1988, 1993, 1998 and 2003). In addition to the GDHS, the paper also makes use of other secondary sources, such as United Nations Fertility Estimates and Projections, Population Census Records of Ghana, and the Ghana Living Standards Survey. Ghana has conducted four population censuses since independence in 1957 (1960, 1970, 1984 and 2000). Census statistics undertaken prior to independence are not very reliable as they did not conform to the guidelines specified in the United Nations. Even though civil registration systems exist in the country, they could not be utilized as viable sources of demographic data because of deficient geographic and subject coverage. Besides these national data sources, the paper also utilizes material from micro-demographic studies conducted in the country since the 1960s.

In this paper, the Ghanaian fertility transition to date is divided into three stages according to key fertility parameters and other socio-demographic characteristics. These are: (i) the pre-transition period, stretching from about 1960 to the late 1980s; (ii) the onset of the transition, beginning around the early 1990s; and (iii) mid –transition, up to the present. Within each of the three phases, I examine the evidence of the fertility change, and then discuss the large scale social-economic and demographic forces underlying the changes. The paper argues that the pace of Ghana's fertility transition may be more leisurely in the near future than in the recent past.

## THE PRE-TRANSITION PERIOD: THE 1960s TO THE LATE 1980s

The nature of pre-transition fertility has been the subject of much research and, indeed, considerable controversy (Henry 1961, Blake 1985, Van de Walle 1992, Bongaarts and Watkins 1996). One important characteristic of pre-transition societies, is that the majority of couples do not deliberately practice birth control to limit their number of children (Bongaarts and Watkins 1996). Other commonly identified characteristics of pre-transitional fertility regimes are that the level of childbearing and of demand, or need, for surviving children are both high, and that surviving offspring constitute an advantage to parents, extended families, and clans or lineages (Cleland 2001). Because of the absence of deliberate birth control, variations in fertility in pre-transitional demographic regimes were primarily due to nuptiality and postpartum practices. Caldwell notes that pre-transitional demographic regimes were characterized by net wealth flows that went from the younger to the older generations. Production relationships in these societies were unequally based on kinship, giving the oldest the most material advantages and, more generally, making high fertility advantageous for the family (Caldwell 1982).

Amongst the reasons cited for historical high levels of fertility in Ghana, are the desire to perpetuate the man's lineage, prestige, high infant mortality and the need for economic support in old age (Gaisie 1972). Thus among the Akans of Southern Ghana, prolific childbearing was encouraged, and a mother of ten was given a public ceremony of congratulations. The woman in turn offered the man a ram *badudwan* to thank him for increasing the matriline by 10. The traditional system also supported early marriages and childbearing. Marriage and childbearing closely followed puberty, and the first sex took place largely within marriage (Awusabo-Asare et al. 2004). Using the 1960 post-enumeration census survey, Aryee and Gaisie (1981) estimated the singulate mean age at first marriage to be 17.7 years. Despite the historical high demand for children, fertility was restrained through postpartum sexual abstinence and breastfeeding. For example, among the Tallensi of Northern Ghana, the suspension of sex relations was not regarded as ritual, but as a practical means of preventing pregnancy while the woman was nursing a child. Its observance, according to Fortes was a question of conscience and self control and few men go through life without a lapse (Fortes 1949). Other factors included diseases, malnutrition and seasonal and long term migration (Gaisie 1972). Pathological sterility was also relatively high especially within the northern part of the country, and this too limited the overall level of fertility (Gaisie 1981).

An analysis of the historical demographic data suggests that fertility levels were high and ranged between 6.0 and 7.0 births per woman. The total fertility rate (TFR) - births per woman during a reproductive career - was, for example, estimated at 6.4 for 1960, 6.9 for 1976 and 6.5 for 1978/79 (Gaisie 1968, Caldwell 1965, Tawiah 1984). Regional and district differences in fertility were also apparent. Based on the returns of the 1960 census, Engman (1986) observed that with a few exceptions, fertility rates were lower among the urban population than the rural. However, there was no evidence of a systematic and sharp pattern of high fertility in poor rural areas and low fertility in prosperous areas. Regional disparities in fertility were also apparent. Based on the 1970 census, Gaisie (1981) observed sharp differences in fertility among the administrative regions. Generally, the regions in Northern Ghana (ie Northern, Upper East, Upper West regions) reported low fertility levels compared to Southern Ghana. Gaisie (1981) gave the following fertility rates for the administrative regions of Ghana: Western, Central and Volta regions (6.5-6.9), Brong-Ahafo and Ashanti regions (7.5-7.9), Northern region (6.0-6.4), Eastern region (7.0-7.4), Upper region and Greater region (less than 6). Significant differences among the major tribal groupings were also observed. Fertility was highest among the Akan, Ewe, and the Central Togo tribes and lowest among the northern tribes- ie Mole- Dagbani and Grusi- with the Ga-Adangbe, Guan, Lobi and Gurma exhibiting comparatively moderate fertility levels (Gaisie 1972).

Gaisie (1981) in his analyses of the regional fertility differences observed that the north south fertility differential could in part be explained by physical separation and sex imbalance due to seasonal and long term migration of adult males. He also attributed the disparities to differences in customs of

postpartum abstinence. Abstinence for example, was supposed to be observed for two to three years by the Lowilli of the Northern region, who regard sexual relations during this period as an impediment to the flow of milk and the satisfactory development of the infant. A Kusasi man was also not supposed to cohabit with his wife for a period ranging from between 2 to 3 years depending on how soon the child learnt to walk (Gaisie 1981).

In spite of the relatively high fertility nation wide, and the preference for large families, there were some indications of fertility limitation amongst the urban elite. Caldwell (1968) concluded from a thorough analysis of demographic change in Accra, the capital, that it was catalyzed by an increase in educational levels, especially among the urban educated. Despite the pro-populationist attitude of the government during the period, and the fact that there was no publicity about retailing or distributing contraceptives, over a quarter of the urban elite were actually purchasing and presumably using contraceptives. Caldwell (1977) again noted that communication on contraceptives probably came largely by word of mouth between relatives or friends, more often from woman to woman than from man to man. It was also interesting to know that the problem of unwanted/unplanned children came up in many discussions on population control. Physical strains of childbearing were not mentioned nearly as frequently as the financial pressures. The prevalence of induced abortion from self reported evidence gives an impression that the practice was not very common, and probably limited to secondary schoolgirls. However, a localized study in Ayere in the Eastern region, found high frequency of induced abortions among young women (Bleek 1987).

The relationship between marriage and fertility also received attention during the period. Based on a sample survey undertaken in 1966, Pool (1969) observed that in both rural and urban Ghana, there was a direct association between fertility and type of conjugal union. Women in mutual consent marriages had achieved lower levels of fertility than women in customary unions. Significant fertility differences were also observed between monogamous and polygynous unions. Women in polygynous marriages in rural areas recorded an average number of live births of 8.32, as compared to 5.64 for the monogamously married women in the same rural settings. Gaisie (1976) also examined fertility differentials amongst rural and urban areas. He observed that the real size of the urban-rural fertility difference was masked by a plethora of complex factors not adequately covered by the available statistics, and he advocated further studies of urban fertility patterns. Similarly in the case of differences by education, Gaisie and Nabila (cited in Oppong and Abu 1987) noted that the TFR for women in the three educational categories nil, primary and middle school were 6.6, 6.9 and 6.5 respectively, i.e. slightly higher fertility among the primary school attenders. They thus concluded that formal education had a negative effect on fertility only within certain social situations where other supportive or contributing factors were operative. In other words the precise factors and processes contributing to differences and change were unknown and undocumented. A study into the determinants of cumulative fertility in Ghana based on the 1971 Post Enumeration Census Enquiry revealed that fertility fell with increasing level of education, but the fertility of older women with primary education was almost the same as that of women who have never been to school. Contrary to the widely-held view that Muslim traditions were more associated with higher fertility than those of other religious groups, Muslim women reported the lowest fertility, while Christian women registered the highest fertility (Tawiah 1984). Of course religious affiliation differs by region, and we have already noted regional differentials in fertility, in particular lower fertility in northern regions where Muslims chiefly reside.

Starting in the 1960s, research on fertility became increasingly motivated by the policy aim of reducing fertility in the less developed countries. The reduction of fertility via contraception was promoted as a correct policy solution to over population in the developing world. Thus in Ghana, attempts were made by planners to control the country's rapid rate of population growth and high fertility rates. In 1967 Ghana became the first sub-Saharan African country to sign the World Leaders Declaration on Population (Studies in Family Planning 1969). In the same year the Planned Parenthood Association of Ghana (PPAG), an affiliate of the International Planned Parenthood Federation (IPPF), was founded. In response to this concern, a national population policy of slowing population growth was established in 1969. A main objective of the policy was the reduction of the

rapid population growth, specifically slowing it down to 1.8 percent annum by the year 2000. A National Family Planning Program was also put into place in 1970. The National Family Planning Secretariat was charged with the responsibility of coordinating family planning activities in both the public and private sectors. Participating agencies in the programme included the then Central Bureau of Statistics, the Christian Council of Ghana and the Planned Parenthood Association of Ghana (PPAG).

In addition to the promulgation of new population policy and the initiation of family planning services, there were signs during the mid 1970s of significant changes in the Ghanaian family in the major urban centres in the country. These changes were necessitated by rising education, wage employment and geographical mobility. A major change in this respect was the gradual shift of households from extended families to nuclear families (Oppong and Abu 1987). Accompanying these family changes, were significant improvements in child survival. The infant mortality rate declined from 160 infant deaths per 1000 live births in the early 1960s, to 121 in 1971 and 100 in the mid-1980s (Ghana Statistical Service 1994a). The decline in mortality coupled with the relatively stability in fertility resulted in an increase in the rate of population growth. Census records indicate that the rate of population growth increased from 2.4 percent between 1960 to 1970, to 2.6 percent between 1970 and 1984. The total population also increased from 6.7 million in 1960 to 8.6 million in 1970 and 12.2 million in 1984 (Ghana Statistical Service 2000a).

The carrying of the Ghana Fertility Survey (as part of the World Fertility Surveys (WFS) programme) in 1979 marked a major milestone in demographic research in Ghana. Ghana was among ten African countries that took part in the WFS programme. The 1979 GFS showed a declining trend in the TFR during the five-year period preceding the GFS 1979/1980. The apparent decline in fertility led Cochrane and Farid (1989) to conjecture that Ghana had one of the brightest hopes for fertility decline in Sub-Saharan Africa. However, the optimism prompted by the GFS estimates of incipient fertility decline was short-lived, as the 1988 GDHS indicated that the decline had not been sustained. The 1988 GDHS showed a TFR of 6.4 for the immediately preceding years, as against the TFR of 6.5 for the years immediately preceding the 1979 GFS. Further analysis of the 1988 GDHS indicated that even though a short-term fertility decline occurred during the mid to late seventies, the decline did not persist into the eighties. These concerns led Van de Walle and Foster (1990) to comment that Ghana provides a warning against relying on the evidence from a single survey when attempting to ascertain the onset of fertility decline.

Despite doubts raised as to whether fertility transition had begun in the late 1980s, there was evidence during the period that many Ghanaians knew or could state the number of children that they wanted. This finding is quite interesting when one compares with historical data. For example, in the 1963 KAP survey of Ghana, 45 percent of women in the rural areas and 36 percent in the urban areas stated that they did not know "how many children was a good number for a woman to have?" However in the GDHS 1988, the proportion of nonnumeric answers on the ideal number of children had fallen to 13 percent (see Van de Walle 1992). It must be recalled that one of the pre-conditions for fertility transition identified by Ansley Coale was that there should be a clear notion of what family size ought to be and the awareness of individuals of where they stand with respect to the norm- (see Van de Walle 1992).

A rigorous assessment comparison of the GFS 1979 and the GDHS 1988 has been conducted by Onuoha and Timaues (1995). They observe that the GFS data yielded lower estimates of fertility than the GDHS for 1977-1980, the period over which the results of the two surveys overlap. Moreover, comparison of the most up-to-date estimates from each survey suggests that the level of fertility increased slightly in Ghana during the period 1980-1988. In contrast, considered separately, each set of estimates indicate that fertility in Ghana has been falling slowly. But, according to the 1988 DHS data, this trend had virtually ceased by the mid-1980s. The discrepancy between fertility estimates obtained from the GFS and the GDHS for the same period implies that there must be errors in the data from one or both of the surveys. Onuoha and Timaues (1995) attribute this disparity to under-reporting of births in the GFS 1979. In addition they maintain that the sampling or the sample drawn

from it seems to have been biased in one or both of the surveys. For instance, 24 percent of the women interviewed in the GFS come from the Ashanti region, one of the most urban and best educated regions of Ghana, with fairly low fertility rates according to the results of both surveys.

Recently Gaisie (2005) has produced a new set of estimates of the TFR for the country between the periods 1960-2003 that attempts to correct for the biases in the various data sources (see Table 1). The estimates were based on data from the 1960 Post Enumeration Census Survey, the 1971 Supplementary Census Survey, the 1979/80 Ghana Fertility Survey, the 1988, 1993, 1998, and 2003 Ghana Demographic and Health Surveys, and the more recent 2000 Population and Housing Census. Applying the Relational Gompertz Model, Gaisie obtains higher fertility rates that are on average higher than the previously reported figures, especially during the early and late 1970s. The period is quite revealing, and cast doubts on the earlier reports of the decline in fertility in Ghana during the 1970s. In sharp contrast, the fertility estimate of 6.4 reported for the 1988 GDHS is much closer to the adjusted rate of 6.7. These adjustments yield a revisited view of the 1970s, when it appears that fertility did not decline, contrary to views held previously in the demographic research community.

**Table 1: Reported and Estimated Total Fertility Rates, Ghana: 1960-1988**

<b>Period</b>	<b>Survey</b>	<b>Observed</b>	<b>Relational Gompert Model</b>
1959/60	Post Enumeration Census	6.16	6.88
1970/71	Supplementary Census Enquiry	5.94	6.87
1976/80	Ghana Fertility Survey	6.47	6.80
1984/88	Ghana Demographic and Health Survey	6.40	6.67

Source: Adapted from Gaisie 2005.

## **THE ONSET AND MID-TRANSITION : 1990s AND BEYOND**

The onset of fertility transition marks a sharp and irreversible departure from the reproductive behaviour of the past. The mid-transition (pace) on the other hand, denotes how slow or rapid the transition unfolds after the onset. The onset of fertility transition is confirmed when fertility has fallen by 10 percent or greater in a secular decline that persists until a relatively low level of fertility is attained (Casterline 2001). The onset of the fertility transition in Sub-Saharan Africa has been highly variable. An analysis of the variability of the onset shows that the transition first begun in South Africa in the mid 1960s, followed by Botswana, Kenya and Zimbabwe in the mid to late 1980s. Since the early 1990s, significant declines in fertility have also been observed in Ghana, Cote d'Ivoire, Senegal, Togo and Benin. On average, fertility has declined more rapidly in Southern Africa and more slowly in West Africa (Cohen 1998). Analysis of the onset of fertility transition in West Africa show significant geographical variations. In Ghana, the TFR declined from 6.4 in 1988 to 5.5 in 1993; Senegal, from 6.6 in 1986 to 5.7 in 1997; Cote d'Ivoire from 7.2 in 1980-81 to 5.7 in 1994, Benin, from 7.1 in 1982 to 6.3 in 1996, and Togo, from 6.6 in 1988 to 5.4 in 1998 (Agyei-Mensah 2002).

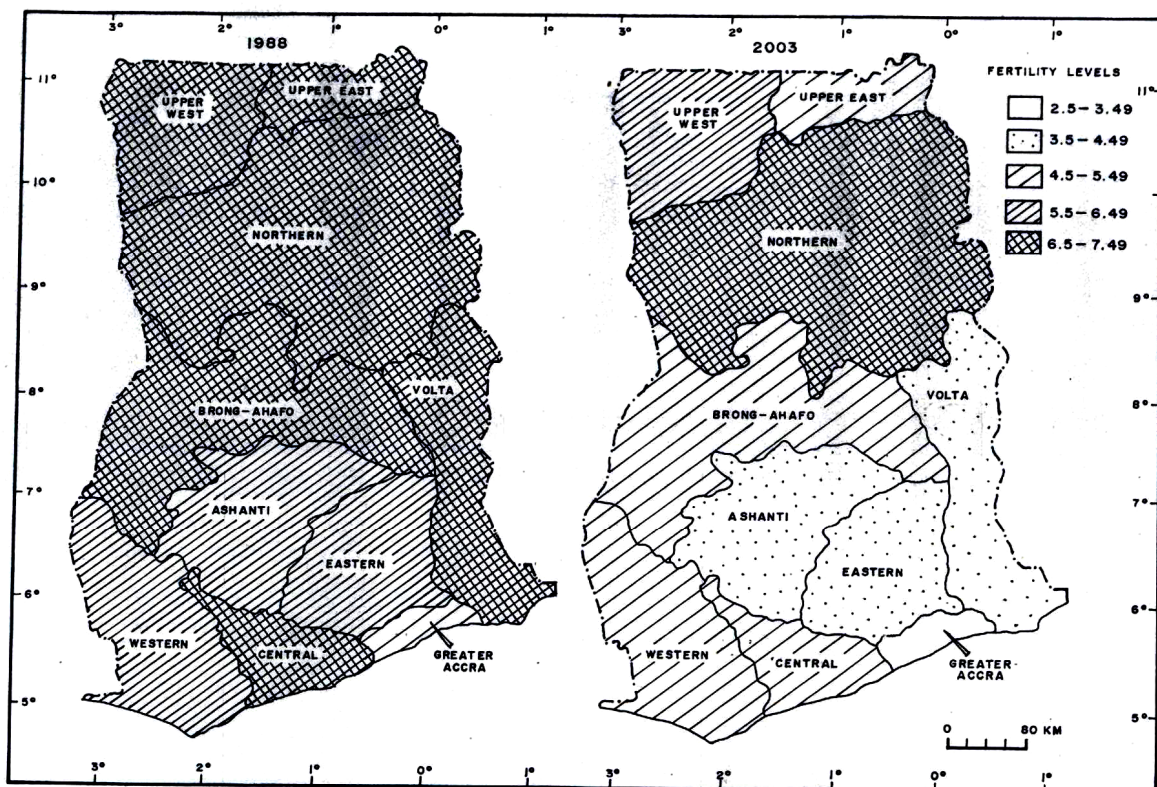
Demographers began to perceive the first signs of widespread fertility decline in Ghana during the early 1990s. As noted above, according to the GDHS, the total fertility rate declined from 6.4 children per woman in the late 1980s to 5.5 in the early 1990s. This decline is higher than the 10 percent rule conventionally accepted as indicating an onset of irreversible fertility transition (Caldwell et al. 1992). The 1998 GDHS estimates the TFR for the mid 1990s at 4.6. The pace stalled thereafter, according to the most recent GDHS conducted in 2003: this survey estimates the TFR at 4.4 births per woman for the period 2000-2003 (Ghana Statistical Service et al. 2004a). Because of doubts about the level of modern contraception reported in the 1993 survey, the first signs of fertility decline in Ghana in the early 1990s were met with considerable scepticism (see Rutenberg 1995). But, with the confirmation

provided by the 1998 GDHS, it became increasingly clear that the fertility decline was genuine (see Blanc and Grey 2002).

Urban-rural differentials in fertility provide further insights into the nature of the decline. In the early stages of the transition, urban fertility declined substantially from 5.1 in 1988 to 4.0 in 1993. However, rural fertility did not experience any marked decline in this same period (TFRs of 6.6 in 1988 and 6.4 in 1993). Urban fertility further declined to 3.0 in 1998, with rural fertility experiencing a substantial decline from 6.4 in 1993 to 5.4 in 1998. This is an exceptional pattern, in West Africa, but resembles the pattern of fertility declines elsewhere in the continent, for example Kenya, where the decline affected all major segments of the population (Agyei-Mensah 2002). The 2003 GDHS show that there has not been any significant change in rural and urban fertility in the first part of this decade (Ghana Statistical Service et al. 2004a).

Considering regional patterns of decline, trends in fertility since the late 1980s have differed among the regions of Ghana. Generally, the pace of decline in Southern Ghana has been much faster than in Northern Ghana. This has led to a reversal of regional differentials observed in the past (e.g. 1970s), when fertility was relatively lower in the North than in the South. As can be seen from Figure 1 and Table 2, a sharp decline has occurred in the Greater Accra region, with the TFR declining from 4.6 to 2.9 between the 1988 and 2003 GDHS. Some significant declines also occurred in the Upper East region, from 6.8 to 4.7 births per woman according to the 1988 and 2003 GDHS, respectively. Only the Northern region seems not to have participated in the fertility decline: the TFR remains stable at around 7 births per woman (6.8 and 7.0 in the 1988 and 2003 GDHS, respectively). Spatially, reproductive behaviour of women resident in the Greater Accra, Northern, and Central regions (data not shown) were largely responsible for stalling of the TFR of Ghanaian women during the period 1998-2003. In all these three regions, the TFR increased between 1998 and 2003.

**Figure 1: Regional Patterns in Ghanaian Fertility 1988, 2003**



Source: Based on Data from Ghana Statistical Service 1989; Ghana Statistical Service et al. 2004a

The fertility declines have also been bolstered by consistent micro-demographic studies conducted since the 1990s that show levels, trends and determinants of fertility. Examples are Debpuur et al. (2002) on Navrongo, White et al. (2002) on Kumasi, Agyei-Mensah and Aase (1998) on Accra and Cape Coast, Agyeman and Casterline (2003) on Southern Ghana. The distinctive feature of these studies is that they are localized and involve original research instruments in contrast to standardized international surveys such as the DHS. The Navrongo Study is a community based family planning and fertility survey that begun at the Navrongo Health Research Centre, in the Upper East Region in 1994. The evidence emanating from the panel survey data indicate that there has been a significant decline in the TFR (Debpuur et al. 2002). Agyei-Mensah and Aase (1998) have also examined fertility change in five distinct societies (Jamestown and Airport Residential Area all in Accra; Ridges and Idan in Cape Coast; and rural Otum). Significant differences emerged according to birth cohort (indicative of fertility change) and residential area. Significant fertility declines were evident among the birth cohorts in the elite areas, but in the rural area fertility remained high even though contraceptive services were available. An increase in teenage fertility amongst the urban poor and rural area were noticed. White et al. - (2002) have examined the fertility behaviour of women with and across generations in two migrant communities in Kumasi, Ghana's second most populous city. The TFR for migrants was 3.74 and that of the second generation residents 2.68. TFR for urban native women was 2.56, just slightly lower than that of the second generation. Agyeman and Casterline (2003) have also examined the association between social organization and reproductive behaviour in Southern Ghana. Significant variations in fertility attitudes and behaviours were observed among the six communities, and also between men and women.

What do these differences in fertility behaviour across space and time in Ghana tell us? Fertility is influenced by a number of individual and social factors. Even though population scientists are far from in agreement about the importance of each factor and its respective contribution to fertility behaviour, the different patterns observed suggest uneven development and variations in institutional and cultural contexts within the country. Admittedly, social and economic change, a reason frequently cited to explain the fall in fertility, has played an important part in most of the above changes and differences in fertility. The context can be gauged with some trends in basic demographic and socio-economic indicators such as urbanization, schooling, health and population programs. The proportion of the population in urban areas almost doubled between 1960 and 2000, from 23 percent in 1960 to 28 percent in 1970 to 32 percent in 1984 and finally, to 44 percent in 2000 (Statistical Service of Ghana 2002). Thus even though the population is still predominantly rural, the country is urbanizing rapidly. Judging from past experience in Sub-Saharan Africa (see Shapiro and Tambashe 2002) fertility decline is likely to proceed at a faster pace in urban areas, where people have greater exposure to mass media (and wider opportunities to observe and discuss the lifestyles of other social groups) and where the costs of childbearing are relatively higher and the benefits relatively lower than in rural areas.

Given the significance of schooling in most studies of the determinants of fertility transition (Lloyd et al. 1999), it is clearly important to examine Ghana's record in this respect. Prior to independence, there were few schools in Ghana as compared to the present, but the number was relatively high in relation to other African countries. Most of these schools were established either by Christian missionaries or the colonial government. Nkrumah's accelerated development plan for education in 1952 produced quantitative progress in the development of education in the country (Antwi 1992). The educational act of 1961 made education compulsory by providing that every child of school going age should attend a course of instruction in a school recognized for the purpose. The expansion in educational services is reflected in the reductions in illiteracy rates over the years. For example, in 2000, the percentage of the Ghanaian population aged 6 and above who were illiterate was 43 percent, a large decline from the 57 percent recorded during the 1970 census (Ghana Statistical Service 2000a, Ghana Statistical Service 1970). Thus the decline in fertility has occurred during the same period as gains in education.

The overall economic situation in the country has also had a determinative effect on fertility trends. Like many African countries, Ghana was plunged into a major economic crisis in the late 1970s. An



economic downturn in the 1980s saw the government revert to a World Bank and International Monetary Fund Restructuring Program. Restructuring conditions deregulated state services, opening them up to competition; subsidies in health and education were removed, which converted previous state services to a user pays system. With the liberalization of the economy, employers laid off staff. These new social conditions imposed severe hardships on the populace, and from the mid 1980s the standard of living for families ceased to improve, and for a large proportion of the population- the most impoverished- it probably deteriorated (Konadu-Agyemang 2000). The argument that economic deprivation is a prime stimulus for fertility decline has also attracted much attention among African demographers (see NRC 1993, Becker 2002).

Access to public health services, including maternal and child health care programmes, have also played a role in reducing fertility. Aside from direct effects through improved access to contraception, public health services can reduce fertility by enhancing child survival. As we noted earlier there was a sharp reduction in the infant mortality rate in the 1960s level of 160 per 1000 live births to 121 per 1000 live births in the early 1970s. Subsequently, the infant mortality rate fell from 77 per 1000 live births in 1988 to 66 per 1000 in 1993 to 57 per 1000 live births in 1998. However, the estimated infant mortality rate increased between the next two surveys, to 64 per 1000 live births according to the 2003 GDHS (Ghana Statistical Service et al. 2004). Indeed, improvements in child survival between the early 1960s to the late 1990s has made a significant impact in fertility aspirations and consequently the reduction in child births. At a first glance, the recent increase in 2003 is quite worrisome, especially given increase in vaccination coverage and other child health interventions. However, if we examine more closely the confidence limits of the estimates for the infant mortality for 1998 and 2003, one can see that they overlap, meaning that there is no significant difference between the two rates. One can therefore conclude that infant mortality rate in Ghana has remained stable over the two survey periods.

In addition to the more generalized effects of expanded health services, undoubtedly a direct contribution has been made by the expanded provision of family planning infrastructure and service availability (Hong et al. 2005). These deserve some credit for the modest increase in modern contraceptive use. But the programmes are yet to make a significant impact in rural communities. Preliminary results of focus group discussions held in the Goaso Forest District as part of an on-going research on socio-economic characteristics of settlements in off forest reserves in the Goaso Forest Reserve of the Brong-Ahafo region, reveal that even though couples are limiting the number of births partly as a result of economic hardships, there is a high resentment regarding family planning. These resentments are expressed by both men and women. The findings suggest that modern contraceptives are little used, for reasons of ignorance, misinformation about side effects, and supply shortages (Agyei-Mensah, 2004). The following quotes illustrate this phenomenon, as revealed by focus group discussions held amongst men and youth groups in Nyamebikyere, a rural settlement in the Goaso Forest District.

Moderator: How do you see family planning method in this town?

Respondent: We have really reduced the number of children we give birth to here, nowadays (laughs)

Moderator: Why?

Respondent: Because, we are all experiencing the economic hardship nowadays. And giving birth to more children will therefore, be extremely difficult for parents to cater for.

Moderator: I'm very much interested in the family planning method. Can you tell me the methods you use here?

Respondent: The only thing is for a couple to agree to practice family planning, then you go to Goaso for a family planning counseling

Moderator: But do the women normally agree to use the family planning method:

Respondent: Yes, they do. But in the end, they suffer from many diseases

Moderator: Hmmm

Respondent: This is true. We have already buried one woman from these family planning-related sicknesses

Moderator (laughs)

Respondent: Please, you shouldn't laugh. It's a serious thing

After I was born, my mother practiced family planning. It took her about 10 years before she gave birth again, and she nearly lost her life, as a result.

Moderator: Yes there is truth in all that you are saying. That is why it's advisable for a couple to go to the clinics for counseling and for the doctor to give the method that she/he thinks is good for the couple

Respondent: Please, you always talk about doctor, doctor, but the problem is that when the pregnant women visit the clinic, one medicine is shared for all of them to take. So, all of them can be infected in case the medicine is spoilt or expired. In fact, we are only experiencing such situations in recent times. So, the Government should address the situation. In the olden days, even the pregnant women were also drinking our well-prepared herbal medicines and were very healthy even after birth.

Improvements in the status of women either through legislation and improvements in education have also had a modest impact on fertility. Ghana is one of the few countries in Sub-Saharan Africa that has signed the Convention on the Elimination of All Forms of Discrimination against women. The convention addresses three dimensions of women's position: civil rights and the legal status of women, reproductive rights, and customary rights deriving from cultural factors (Rutenberg 1995). Thus in 1985, laws on intestate succession and the registration of customary marriage and divorce were promulgated, and the UN Convention on the elimination of all forms of discrimination against women was ratified. This has given women greater rights in marriage, divorce and child custody (Manuh 1993). These measures are raising the self consciousness and dignity of the women and influencing their reproductive choices. Also of demographic interest, are attitudes towards family size. Studies have shown that as couples move towards a more rational approach to fertility limitation they have an increasing tendency to think about what number of children is ideal. The mean ideal number of children for women aged 15-49 declined from 5.3 in 1988 to 4.4 in 2003 (Ghana Statistical Service 1989, Ghana Statistical Service et al. 2004a). The lowest ideal family size in 2003, an average of 3.5 is found among women in Greater Accra. A norm of large families continues to prevail in the Northern (6.9), Upper East (5.8) and Upper West (5.6).

For fertility to change, all of these social, economic, cultural, and political changes must be expressed through changes in one or more of the proximate determinants (contraception, marriage, postpartum sexual abstinence, breastfeeding and induced abortion) (Bongaarts and Potter 1983). Here, we place great weight on trends in modern contraceptive practice, representing deliberate efforts by couples to break away from traditional to more modern modes of reproductive behaviour. The rate of modern contraceptive practice (i.e. percentage of married women using a modern contraceptive) increased steadily from 1988 to 2003- 5.2 in 1988 to 10.1 percent in 1993 and 13.3 percent in 1998. In the most recent survey conducted in 2003, the modern contraceptive rate rose marginally to 19 percent in 2003. But still falls slightly short of the 20 percent mark put forward by Caldwell et al. (1993) as marking the onset of an irreversible fertility transition in Sub-Saharan Africa. Ghana's modern contraceptive rate is also far lower than the rate in other Sub-Saharan African countries that have recorded significant declines in fertility. For example, the modern contraceptive rate in Kenya stands at 31 percent. While the modern contraceptive rate in Ghana is low by this standard, it is high by comparison with other countries in Central and West Africa : Nigeria (8% as of 2003); Benin (7% as of 2001); Mali (7% as of 2001); Cameroon ( 7% as of 1998); Burkina Faso ( 9% as of 2003) and Cote d'Ivoire (7% as of 1998-1999) (Ghana Statistical Service et al. 2004 b).

The percentages of currently married women using modern methods of family planning, as estimated by the Ghana Demographic and Health Surveys, are shown in Table 2. The changes in contraceptive use were due largely to the rapid increases in the use rates of injectables, the pill and the male condom. Surprisingly, IUD showed virtually no change over the period. The increase in the use of the male condom may be linked to the campaign and awareness of the HIV epidemic. The drop in the use of the diaphragm though not large may reflect a switch to condom use in an era of HIV/AIDS.

**Table 2: Percentage of currently married women age 15-49 who are currently using modern method, Ghana 1988, 1993, 1998, 2003**

	GDHS 1988	GDHS 1993	GDHS 1998	GDHS 2003
<b>Any modern Method</b>	5.2	10.1	13.3	18.7
Pill	1.8	3.2	3.9	5.5
IUD	0.5	0.9	0.7	0.9
Injectable	0.3	1.6	3.1	5.4
Diaphragm/foam/jelly	1.3	1.2	0.9	0.5
Male condom	0.3	2.2	2.7	3.1
Female condom	u	u	u	0.1
Female sterilisation	1.0	0.9	1.3	1.9
Implants	u	0.0	0.1	1.0
LAM	u	u	0.5	0.3

U Unknown (not available)

Source: Ghana Statistical Service et al. 2004a, page 74.

A balanced assessment must also consider other proximate determinants of fertility such as induced abortion, marriage and postpartum practices. This is especially the case in an assessment of the Ghanaian fertility decline because, as already noted, the use of modern forms of contraceptives has not increased sufficiently to account for the decline in fertility. But, just how prevalent is abortion in Ghana? And what contribution has abortion made to the recent decline? A 1997-1998 study of a large sample of women in southern Ghana who were diagnosed as pregnant shows an abortion ratio of 19 abortions per 100 pregnancies (Ahiadeke 1997). Another community-based study carried out in 1999 in one rural district in Western Region, involving over 1000 women aged 15-49, report an abortion ratio of 15/100 live births and 28 percent of the women of reproductive age reported an abortion. The study finds that differences in use of induced abortion were partly responsible for the education and residence-related changes in fertility (Geelhoed et al. 2002).

A relatively late age at marriage and first birth as well as long periods of post-partum sexual abstinence and postpartum amenorrhoea can substantially reduce effects on fertility from its theoretical natural maximum (Bongaarts and Potter 1983). However, neither of these factors has changed sufficiently in the past decade to account for the recent declines in fertility at the national level. For example, the median age at first marriage increased only slightly from 18.8 in 1993 to 19.6 in 2003 among women aged 20-49 years (see Table 3). Similarly, the median age at first birth remained stable at 20.2 in 1993 and 20.5 in 2003. In the case of postpartum variables, the median duration of postpartum abstinence remained roughly the same between 1993 and 2003: 9.0 months in 1993 and 8.8 months in 2003. And post-partum amenorrhoea changed in a manner that would lead to an increase in fertility, falling from 13 months in 1993 to 10.8 months in 2003 (see Table 3), presumably due to reductions in the duration or intensity of breastfeeding.

**Table 3: Levels of Selected Proximate Variables, for respondents of 1993 DHS and 2003 DHS, Ghana**

<b>Variable</b>	<b>1993</b>	<b>2003</b>
Median age at first birth (years)	20.2	20.5
Median age at first marriage (years)	18.8	19.6
Percent using modern contraception	10.1	19.0
Median duration of postpartum abstinence (months)	9.0	8.8
Median duration of postpartum amenorrhoea (months)	13	10.8
Median duration of postpartum insusceptibility	16.2	13.8

Source: Ghana Statistical Service 1994b; Ghana Statistical Service et al. 2004a

Another issue is whether HIV/AIDS has impacted on fertility levels in Ghana? From a theoretical standpoint, HIV could have an effect on the transition to low fertility, the fecund population and mortality rates. However, given Ghana's relatively low HIV prevalence of 3.1 percent as of 2003 (UNAIDS 2004), it is unlikely HIV has had any significant effect on fertility levels at the national level. Nevertheless, HIV may have led to changes in contraceptive use, as suggested by the significant increase in use of the male condom from 4 percent in 1988 to 14 percent in 1998 (Casterline 2002).

Diverse regional and cultural factors also contribute to the observed fertility differences (see Table 4). Southern Ghana, by comparison with regions in Northern Ghana, experienced earlier diffusion of education, more socio-economic development, greater autonomy of women, lower child mortality, higher urbanization, and wider openness to the West, among other factors conducive to fertility decline. Part of the explanation for regional differentials also lies with the uneven distribution of health services and modern contraceptive services in the country. The Greater Accra region is the most urbanized and educated region (see Table 4), a factor which explains this region's relatively low fertility. In addition, recent economic hardships may have contributed to the fertility declines. In the early 1990s, Benneh et al. (1990) observed that strains and stresses of urban life had led to declines in family size desires. Women in the Greater Accra region are also delaying and postponing the onset of childbearing. This often reflects the difficulties in the job market, financial insecurity, rising aspirations and the so-called "marriage squeeze" (i.e. shortage of marriageable persons of the opposite sex) (Agyei-Mensah et al. 2003). When Agyei-Mensah et al. (2003) asked women in Jamestown and Airport residential Area (Accra) about reasons why they had stopped having additional children, they stressed the harsh socio-economic conditions, as major reasons. Thus financial constraints also contributed to family limitation as Caldwell (1968) had reported in the 1960s (see Caldwell 1968). Women aged 25-49 in the region also have the highest modern contraceptive use of 26 percent (see Table 4). Induced abortion may also be a common means through which fertility is controlled in the Greater Accra Region. A qualitative study of adolescents conducted in 2002 on coping mechanisms on pregnancy in Ga Mashi, a suburb of Accra, the capital, reveals that induced abortion is a common strategy of terminating pregnancies (Henry and Fayorsey 2002).

The decline in fertility in the Upper East is worthy of special attention, because its fertility decline from a TFR of 6.8 to about 4.7 between 1988 and 2003 was not accompanied by significant improvements in modern contraceptive uptake compared to most regions in the country (from 0.7 percent in 1988 to 10 percent in 2003). The modern contraceptive rate of 10 percent is the second lowest amongst the 10 administrative regions of the country (see Table 4). A first way to make sense of the fall in fertility in the region is to ask whether there are structural causes for the declining numbers of births. Three factors are paramount here. The first is poverty. The Upper East region is the poorest region in Ghana. The Fourth Round of the Ghana Living Standards Survey 1998/1999 revealed that the incidence of poverty, as measured by the upper poverty line of 900,000 *cedis* (100 US dollars) was 88 percent, the highest level in the country (Statistical Service of Ghana 2000b). The

incidence of poverty also increased between 1991/2 and 1998/9 (see Table 4). Theoretically, high fertility is as much a symptom of poverty as a cause. However, recent studies in Africa suggest that poverty could also trigger fertility decline (see Becker 2002).

A second factor in this region, is the effect of agricultural adversity. In a recent study on the decline of fertility in the Nankena Kassena District of the Upper East Region, Appiah-Yeboah et al. (2001) noted that there were conscious reproductive behavioural adaptations to agricultural adversity as evidenced by avoiding or delaying childbearing through abstinence. Most respondents also revealed that sexual libido was reduced during times of agricultural crisis, as food deprivation led to both spousal discord and lethargy. A third factor, is the pace of urbanization. Even though current levels of urbanization are still low compared to most regions in Southern Ghana (see Table 4), there has been a significant increase from the reported figure of 8.5 percent in 1988 to 15.7 percent in 2000. The percentage increase in urbanization between the two census periods (51.4 percent) is the highest amongst the administrative regions of the country. The infant mortality rate also declined in the region if one compares the GDHS estimates for 1988 (103.1 deaths per 1000 births) and 2003 (33 deaths per 1000 births). Of further relevance is the long median duration of postpartum abstinence in this region, 22.7 months according to level reported for the 2003 GDHS (Ghana Statistical Service et al. 2004a), the longest amongst the 10 administrative regions. Even though the duration of abstinence estimated for the 2003 survey is shorter than the 1993 estimate of 28.8 months (Ghana Statistical Service 1994b), undoubtedly post-partum abstinence is an important proximate mechanism regulating fertility in the region.

Let us look further at Northern Region. Why does the Northern region, show high and stable fertility, an extraordinary combination in contemporary Ghana (Table 4)? It is likely that there are inhibiting factors that depend on the cultural context. In an attempt to unravel this puzzle, Agyei-Mensah (1997) argued that the increase in fertility in the Northern Region between 1988 and 1993, could be due to the breakdown of traditional fertility regulating methods such as postpartum sexual abstinence without an offsetting impact of increased use of modern contraception. For example, the median duration of post-partum sexual abstinence amongst currently married women declined from 16.5 months in 1993 to 15.8 months in 2003. Yet, the rate of modern contraception is still relatively low (8 percent as of 2003). Another reason could be the high level of illiteracy in the region. For example, educational attainment among women in the region is the lowest amongst the 10 administrative regions of the country. The GDHS surveys in 1988, 1998 and 2003 all show Northern region with the highest percentage of women who have not been to school. The figure reported for 2003 is 78.8 percent (Ghana Statistical Service et al. 2004a). Northern region is more urbanized than the Upper East and Upper West regions, yet fertility levels are higher than these two regions. Some of the reasons why urbanization apparently is not having a significant impact in the region, is the relatively high proportion of the population that is Muslim as compared to other regions (34 percent based on the 2003 GDHS), high illiteracy rate, polygyny, and the quality of urban life.

**Table 4: Changes in Infant Mortality Rate (IMR), Total Fertility Rate (TFR), Use of Modern Contraception, Percent Urban, Percent with No Education (Women), Incidence of Poverty by Administrative Region**

Region	IMR		TFR		Modern Contraception (percent of women aged 25-49)		Percent Urban		Percent of women aged 15-49 with No Education (Women)		Incidence of Poverty	
	1988	2003	1988	2003	1988	2003	1984	2000	1988	2003	1991/92	1998/9
Western	76.9	66	6.1	4.5	3.2	18	22.8	36.3	43.6	22.3	60	27
Central	138.3	50	6.6	5.0	4.9	13	26.5	37.5	47.6	25.2	44	48
Greater	57.7	45	4.6	2.9	10.6	26	83.5	87.7	21.9	12.4	26	5
Volta	73.5	75	6.7	4.4	3.9	19	20.7	34.6	38.0	20.7	57	38
Eastern	70.1	64	5.7	4.3	5.8	22	26.7	27.0	27.6	15.9	48	44
Ashanti	69.8	80	5.9	4.1	6.5	21	32.1	51.3	30.0	16.8	41	28
Brong-Ahafo	65.0	58	6.9	4.8	5.2	25	26.6	37.4	42.8	27.4	65	36
Northern	103.1	69	6.8	7.0	0.7	8	24.7	26.6	81.7	78.8	63	69
Upper East	103.1	33	6.8	4.7	0.7	10	8.5	15.7	81.7	63.3	67	88
Upper West	103.1	105	6.8	5.5	0.7	20	10.8	17.5	81.7	72.4	88	84

Sources: IMR, TFR, Modern Contraception, Percent with No Education (Women) (Ghana Statistical Service 1989; Ghana Statistical Service et al. 2004 a).

Percent Urban (Ghana Statistical Service 1984, Ghana Statistical Service 2002).

Incidence of Poverty (United Nations Population Fund (UNDP), Government of Ghana 2004).

### Why the Recent Stall in Fertility?

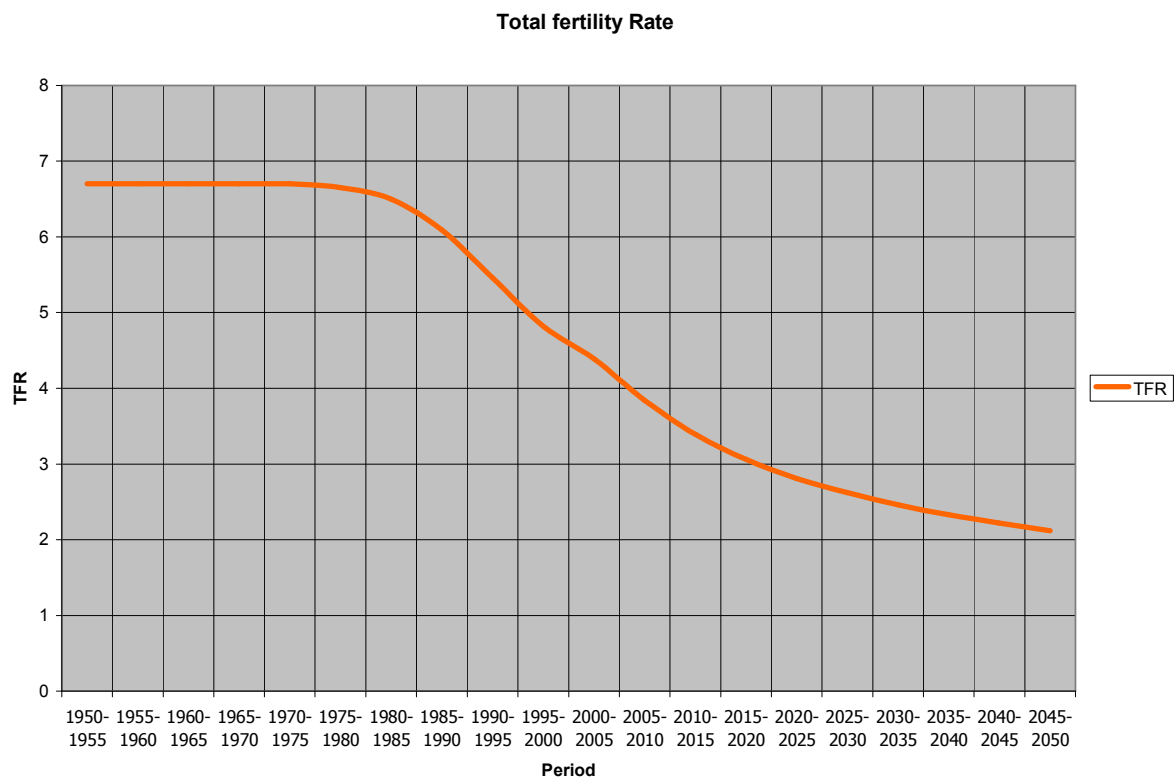
Why has Ghanaian fertility stalled during the period 1998 to 2003? A plausible reason may have to do with fertility desires. I think reducing fertility from levels of 6 to 8 down to 4 to 5 may not be so difficult, because most couples do not want the burden of lots of children surviving (6+). But the further step down below 4 children makes couples anxious and insecure. We notice that the onset of the fertility transition (6.4 in 1988 to 5.5 in 1993) was marked by a significant reduction in the average ideal number of children from 5.3 in 1988 to 4.4 in 1993 and 4.3 in 1998. In 2003, the mean ideal number of children reported was 4.4. Thus fertility desires since 1993 has hovered around 4.4 births. Indeed, there has not been any significant drop in fertility desires since 1993. It should be noted that the effects of the burden of children and its influence on fertility desires operate differentially among couples of different geographical and socioeconomic groups. The results of the GDHS 2003 indicate that urban residents desire fewer children than their rural counterparts. What is worrying is that fertility desires amongst both the urbanites and rural dwellers has not gone down since the 1993 GDHS.

The macro-economic data for Ghana has been relatively positive during the past decade. Thus Ghana has become a success story in international development circles. But the impression on the ground is that people are struggling. So is the fertility stall a positive income effect? Or a negative income effect (lack of development)? Or neither? As discussed earlier in the quotes from focus group discussions in the village of Nyamebekyere, some rural communities are reducing the number of births partly as a result of economic hardships. But they are resentful of family planning methods. Their anxieties relate

to the inefficient family planning service delivery, which they claim has resulted in the death of women in the village. Thus until the rural environment is secure from child and maternal deaths, it would be suicidal to preach and talk about birth control. This has serious implications for national fertility because the bulk of the population resides in rural areas.

The question remains to what extent these trends will continue in the near future. Analysis of fertility data based on the 2004 Revision of the UN Population Division Estimates and Projections (Fig.2) shows that Ghana's TFR will go further down below 4 births between 2005-2010, and reaching replacement fertility by 2045-2050. However, the likelihood and degree of further decline below 4 births by the close of 2010 remains uncertain.

**Figure 2: Period Total Fertility Rate Ghana: 1950-1955 to 2045-2050**



**Source: United Nations 2005.**

## SUMMARY AND CONCLUSION

The overarching objective of this paper has been to examine the fertility transition in Ghana since the 1960s. In contrast to recent analyses of the fertility transition in Sub-Saharan Africa, I have adopted a historical approach that distinguishes the various stages of the fertility transition to date. The value of this approach is simply that it provides a clear portrait of the chronological sequence of events. The underlying assumption is that fertility transition must be studied as a process. The analysis presented in this chapter also highlights the amount of geographical diversity in the ongoing fertility decline. Different stages of the fertility transition are observed in the different regions depending on the particular socio-economic situation. Northern region is still in the pre-transition stage, and yet to

experience a significant decline in fertility. In contrast, the pace of the transition has been very rapid in the Greater Accra region. The determinants have also varied in both time and space.

The early stages of Ghana's fertility decline have occurred during a period of far-reaching social change, which has encompassed periods of socio-economic growth and economic adversity. The society has since become more urbanized, and literate. Child survival has improved, tastes have become more cosmopolitan and demand for consumer products has grown. This is not the Ghana we knew in the 1960s. In addition to the above factors, the pace of the transition has been occasioned by an increased acceptance of smaller family sizes. An intriguing- indeed very puzzling- feature of the Ghanaian decline is that modern contraception usage has not kept up pace with the decline in fertility. The obvious question to pose is what mechanism, then, accounts for the fertility decline? Abortion is a strong possibility, but the empirical links between abortion and fertility at both the micro and macro levels in Ghana are not clear and conclusive. The evidence of trends in the proximate determinants thus provides some basis for questioning the validity of either the rate of modern contraception or the fertility estimates. It appears that the mis-match between the fertility decline and the relatively low contraception prevalence must be accounted for either by reduced exposure to sexual relations (perhaps due to concern about HIV), delayed marriage, an increase in induced abortion, or mis-reporting of contraceptive use. A nation-wide survey on induced abortion is therefore needed to explain the gap between the current level of fertility and the low rate of modern contraception.

The results presented here also indicate that policy measures should pay more attention to the local diversity of the processes that shape fertility transitions. There is a case for enhancing access to culturally appropriate family planning and health care services in deprived rural communities. In addition, socio-economic interventions are in order, including income generating activities, micro-credit facilities and gender equity policies and programs. These interventions could help improve the socio-economic conditions of the rural poor who seem resentful of family planning programs. The results do not suggest that family planning programs have little effect on contraceptive use and fertility. Taken at face value, they indicate that the recent changes in socio-economic conditions have been more decisive for fertility decline than changes in family planning services.

What will be the pace of the Ghanaian fertility transition in the near future- will it be slow or rapid? This is a very important question, especially given the recent stall in fertility in some African countries (most notably Kenya). In my judgment, the transition may be more leisurely than in the recent past. It is likely to follow the path observed in other African countries such as Kenya. For the TFR to fall below 4 births per woman will require a more radical transformation of the society. Unfortunately, the development trajectories of many African countries (with the exception of South Africa), make such a transformation difficult to achieve in the near future. More concretely, for the transition to diffuse widely throughout the population, fertility must begin to fall sharply in rural areas. That is, all segments of the society must respond to the change.

Finally, more localized studies are needed to understand the fertility transition. DHS data sets have without doubt given much insight about recent reproductive changes. Clearly these data are important and revealing sources of evidence. But we also need to come up with more robust research designs that are conducted at the local level and attuned to local context. Such research will increase our understanding of the reproductive changes underway (and concomitant cultural and socio-economic changes) and obstacles to change. It is gratifying to note that such studies are emerging.



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