

THE GHANAIAN FERTILITY TRANSITION REVISITED

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INTRODUCTION

The past two decades have witnessed a growing interest in the subject of 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. 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 is seen as the most dramatic, thus raising a number of questions as to the nature of the decline.

The purpose of this paper is to examine the fertility transition in Ghana. The paper is restricted to the period 1960 to 2003, for which I have had access to more reliable and pertinent sources. Fertility transitions are characterized by four main stages: (1) pre-transition level of fertility; (2) timing of onset of decline; (3) pace of decline and (4) post-transition level of fertility (Rosero-Bixby and Casterline 1993). 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. However, 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 timing of the onset of decline. Yet, the timing is but one stage of the overall transition process. Similarly, no individual country level study has systematically analyzed the various stages of the transition in tandem. Some analyses of the Ghanaian fertility transition have been carried out since the 1990s. These studies were either derived from national level data sets (see Onuoha and Timaues 1995, Blanc and Grey 2002) or based solely on localized studies (see Agyei-Mensah and Aase 1998, White et. al., Depuur et al. 2002). No attempt has been made at combining the national data sets with the localized studies. The reliability and validity of fertility estimates carried out over the past decades is also another cause for concern. This paper provides a more comprehensive account of the fertility estimates and assessments, spanning the period 1960 to 2003.

At the time of independence in 1957, Ghana was one of the wealthiest nations in Sub-Saharan Africa, with one of the most developed infrastructures in the region and the most educated population. The country was also one of the pioneers in the establishment of population and family planning programs in Sub-Saharan Africa in the late 1960s. Yet, the fertility level hovered around the range of between 6 and 7 births per woman for the greater part of the 1970s and 1980s. An economic downturn occurred in the late 1970s, leading to the establishment of the economic recovery and structural adjustments programmes. Subsidies on health and education were removed, and a number of people in the public sector lost their jobs because of the retrenchment exercise that accompanied the programs. A major decline in fertility was observed in the early 1990s, with the TFR declining from 6.4 in 1988 to 5.5 in 1993, but the said decline was not accompanied by any significant increase in the rate of modern contraception. This raised questions as to the role of induced abortion in the decline (Blanc and Grey 2002, Caldwell & Caldwell 2002), but the evidence to date has not been very conclusive. Another puzzle lies with the spatial progression of the fertility transition. Regionally, the high fertility that existed in southern Ghana prior to the 1980s, has been reversed, with current fertility levels relatively lower in Southern Ghana as compared to Northern Ghana. Other paradoxes are the persistence of high fertility in the northern region of the country, despite increasing levels of urbanization, and the recent

significant decline in fertility in the Upper East region, despite extremely low levels of socio-economic and demographic conditions. The focus of this paper therefore differs from previous studies in its level of analysis, historical depth and comprehensiveness of data sources.

These issues raise a number of research questions. First, what is the nature of the Ghanaian fertility transition, and how reliable are the fertility estimates? Second, what are the driving forces behind the transition? Third, what are the relative roles of other proximate determinants such as induced abortion, marriage and postpartum practices on fertility decline, besides modern contraception? Finally, what has been the role of national population and family planning programmes on fertility change? In this paper, the Ghanaian fertility transition is divided into three stages according to the level of fertility and other socio-demographic characteristics. These are the pre-transition period, stretching from about 1960 to the late 1980s; the onset of the transition, that began around the early 1990s and the pace of the transition that has continued to the present. Within each of the three phases, I review the evidence of the fertility change, and then describe the large scale social and economic 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 familiar characteristics of pre-transitional fertility are that the level of childbearing and of demand, or need, for surviving children were both high and that surviving offspring constituted an advantage to parents, extended families, and clans or lineages (Cleland 2001). Variations in fertility in pre-transitional demographic regimes are also 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 advantageous. Thus high fertility was advantageous for the family (Caldwell 1981).

Amongst the reasons cited for historical high levels of fertility in Ghana, are the desire to perpetuate the man's lineage, prestige, old age security value for children, high infant mortality and economic support during 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 matriclan 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). On account of the 1960 post-enumeration census survey, Aryee and Gaisie (1981) estimated the singulate age at first marriage to be 17.7. Despite the historical high demand for children, fertility was restrained. This was achieved mainly 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 get 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 partly contributed to the depressed fertility (Gaisie 1981).

An analysis of the historical demographic data suggests that fertility levels were very high and ranged between 6.0 and 7.0 births per woman (Gaisie 1968, Caldwell 1965, Tawiah 1984). Most of the fertility estimates during the 1960s and 1970s were derived from censuses. The first Ghanaian post-independence census was undertaken in 1960. Prior to 1960, the country did not have reliable demographic data, and relatively little has been explored concerning the level and trend of fertility. Fertility studies were to a large extent motivated by the publication of the 1960 census which revealed high fertility levels within the country. Thus the emphasis was mostly on estimating fertility levels to guide planners. 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 high fertility rates being characteristic of poor rural areas, neither were low rates typical of prosperous areas. During the 1960s and 1970s, a number of studies were also undertaken to understand fertility differences as well as family size attitudes. For example, a National Demographic and Health Survey was conducted by Gaisie between 1968 and 1969 with support from USAID. A number of sample surveys related to family planning, Knowledge Attitude and Practice (KAP) surveys, and other socio-demographic aspects of Ghanaian society were conducted. Most of these KAP studies were emphatic about the high fertility desires amongst the Ghanaian populace. For example, the 1968/69 national FP/KAP survey conducted by Gaisie concluded amongst others that the persistent high levels of desired family size amongst Ghanaians will have to change over time, and that the programme service delivery system will have to expand significantly (Gaisie 1974). Pool (1965 or 1970) in his analysis of family planning and fertility in Accra concluded that education and urban residence appeared to be the major determinants of family size attitudes among the population.

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 reported low fertility levels compared to Southern Ghana. 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 adults males. He also attributed the disparities to differences in postpartum abstinence customs. 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 high 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 were no publicity about retailing or distribution of contraceptives, over a quarter of the urban elite were actually purchasing and presumably using contraceptives. Caldwell (1977) reports 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 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 (Caldwell 1977). 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 he undertook 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 based on polygyny. Women in polygynous marriages in the rural area recorded an average number of live births of 8.32 compared to 5.64 for the monogamously married female in the same rural setting. 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 pointed to the need for further studies of urban fertility patterns. Similarly in the case of differences by education, Gaisie and Nabila (1978) noted that the TFR for women in the 3 educational categories nil, primary and

middle school were 6.6, 6.9 and 6.5 respectively, indicating a slight rise 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 increasing level of education was associated with lower fertility, 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 Moslem traditions were more associated with higher fertility than those of other religious groups, Moslem women reported the lowest fertility, while Christian women registered highest fertility (Tawiah 1984).

During the 1960s the demographic study of fertility became increasingly concerned with 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's 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. An objective of the policy included reduction of the rapid population growth, to slow it down to 1.8 per 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 PPAG.

Beyond the population and family planning programs, there were signs during the mid 1970s of significant changes in the Ghanaian family in the major urban centers 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 the family changes, were significant improvements in child survival. The infant mortality rate for instance, 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 1994). These changes undoubtedly affected the population structure. As mortality rates began to decline, with relatively stable fertility, the rate of population growth increased. 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 2000).

The introduction of the World Fertility Surveys (WFS) in the late 1970s marked a major milestone in demographic research in Ghana. Ghana was among 10 African countries that took part in the survey. The results of the 1979 GFS showed a declining trend in the TFR following the five year period following 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 surrounding this initial suspected decline by the 1979 GFS was short-lived, as the 1988 Ghana Demographic and Health Survey indicated that the decline had not been sustained. The GDHS 1988 recorded a TFR of 6.4 as against the 6.5 recorded during the 1979 GFS. An analysis of the 1988 GDHS report indicated that even though a short term fertility decline occurred during the mid to late seventies, the decline did not continue into the eighties. That analysis tried to link the decline to stability in age at first marriage, the very small increase in the use of contraception, out-migration of young males and the economic crisis that hit the country during the mid to late seventies and early eighties. The same report also cautioned against a thorough explanation of fertility trends in Ghana until such a time that a detailed analysis of available data had been undertaken (Statistical Service of Ghana). These concerns led Van de Walle and Foster (1990) to comment that Ghana

provides a warning against over eagerness in interpreting the evidence of a single survey as showing the onset of a 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 the 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 had fallen to 12.8 percent (see Van de Walle 2002). It must be recalled that one of the pre-conditions for fertility transition as stated 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 2002).

An assessment of the GFS 1979 and the GDHS 1988 data sets have been made. In their evaluation Onuoha and Timaues (1995) observed 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.

Recent attempts at minimizing errors in the TFR estimates for the country between the periods 1960 to 2000 has been undertaken by Gaisie (2004). In Figure 1, estimates of the TFR (depicted by lines) are graphed for both reported and adjusted rates. The rates are based on data from the 1960 and 1970 censuses, the 1971 Post-Enumeration Supplementary Enquiry, the 1979 Ghana Fertility Survey, the 1988, 1993 and 1998 Demographic and Health Surveys, and the more recent 2000 Population and Housing Census. Analyses based on the Relational Gompertz Model yielded on average higher fertility rates than the 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 6.6. These adjustments therefore invites us to correct the supposedly decline in the TFR in Ghana during the 1970s.

In retrospect, the 1960s, 1970s and the 1980s were periods of relatively high fertility, in which population programmes were just beginning to take hold. Thus even though issues related to family planning had been introduced and birth control programs were in existence (on a limited scale) in a few large urban centers, generally there were no family planning services in the vast majority of rural areas. Thus the program seems to have had scant impact on fertility by the close of the 1970s. Within the country, fertility levels varied markedly between the north and the south, with the north displaying relatively lower rates. Though the fertility studies used both quantitative and qualitative approaches, the quantitative approaches were mainly used in estimating fertility levels. Incipient fertility change could be seen among the urban educated In terms of data quality, there were serious reporting errors associated with the fertility estimates, especially the Ghana Fertility Survey 1979. However, the Ghana Demographic and Health Survey 1988 provided a far more reliable estimate of the fertility level.

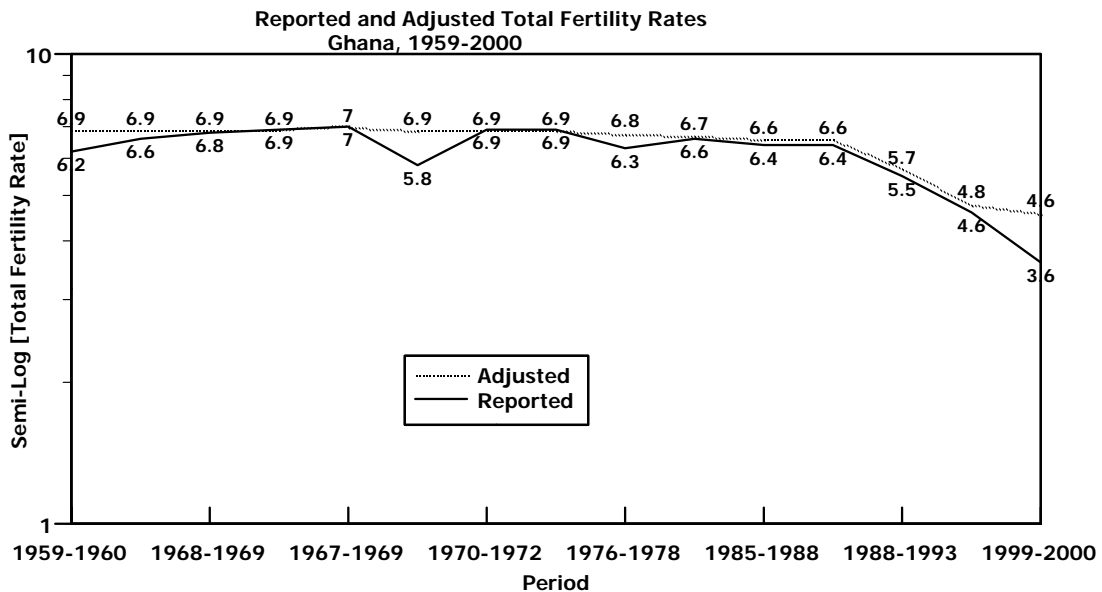
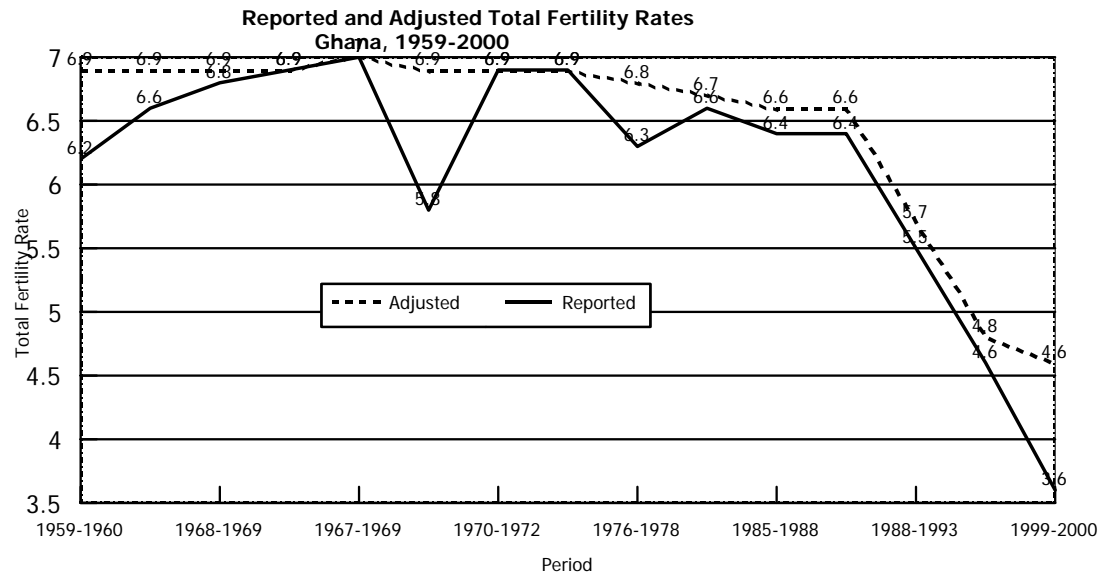


Fig. 1 Reported and Adjusted Total Fertility Rates For Ghana

Thus from the perspective of the fertility transition, Ghana had been in the pre-transition stage until the early 1990s, characterized by high, stable fertility, declining mortality levels, resulting in high population growth.

THE ONSET AND PACE OF THE TRANSITION: 1990s AND BEYOND

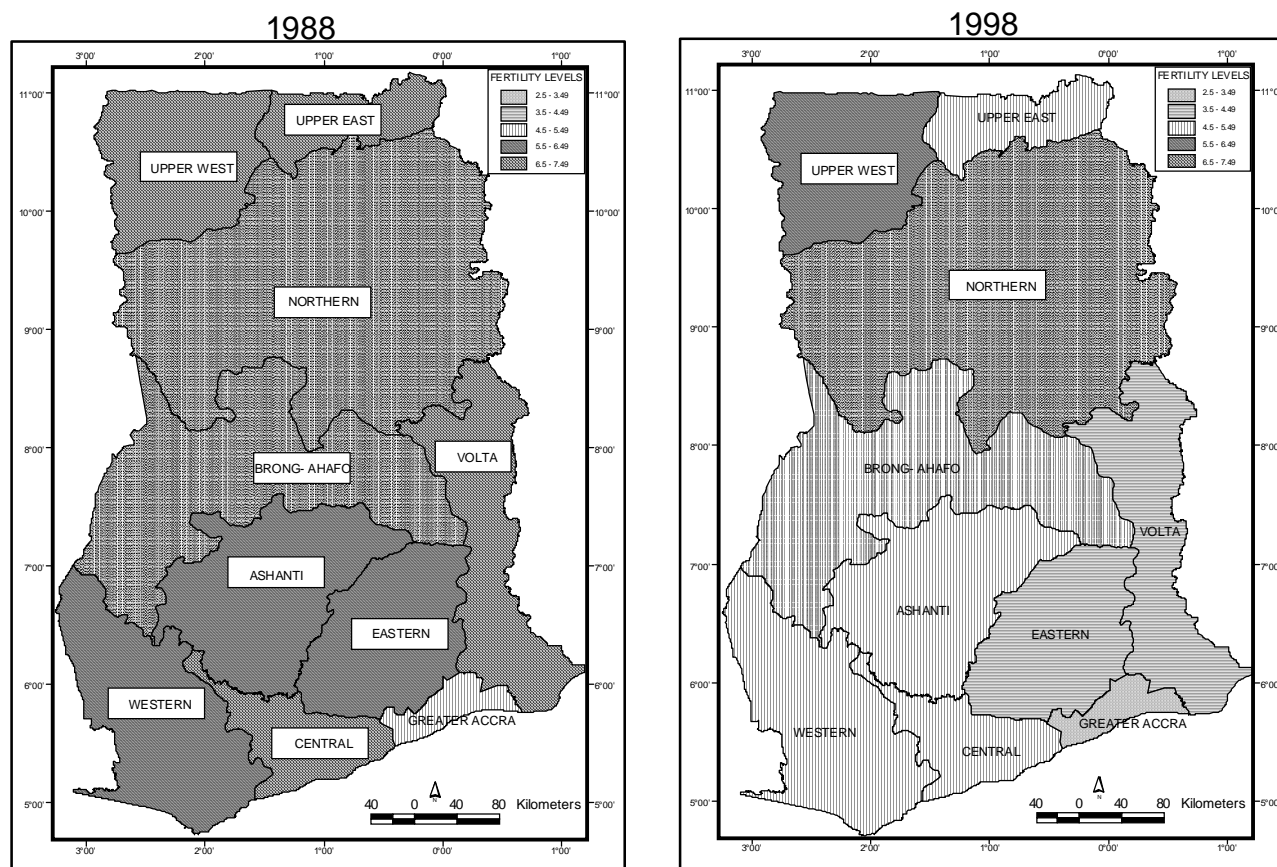
The onset of fertility transition marks a sharp and irreversible departure from the reproductive behaviour of the past (Casterline 2001). The pace of the transition on the other hand, denotes how slow or rapid the transition unfolds after the onset. Demographers began to perceive the first signs of a widespread fertility decline in Ghana during the early 1990s. For Ghana as a whole, the total fertility rate declined from 6.4 children per woman in 1988 to 5.5 in 1993. In 1998, the rate reported was 4.6.

The Preliminary Report of the Ghana Demographic and Health Survey 2003 puts the current TFR at 4.4. The decline from 6.4 (1988) to 5.5 (1993) during the onset is higher than the 10 percent rule conventionally accepted as indicating an onset of irreversible fertility transition (Caldwell et al. 1992). Estimates for TFR for Ghana since 1960 are provided in Figure 1. Clearly, fertility has been declining since the late 1980s. From 6.4 in 1988 to 5.5 in 1993 to 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 regarded with considerable skepticism (see Rutenberg 1995). But, as evidence accumulated from subsequent surveys in 1998, 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. At the onset of the transition, urban fertility declined substantially from 5.05 in 1988 to 3.99 in 1993. However, rural fertility did not experience any marked decline, from the 1988 level of 6.6 to 6.4 in 1993. The large gap between urban and rural fertility decline, evident during the onset of the transition, narrowed through the late 1990s. Urban fertility further declined to 2.96 in 1998, with rural fertility experiencing a significant decline from 6.4 in 1993 to 5.4 in 1998. It should be noted that the pace of decline in rural areas matches the national rate from 1993 to 1998, a remarkable development in West Africa, but resembling 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). Regionally, the changes since the 1990s have not taken place everywhere with the same speed and in the same magnitude. First, there is a clear pattern between Northern and Southern Ghana in terms of the onset and pace of the decline. Generally, the transitions in Southern Ghana have been much faster than the north. This is a reversal of the 1970 situation where the North reported relatively lower fertility rates than the South. As could be seen from Figure 2, a sharp decline was reported in the Greater Accra region. The TFR declined from the 1988 level of 4.6 to 2.6 during the 1998 DHS. Some significant declines also occurred in the Upper East region, from 6.8 in 1988 to 4.9 births in the 1998 DHS. Only the northern region seems to have remained a partial exception to fertility decline. The TFR remained stable from the 1988 figure of 7.0 to the 1998 figure of 6.8.

In terms of reliability and validity of data, birth histories such as those collected by the DHS could suffer from data errors that would distort sex differences in fertility. Small sample size, and thus sampling error, is one problem. Many of the early Demographic and Health Surveys covered fewer than 5,000 women of childbearing age. For example, the GDHS 1988 interviewed 4488 women, whereas GDHS 1993 interviewed a total of 4562 women. In terms of fertility estimates, the DHS conducted since the 1980s are far more reliable than the GFS 1979. As shown in Fig. 1, the reported and adjusted TFRs based on the DHS since the 1980s do not differ by any significant degree. An assessment of data quality can also be obtained by comparing the DHS data with information from other sources such as the 2000 census. We notice some errors with the census data for 2000 as the gap between the reported figure of 3.6 births is far lower than the adjusted figure of about 4.6.

REGIONAL PATTERNS IN GHANAIAN FERTILITY



Another major source of evidence for the fertility decline comes from a series of local demographic studies conducted since the 1990s that show levels, trends and determinants of fertility. Examples are Debpuur (2004) 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, and Oliveras et .al (2004) on Accra. The novelty of these studies is that they 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 Center, 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 from 5.0 in 1993 to 4.0 in 2003 (Debpuur 2004). Agyei-Mensah and Aase (1998) have also examined fertility change amongst two urban communities (Accra and Cape Coast) and a rural community (Otuam). Significant differences emerged based on birth cohort and residential area. Significant fertility declines were traced among the birth cohorts in the elite areas, but in the rural area fertility is still high even though contraceptive services are available. Similarly in Accra, the cumulated period-cohort parities of the 2003 Accra Women's Health Survey show that just before 2003, the TFR had dropped to 2.4 births per woman, including women of all educational categories (AWHS 2003). 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 over one child per woman higher than that of second generation residents 2.68. TFR for urban native women was 2.56, just slightly lower that that of the second generation Agyeman and Casterline (2003) have also examined the association between social organization and reproductive behaviour in Southern Ghana. They found that the importance of social organisation and heterogeneity in the study communities have to a very considerable extent been

overridden by different community histories with the arrival of family planning knowledge and access.

Admittedly, socio-demographic change, a reason frequently cited in explaining 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 socioeconomic indicators such as urbanization, schooling, health and population programs. The proportion of urban population almost doubled between 1960 and 2000. In 1960 the proportion was 23 percent. It rose to 28 percent in 1970 and 32 percent in 1984. In 2000, it was 44 percent. Thus even though the population is still predominantly rural, the country is urbanizing rapidly. Fertility is likely to proceed at a faster pace in urban areas, where people have greater exposure to mass media as well as wider opportunities to observe and discuss the lifestyles of other social groups. Given the significance schooling in most studies of the determinants of fertility transition (Lloyd et al. 2000), it is clearly important to examine Ghana's record in this respect. Nkrumah's accelerated development plan for education in 1952 produced quantitative progress in the development of education in the country. 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. Increases in enrolment figures since the 1960s have been dramatic as reported in census records of 1970, 1984 and 2000. Thus the educational expansion and decline in fertility are related. Some localised studies conducted since the 1990s also provide some evidence of schooling and reproductive-related behaviour. Based on focus groups from various educational institutions conducted in Accra in, DeRose et al. (2002) observed that the expected inverse relationship between schooling and fertility was weak. Somewhat strikingly, the most common response at the junior secondary school level was a preference for few children (two or fewer). Among those with the most education, the most commonly articulated desire was for 3-4 children. Similarly in Accra, Agyei-Mensah et al. (2003) found that even though the cumulative fertility amongst women aged between 25-34 resident in an urban elite and an urban indigenous area were not so great, there were sharp differences in their educational backgrounds. Generally, the urban elite had higher educational levels. Thus other factors besides education accounts for the fertility differentials.

Access to public health services also played a role in reducing fertility. Aside from direct effects through improved access to contraception, public health services may reduce fertility by enhancing child survival. The infant mortality rate dropped from the 1988 level of 77 per 1000 live births to 66 per 1000 in 1993. In 1998, the rate reported was 57 per 1000 live births. The modest mortality decline improved child survival chances and made it easier to achieve, or harder to avoid, large families. The overall economic situation in the country also played a role in the decline. 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 reverted previous state services to a user pays system. The liberalization of the economy saw employers cut 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. The notion that deprivation is at the root of fertility decline has attracted various analyses in Sub-Saharan Africa (see NRC, Becker 2002). In the early 1990s, Benneh et. al (1990) observed that strains and stresses of urban life had led to declines in family size desires. When in 1994, Agyei-Mensah (1997) asked women in Jamestown and Airport residential Area about reasons why they had stopped having additional children, their answers singled out the harsh socio-economic conditions, as one of the major reasons. Thus financial constraints also contributed to family limitation as was the case in the 1960s (see Caldwell 1968). Also of demographic interest, is attitudes towards family size. The mean ideal number of children declined from 5.3 in 1988 to 4.4 in 1993 and 4.3 in 1998 (Ghana Statistical Service 1999). In urban elite suburbs, the ideal family size is much lower than the national average, with actual and preferred family size converging around three children, as revealed in urban Accra in the mid 1990s (see Agyei-Mensah et al. 2003).

Diverse regional and cultural factors also contribute to the observed fertility differences. Southern Ghana, by comparison with regions in Northern Ghana, experienced earlier diffusion of education, higher socioeconomic position, 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 also lies with the uneven diffusion of health services and modern contraceptive services in the country. The Greater Accra region, is the most urbanized, a factor which explains the regions relatively low fertility. Central Region is the third most urbanized, followed by Greater Accra (87.7 percent) and Ashanti region (51.3 percent). Accra, the capital has experienced very rapid economic development over the last few decades. Patterns of fertility change observed in rural areas in Ghana may have as much to do with the provision of infrastructure services as well as economic chaos. Becker (2002) argues that fertility declines in rural communities in Africa may have been triggered by a combination of both economic adversity and the provision of infrastructure services. Becker argues that economic crisis without infrastructure development leads to fertility increases.

The recent decline in fertility in the Upper East is also interesting. This is a region where poverty levels are generally very high. Going by standard demographic indicators such as the level of infant mortality, schooling and contraceptive uptake, one would not expect such a significant decline in fertility. For example, the infant mortality rate of 82 per 1000 live births reported in 1998 GDHS was the highest among the 10 administrative regions of the country (Ghana Statistical Service 1999). In an attempt to explain some of the recent patterns, Appiah Yeboah et al. (2001) examined the impact of agricultural adversity on fertility among the Kassena-Nanka of North-eastern Ghana. The authors use of demographic surveillance data from the district revealed unusually low fertility levels compared to other periods of surveillance. Erratic rainfall and low agricultural output nine months prior to the decline suggests that agricultural adversity has an impact on fertility. Interviews with couples and discussion groups revealed that adversity contributed to reproductive change through several mechanisms. Most respondents revealed that sexual libido was reduced during times of agricultural crisis, attributing this to preoccupation with food deprivation, spousal discord and lethargy due to hunger. Respondents viewed these behaviours as natural responses to crisis and not as a conscious decision to avoid or delay births. By contrast, unusually, a high level of migration leading to spousal separation was not common in this setting.

Despite the increase in the rate of population growth (the third highest between 1984-2000), and increasing urbanization in the Northern region in recent years, fertility levels are still high and have shown no evidence of a significant decline. The absence of any visible effect of urban lifestyle on fertility also presents an apparent puzzle. How could the Northern region, show such extraordinarily high fertility? The reason could be the high proportion of Muslims in the region (about 34 percent) based on the 2000 census (Ghana Statistical Service). Muslim populations in Sub-Saharan Africa are noted to have relatively high fertility rates. Factors that have contributed to this pattern include, low levels of education, exceptionally early marriage for women, undermining of traditional birth-spacing practices and wide age differences between husbands and wives (Mazrui 1994). Some of these attributes can be found in the northern region. For example, educational levels among women in the region is the lowest in the country. DHS surveys carried out in the country between 1988 and 1998 have all revealed that the Northern region has the highest percentage of women who have not been to school. The figure reported for 1993 was 81.1 percent.

What role do the proximate determinants play in the decline? Here, we place great weight on trends in modern contraceptive practice because they represent deliberate efforts by couples to break away from traditional to more modern modes of reproductive behaviour. As was the case with the 1988, 1993 and the 1998 GDHS, the rate of modern contraception did not increase significantly. From 5.2 in 1988 to 10 percent in 1993 and 13 percent in 1998. Some writers have directly addressed the low contraceptive use vis a vis the fertility rate (Rutenberg 1995, Blanc and Grey 2002). Blanc and Grey (2002) examined the Ghanaian decline with a title, Greater Than Expected Fertility Decline in Ghana: Untangling a Puzzle, where they argued that, in light of the low contraceptive usage, the fertility decline was puzzling. They argued further that the fertility estimates were genuine but were skeptical

of the levels of reporting of method of contraceptive use, especially condom use, which they claim, had been underreported by women.

A balanced assessment must also consider other proximate determinants of fertility such as induced abortion, marriage and postpartum practices. The role of induced abortion in the fertility transition has increasingly been put forward to explain recent transitions in West Africa (see Guillaume 2003). This is because the use of modern forms of contraceptives has not increased in relation to the drop in fertility rates. But, just how prevalent is abortion in Ghana? And what contribution does abortion play in the recent decline? A large scale 1997-1998 study of women in southern Ghana who experienced a recent pregnancy showed an abortion ratio of 19 abortions per 100 pregnancies for all women (Ahiadeke 1997). Another community-based study carried out in 1999 and involving over 1000 women aged 15-49, in one rural district in Western Region, reported an abortion ratio of 15/100 live births and 28 percent of the women of reproductive age reported an abortion (Geelhoed et al. 2002). A qualitative study conducted among 90 young women in Ga Mashi, Accra in 2002, revealed that the young women had gone through an abortion at least once between the ages of 14 and 19 (Henry and Fayorsey 2002). Frustratingly, none of these studies have provided conclusive evidence on the links between abortion and the fertility decline. Thus the gap between the contraceptive rate and the fertility levels still remains unanswered.

Another important factor in fertility decline is marriage. The median age at first marriage increased slightly from 18.0 in 1988 to 19 in 1998 among women aged 20-49 years. In addition the proportion of women 15-49 never married at the time of the survey increased from 19 to 24 percent between 1988 and 1998. Perhaps more important is the increasing proportion of 15-24 year olds who are unmarried. Correspondingly, the proportion of currently married women has declined from 70 percent in 1988 to 65 percent in 1998 (Ghana Statistical Service 1999). Part of the reason for the nuptiality changes can be related to structural changes within the society as well as increased access to more efficient methods of birth control. A study in Accra, revealed that women resident in elite suburbs were postponing marriage and the timing of births because of difficulties of the job market as well as financial insecurity (Agyei-Mensah et al. 2003). Thus it seems the fertility decline in Ghana has also been occasioned by control of fertility outside marriage as occurred in Botswana (see Gaisie 1998). The decomposition of the effect of the proximate determinants of fertility over the past decade 1988 to 1998 indicates that postpartum non-susceptibility (durations of breastfeeding, postpartum abstinence and amenorrhoea) contributes between 70 to 80 percent of the total number of births per woman averted by all proximate determinants during the period 1988 to 1998. The contribution of marriage increased slightly from 12 to 14 percent and that of contraception from 7 to 18 percent (Gaisie 2004).

Another set of explanations has to do with the role of population and family planning programmes. There were a number of problems associated with the 1969m population policy and the 1970 family planning program. Thus a re-invigorated population policy was launched by the government in 1994. The revised policy gave more attention to reproductive health issues, following the recommendations of the 1994 International Conference on Population and Development (ICPD) held in Cairo in September 1994, which gave prominence to reproductive health and the empowerment of women while downplaying the demographic rationale for population policy (McIntosh and Finkle 1995). To respond to the reproductive health needs of young people, the government developed an adolescent reproductive health policy in 2000 and a national HIV/AIDS and STI policy in 2001 (Awusabo-Asare et al. 2004). Undoubtedly, population and family planning program activities have improved and deserve some credit for the modest increase in 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 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, revealed that there is a high resentment regarding family planning, especially in the deprived rural communities. These resentments came from both men and women. The findings suggest that modern contraceptives are little used, for reasons of ignorance,

misinformation about side effects, and supply shortages (Tropenbos Project, Department of Geography and Resource Development University of Ghana 2004). A different story is told of the Navrongo Community Health and Family Planning Project where the project has contributed to declines in fertility in the rural setting (Debpuur et al 2002).

Of reproductive health interest, is whether knowledge of HIV is influencing reproductive behaviour in Ghana. Theoretically, there are two facets of the relationship: HIV influences fertility and fertility also influences HIV. DHS data show substantial increases in reported ever use of condom in Ghana from 4 percent in 1988 to 14 percent in 1998 (Ghana Statistical Service 1999). But the problem here is that we are not sure whether the increase is a switch from another method to condom use. Similarly more than 90 percent of Ghanaian women and men are aware of the key ways in which HIV/AIDS is transmitted. However, major behavioral changes needed to slow transmission rates have not occurred (USAID 2002). At the local level, McCombie and Anarfi (1991) in a survey of the attitudes and practices related to AIDS among young people in Ghana confirmed that the frequency of promiscuous sexual behaviour has not declined markedly with the onset of AIDS. To respond to the reproductive health needs of young people, the government developed an adolescent reproductive health policy in 2000 and a national HIV/AIDS and STI policy in 2001. In sum, the explanation for the onset and pace of the transition rests on the argument of synergy between social change, economic adversity and population policy. Forces that were non-economic but nevertheless strongly related to rising standards of living and educational levels also played a role in the declines.

SUMMARY AND CONCLUSION

The overarching objective of this paper has been to examine the record of evidence of Ghana's fertility transition over the past four decades. In contrast to recent analyses of the fertility transition in Sub-Saharan Africa, I have adopted an historical approach encompassing the various stages of the fertility transition to date. The significance of this approach does not lie simply in providing a chronological sequence of events. Rather, the key advantage lies in the organization of seemingly disparate factors into a more coherent framework along a continuum. Specifically, it suggests that the fertility transition should be studied more as a process.

Some scholars may debate the accuracy of the fertility estimates, especially the period prior to the 1980s. But the accuracy of the broad patterns in the levels and trends since the 1980s are almost certainly beyond dispute. The analysis presented in this article also highlights the role of geographical diversity in the ongoing fertility change. The geographical patterns revealed that, differences in fertility within Ghana, once high in southern Ghana, have now been replaced with lower fertility. 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.

Ghana's fertility decline occurred during a period of far-reaching social change, which encompassed times 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 since the early 1990s has been occasioned by changes in attitudes towards toward smaller family sizes.

Modern contraception usage has not kept up pace with the decline in fertility. The obvious question to pose is what is accounting for the fertility decline. Abortion could be a possible reason, but the links between abortion and fertility at both the micro and macro levels 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 gap between the fertility decline and the remaining low contraception prevalence must reflect either reduced exposure

to sexual relations due to HIV, rising age of marriage, an increase in induced abortion or mis-reporting of contraceptive use.

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 should also be tailored along 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.

What will be the pace of the Ghanaian fertility transition in the near future; will it be slow or rapid? In my judgment, the transition may be more leisurely than in the recent past. It may not necessarily follow the path observed in countries such as Kenya, South Africa and Botswana. Several aspects of the Ghanaian transition set her apart from these countries: relatively low levels of modern contraceptive uptake, poor family planning services in rural areas, low HIV levels, and uneven development. For the transition to diffuse widely throughout the population, fertility must begin to fall sharply in rural areas. That means all segments of the society must respond to the change. The pace of the transition is also likely to affect both the size of future populations and their age structure. Although Ghana's population has aged over the past decade, it is still relatively young. The proportion of the elderly (above 64 years) went up from the 1984 figure of 4.0 percent to 5.3 percent in 2000. The proportion of the population under 15 years in 2000 was 41.3 percent, compared with 45 percent in 1984. Thus even though fertility is declining, the built in population momentum will lead to a gradual surge in the overall population for some years to come. Finally, more localized studies are needed to understand the fertility transition. DHS data sets have undoubtedly informed examination of the recent changes. Clearly these data are important and insightful sources of evidence. But we also need to come up with more locally relevant and robust research designs at the local level to increase our understanding of the changes. It is gratifying to note that such studies are emerging.

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