TRENDS IN FERTILITY BEHAVIOUR, 1999-2008, NORTH EAST ZONE, NIGERIA

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Abstract
This study aims at examining the trends in the fertility behaviour in the North East region. Documented findings from national surveys of 1999-2008 were pulled together for this purpose. Information gathered reveals that age at first marriage and contraception remain low with very insignificant upward change while the mean number of children women consider ideal and sexual activity remain consistently high with no sign of significant decline. Furthermore, education, a fertility behaviour influencing factor, remains very low with very little improvement and fertility level remains steadily high and slightly on the increase. Therefore, it is suggested that governments at all levels should come up with necessary measures that would affect these fertility determinants in the right direction. This would address the concerns of the Revised 2001 National Population Policy (NPP) to reduce fertility and population growth and ensure improvement of especially women's health status for development purpose.

Keywords: *Fertility, Trend, Contraception, Ideal Family Size,*
Age at Marriage, Sexual Activity, North East

Introduction

The fertility behaviour aspects assessed in this paper include age at first marriage, ideal family size, contraception and sexual intercourse. Education, an important fertility behaviour influencing factor, is also evaluated. Marriage is an indicator of a woman's regular exposure to the risk of pregnancy and childbearing. Thus, women who marry early are more likely to start childbearing earlier and have more children than their counterpart who marry later thereby contributing more to the national fertility rate levels. Marriage has been and is still almost universal especially for women in the Northern region of Nigeria. Age at first marriage, "often used as a proxy for first exposure to sexual intercourse" (NPC and ICF Macro 2009:96), has been low nationally-ranging between median ages 17.2 and 18.3 for women age 20-49 (NPC and ORC Macro 2004:87, NPC 2000:78).

Fertility preference measures are of interest in themselves but probably more so in relation to fertility behaviour. In a review of the literature on family size preferences, Freedman (1987) observed that the measures of desired family size have been used, among others, as indicators of the motivation to practise birth control and to determine whether or not significant fertility declines were likely in high-fertility countries. Many women in developing countries were found to want to stop childbearing and 'fertility desires are not unlimited even in Sub-Saharan Africa' (Freedman 1987:780), indicating a readiness for changes in fertility behaviour.

Contraceptive prevalence rate (CPR), defined as "the percentage of currently married women who are using a method of contraception" (NPC and ICF Macro 2009:68), is a measure of actual practice of contraception at the time of a survey, and is also used as a good measure of the success of family planning programmes and for estimating fertility reduction attributed to contraception (NPC and ICF Macro 2009:68). Use of contraceptives has been low in Nigeria (NPC and ICF Macro 2009:68) that the country could be termed a non-contraception nation.

The frequency of sexual activity has direct effect on a woman's likelihood of pregnancy and possibly, childbearing in the absence of contraception. Studies have shown that Nigerian women are quite sexually active. The proportions of Nigerian women age 15-49 who were sexually active four weeks prior the survey increased from 48.4 per cent in 1999 to 56 per cent in 2008 (NPC 2000:82, NPC and ICF Macro 2009:99).

Education is of much interest not only because of its effect on fertility behaviour but also on social and demographic phenomena such as, mortality, health behaviour and attitudes and morbidity and migration as well as being an indicator for a

country's socioeconomic development (NPC 2000:15). Governments in Nigeria have used a series of educational policies and guidelines empowered by the National Policy of Education, education decree No 16 of 1985, the 1999 Constitution of the Federal Republic of Nigeria in the bid to raise the educational attainment level of the citizens of all school ages. This has resulted in increased levels of enrolment of children as well as increasing the pursuit of education at the tertiary level by both youths and adults (NPC and ICF Macro 2009:5). However, educational attainment levels reported for the country as a whole are comparatively low with proportions ranging between 38 per cent and 46 per cent for women and between 26 per cent and 31 per cent for men having no education (NPC 2000:16, NPC and ORC Macro 2004:14). All these have implications for fertility which, being one of the factors determining the nature of changes in the size and structure of a population of a country is one of the major determinants of population growth rate. Thus, it is one of the very important issues directly very relevant to population policies and development programmes.

Demographic transition which leads to low population growth rate, according to the classical demographic theory, has four phases: high birth rate and high death rate, high birth rate and declining death rate, declining birth rate and declining death rate and low birth rate and low death rate. The 1988 National Population Policy (NPP) and the 2001 Revised Population Policy set out to address the population issues arising from the second and third phases. The 1988 NPP's main policy concern was reduction of rapid population growth by reducing fertility through a variety of measures including provision of comprehensive family planning services, population management (managing effect of high fertility on women, men, children and adolescents), improvement of women's rights and health, and promotion of education especially among women. The 2001 Revised NPP, in addition, set out to address issues ignored by the 1988 NPP such as high sexual activity, high prevalence of STIs including HIV and AIDS, very intense social and cultural desires for very large family size by focusing on "integrating population management with sustainable planning" (NPC 2001:15). By the year 2000, nationally, fertility had declined by one child, proportion of women with more than four children had declined by 29 per cent and teenage fertility declined from 15 per cent to 11 per cent (NPC 2001:14). The policy measures have been affecting fertility behaviour thereby resulting in changes in the expected direction nationally but what is the contribution of the North East zone to these changes?

Research setting

The North East Zone is one of the six zones of Nigeria and is presently made of six States: Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe but the States constituting the zone in 1999 were Bauchi, Borno, Gombe, Jigawa, Kano and Yobe. The States in the Zone are predominantly Muslim and the population, like other parts of the North, is largely rural and agricultural although they have large proportions of pastoralists in their midst. The ethnic groups in the Zone include Fulani, Hausa, Kanuri and others (NPC 2001). The population of the North East States is 18,984,299 with the male (9.7 million) and female (9.2 million) populations being almost the same. The inter-census growth rate ranges between 2.9 and 3.5 thus, the population increased from about 12 million in 1991 to about 19 million in 2008 (NPC 2010:10). Although there is ample information about the Zone from national surveys, these are periodic and reported in isolation making it necessary to examine the findings together in order to understand what is going on for the purpose of formulating appropriate policies for achieving the goals of the Revised 2001 NPP and other development goals.

Purpose of the study

It is the aim of this study to bring out the trends in fertility behaviour of the North East zone in order to determine its contribution to the national rates and to make suggestions that may lead the Zone into performing the desired role it is expected to play in achieving the NPP national goals. Trend in education is also examined since it has been found to be a major intervening variable in studies of fertility behaviour.

1. What are the trends in fertility behaviour factors: age at marriage, ideal family size, contraception, sexual activity, and fertility rates?
2. What is the trend in educational attainment in the North East Zone?

Data

All findings presented for the examination of the trends in fertility behaviour come from the 1999, 2003 and 2008 Nigeria Demographic and Health Surveys (NDHS), and the 2000 Sentinel Survey. Data on age at first marriage was collected by asking each respondent how old she was when she got first got married. While the data on ideal family size was obtained through the NDHS items: 'If you could choose exactly the number of children to have in your whole life how many would that be? (for women with no children) and "If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?" was administered to women with living children (NPC 2000:284). The first question provides information which gives an idea to the total number of children a woman is likely to have in future if she is able to achieve her

desired family size, while the second provides data for determining unwanted fertility among the women with children especially the older ones with higher parity.

Family planning has been defined as "a conscious effort by a couple to limit or space the number of children they want to have through the use of contraceptive methods" (NPC and ICF Macro 2009:63). All the Nigeria Demographic and Health Surveys collect information on use of both traditional and modern methods of contraception. The modern methods include the pill, injectables, implants, male and female condom, female and male sterilisation, diaphragm, lactational amenorrhoea method (LAM), foam/jelly, intra-uterine device (IUD) and emergency contraception while the traditional methods include rhythm or periodic abstinence, withdrawal, folk methods (NPC and ICF Macro 2009:63) and any other methods not in the list of the modern methods.

Information on sexual activity within four weeks prior the NDH surveys was collect and the trend examined in this paper is based on it. Data on childbearing patterns are also collected in all NDHS through a series of questions including history of all births (dead and living, sons and daughters). The TFR, the "number of live births a woman would have if she were subject to the current age-specific fertility rates throughout her reproductive years (15-49)" (NPC and ICF Macro 2009:51) is used in examining the fertility trends. The TFR presented in this paper are those for the three years preceding the survey. Similarly, using a series of questions, the NDHS collected and analysed data on education the findings of which are used in this paper for determining the trend in educational attainment in the North East region.

Results and discussion
Age at first marriage
Age at first marriage, as shown in Table 1, has been lower in the Northern region than in the Southern region of the country. In the North East zone, the median age at first marriage is quite low increasing from 15 in 1999 to 16 by 2008.

Table 1: Median age at marriage, Mean Ideal family size and sexual activity by Zone, 1999-2008

Zone	1999 NDHS	2003 NDHS	2008 NDHS
Median age at marriage (25-49)			
North Central	18.0	18.0	18.0
North East	15.0	15.0	16.0
North West	15.0	15.0	15.0
South East	20.0	22.0	23.0
South South		19.0	21.0
South West	20.0	21.0	22.0
Ideal family size			
North Central	5.8	6.2	5.7
North East	8.2	7.8	8.1
North West	8.2	8.6	8.0
South East	5.8	5.3	5.5
South South	-	5.5	5.2
South West	5.1	4.8	4.6
Sexual Axtivity			
North Central	44.0	42.0	47.0
North East	68.0	63.0	69.0
North West	72.0	78.0	77.0
South East	38.0	42.0	36.0
South South	-	51.0	50.0
South West	38.0	35.0	47.0

Sources: NPC 2001: 20, 28; NPC and ORC 2000:36, 78, 82; NPC 2002:30, NPC and ORC Macro 2004:53, 87, 90,103; NPC and ICF Macro 2009:54, 95, 99,115

Where the age at first marriage is low, childbearing is early and fertility rates tend to be high, especially in non-contracepting societies (Bongaarts et al. 1984, FOS and IRD/MI 1992). This implies that childbearing starts early and consequently, possibly resulting in high fertility rates in the North East zone. Marriage delayed beyond the highly fecund period (late teens and early twenties) reduces the period of exposure to pregnancy, lengthens the interval before the next generation is born (Coale and Tye 1961; Henry and Piotrow 1979; Durch 1980) and consequently, lowers fertility. Thus, the North East zone, through very early marriage, can only be

serving to raise the fertility level and population growth rate of the country. To further jack up the median age at first marriage in the North East zone, girl child education at all levels should be vigorously pursued by all levels of government. Research to provide necessary information on real or perceived reasons for non-schooling or dropping out from the system after attaining primary or secondary education is necessary for identifying best ways of encouraging attainment of higher education.

Generally, the Northern regions have ideal family sizes higher than those observed for Southern regions of the country (Table 1). The North East region has ideal family sizes of about three children higher than the South West which has the lowest ideal family sizes and the ideal family size has remained consistently about eight children in the period 1999-2008.

Although some empirical evidence supporting the argument that the correlation between actual fertility and fertility preferences result from rationalisation exist (see Pullum 1980; United Nations 1987), there are also corroborative studies that show that fertility intentions are both accurate and reliable. Children ever born to women at the end of their reproductive span have been found to closely approximate their fertility preferences (Freedman et al. 1975; 1980; Coombs and Freedman 1979; Long and Wetrogan 1981). Furthermore, using measures that are free of rationalisation of prior births and measurement error, Pritchett (1994:8-10) also found that desired family size has a very high explanatory power for fertility rates, and 'a reduction in desired family size is preceding the onset of fertility decline in most countries of sub-Saharan Africa...' (Kirk and Pillet 1998:12). Therefore, beside encouraging studies to establish reasons for the persistent high fertility desires and promoting behaviour change communication, best practices from other African societies which have achieved a reduction in ideal or desired family size, could also be used for promoting small family size ethic.

Contraceptive prevalence rate is low in the North East and the increase of about one per cent in the CPR between 1999 and 2003, is the largest one (Table 2). There is a steady increase in the use of modern contraceptives albeit small- from 2.2 per cent in 1999 to 3.5 per cent in 2008 (Table 2, Figure 1). Insignificant or slight declines in the CPR and use of traditional methods were observed in 2008.

Table 2: Contraceptive Prevalence Rates Nigeria and North East Zone

	1990 NDHS		1999 NDHS		2003 NDHS		2008 NDHS	
Contraception	Nigeria	North East	Nigeria	North East	Nigeria	North East	Nigeria	North East
Any Method	6	-	15	3.1	13	4.2	15	4.0
Modern Methods	4	-	9	2.2	8	3.0	10	3.5
Traditional Methods	3	-	6	0.7	4	1.2	5	0.5

Sources: NDHS 2000:55, 2004:68, 2009:71

Figure 1: Trends in age at first marriage (MAM, ideal family size (MIFS), modern contraceptive use (MCU) and Total Fertility Rates (TFR), North East zone
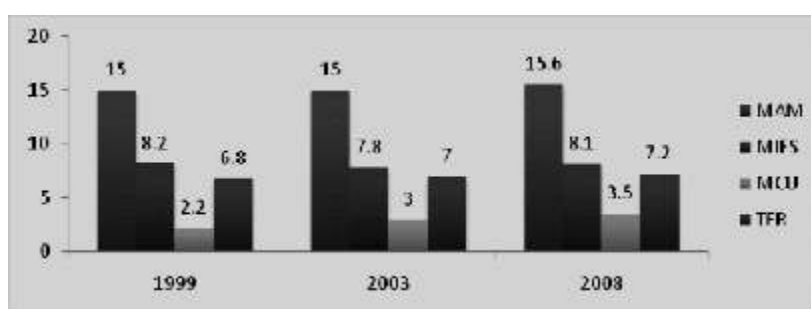

Source: Tables 1 & 2 NDHS 2000: 36, 2004:53, 2009:54

The possibility that existing social relations mediate the adoption of family planning, at least in some societies, has long been brought into the mainstream of research by the Hulls' work which incorporated traditional village-level authority figures as supporters and enforcers of family planning practices in Indonesia (Hull and Hull 1984, 1997; Hull, 1987). Other long established non-governmental organisations such as churches, primarily concerned with goals other than family size limitation, have been found to mediate the adoption of modern family planning (Avong 2001, 2012). Thus, it is important to establish through research what is responsible for the small gains in the use of modern contraceptives in the North East zone in order to exploit it for greater gains. Policy implementers should not only focus on improving the use of modern methods but should specifically begin to encourage the supply of correct information on rhythm or periodic abstinence (a traditional method) which I found, during field research, women wanted to know better and asked to be taught how to use it effectively.

Generally, the North East and the North West have the largest proportions of sexually active women in the period under examination (Table 1). The proportions of sexually active women age 15-49 in the North East zone remain in the region of 60 per cent only declining from 68 per cent in 1999 to 63 per cent in 2003 and rising again to 69 per cent in 2008.

Figure 2: Percentage of women engaged in sexual activity four weeks prior the surveys by Zone, 1999-2008
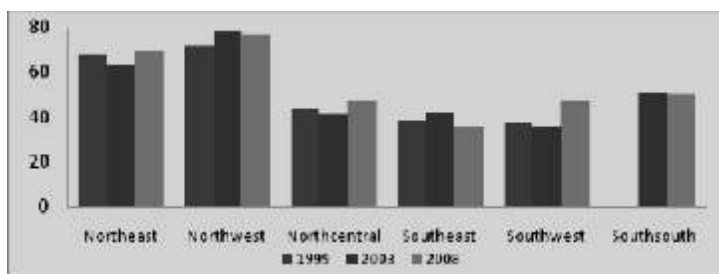

Sources: Table 1 (NDHS 2000:82, 2004:90, 2009:99)

It is worth noting that while the North East, with a large proportion of sexually active women has a very low CPR (Table 1, Figures 1& 2), the Zones with lower proportions of sexually active women have larger CPRs. For example, the South West with much lower proportion of sexually active women in 2008 has the highest CPR - 31.7 per cent using any method and 21.5 per cent using of modern methods (Figure 2, NPC and ICF Macro 2009:71). How frequent women engage in sexual activity determines the likelihood of becoming pregnant especially in societies with low contraceptive use. Therefore, there is the need to continue to vigorously pursue measures that encourage contraception and discourage risky sexual behaviour.

The total fertility rates nationally started declining from 6.3 in the early 1980s and only started slowly increasing after the year 2000 (NPC 2002:33, Figure 3) while that of the North East has consistently been rising. The TFR of North East women gradually increased from 6.8 children in 1999 to 7.2 children in 2008. Where sexual activity and childbearing outside of marriage are considered to be a social disgrace, and there is little or no control of marital fertility, early marriage becomes the norm, and the proportions of women ever marrying greatly influence fertility rates (Bean and Mineau 1986).

Figure 3: Trend in total fertility rate (TFR) by Zones
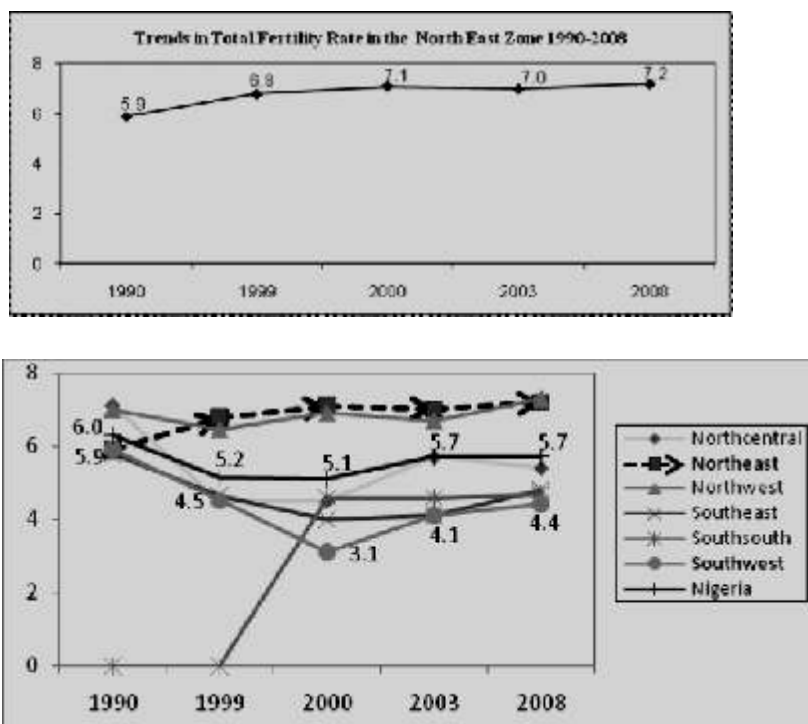
Sources: NPC 1998:226, 2002:30, NDHS 2000:36, 2004:53, 2009:54

The fertility trend in the North East zone implies that the policy measures employed by governments and other organisations to influence fertility behaviour and slow down population growth rate are ineffective in the North East. Fertility behaviour of the North East seems to serve not only to sustain the high fertility rate of the country but contributes in setting it on the path of becoming even higher (Figures 1, 2 & 3). However, the policy measures may not be as ineffective as the result may be suggesting since the fertility levels of the zone might have been higher if not for the seemingly ineffective fertility behaviour intervention measures. Government should encourage and sponsor research for identifying the real and hidden factors militating against fertility decline in the North East zone.

Educational attainment levels of both women and men are quite low (Figure 4). There is no clear pattern in the proportions of women with no education as it increased by four percentage points between 1999 and 2003 only to decline by approximately two points by the year 2008. For the men, the proportions with no education did not change significantly between 1999 and 2003 but increased by about three percentage points by 2008. The proportions of women with primary

and secondary education tended to increase between 1999 and 2008 while the proportion of those with higher education slightly declined. On the other hand, the proportions of men with primary, secondary and higher education increased between 1999 and 2003 only to decline by about one percentage point between 2003 and 2008.

Figure 4: Percent distribution of household population by educational attainment and sex, North East Zone, 1999-2008
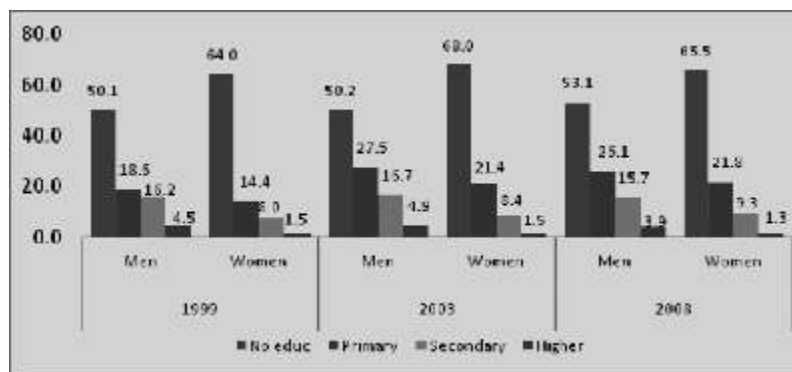
Sources: NDHS 2000:16, 2004:14, 2009:15-16

Literacy rate or level of school enrolment and educational attainment are considered very crucial prerequisites in fertility and population growth rates reduction as well as slowing down the spread of STIs including HIV. Education is also considered to be a key factor in development therefore, a low literacy rate and low educational attainment status of a population result in very difficult and slow development (NPC 2001:7). Although education of women, after controlling the effect of several other variables, has been found to have no direct significant effect on fertility (United Nations 1995, Avong 2001), governments must continue to vigorously pursue it, by ensuring population issues are fully integrated into the educational system. This is very imperative since education is a crucial instrument used for population management which ensures reproductive health of women, child health and survival and national economic and political development.

Conclusion
Trussell et al. (1979) estimated a five per cent reduction in total fertility if age at marriage were increased by just one year in a society with no deliberate fertility control. In Nigeria higher age at marriage has been found to reduce the number of children ever born (Isiugo-Abanihe 1994:25). Therefore, studies to investigate why age at marriage remains consistently low in the North East should be undertaken to unearth the reasons for use by policy makers.

The fertility behaviour of groups and individuals is governed not only by economic and technological forces within the society but also by how the people perceive and respond to these forces. The institutions also have structures of varying levels of power to influence behaviour, with the more powerful or dominant ones having greater effect on the pattern of fertility in a society. In this view, although material and ideational forces interact in bringing about fertility decline and individuals make decisions in response to individual circumstances, 'it is the perception of those circumstances and the subsequent constraints, largely unseen, placed upon the choice-set,' that are important in determining fertility behaviour (McNicoll 1994:206). Change in fertility pattern is therefore a product of changes in the local institutions as well as cultural milieu, and the continuing process of rationalisation of behaviour by individuals in these environments as they adjust to realities, hopes and expectations (McNicoll 1975; Potter 1983).

In the light of these, more research also using qualitative approach is necessary for discovering "Northeasterners"' perceptions of not only the fertility factors and the policy measures employed to influence them, but also the circumstances and the unseen constraints that may be responsible for the reported trends for the Zone.

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