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DECLINE IN HIGH FERTILITY COUNTRIES**

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**PROSPECTS FOR FERTILITY DECLINE IN THE FACE OF
HIV/AIDS IN UGANDA***

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The views expressed in this paper are those of the authors and do not imply the expression of any opinion on the part of the United Nations Secretariat

A. Introduction

In the last half a century, most of the developing countries have experienced fertility decline. Although Africa has been the last region of the world to witness fertility decline, the downward trend has already started in several countries of the region. For instance, in Botswana, total fertility rate dropped from 6.4 in 1981 to 5.7 in 1988 and 5.1 in 1996 (Gaisie 1998 and Udjo 1996). Total fertility rate has dramatically decreased from 8.1 in 1975-78 to 4.7 in 1995-98 in Kenya (National Council for Population and Development [Kenya], et. al. 1999) and from 5.5 in 1984-88 to 4.0 in 1996-99 in Zimbabwe (Zimbabwe Central Statistics Office 2000). Similar fertility fall has occurred in Ghana, Senegal and South Africa. Factors responsible for the decline have included increased use of modern contraceptives and a combination of economic, social, political, cultural and infrastructural reasons (Ramasundaram 1995, Zimbabwe Central statistics Office 2000 and Gaisie 1998). HIV/AIDS has also been mentioned to be one of the factors of fertility change in sub-Saharan Africa (US Bureau of the Census 1995; Haub, 1997).

A complex number of factors, such as demographic and situational variables, psychological problems, counseling techniques, access to care, attitudes of health care providers and infection of other sexually transmitted diseases influence decisions of HIV-positive women about their fertility (Williams, et al. 1996 and Johannisson 1996). Kumar, et al (1995 and 1997) claimed that a combination of these factors has resulted in poor pregnancy outcomes. For instance, AIDS has an adverse effect on the health of a fetus and pregnancy may accelerate disease progression through immunological deterioration.

Sexually transmitted diseases (STDs), which are closely associated with AIDS have serious short and long-term health consequences. Johannisson (1996) observed that gonorrhoea can lead to pelvic inflammation resulting into future ectopic pregnancy or infertility while syphilis can increase the risk of spontaneous abortion and stillbirth, all of which reduce fertility. Studies in sub-Saharan Africa show that HIV seropositive women frequently experience spontaneous abortions, stillbirths, premature births and miscarriages (De Cock, et al. 1994 and Tammerman, et al. 1994). Using data of an Australian study, Thackway, et al.(1997) observed that HIV-infected women had a higher pregnancy termination and consequently lower fertility than the general female population.

Women have had psychological problems due to AIDS (Dhoundiyal and Shah 1996). Psychological problems arising out of fear of HIV/AIDS have caused risk of marital instability, separation or divorce when women refuse sexual advances of regular partners including husbands. A study in Nigeria by Orubuloye et al. (1992) found that Yoruba women broke off marriages, refused sex or insisted on condom use with seropositive husbands.

For economic reasons, some women living with HIV/AIDS have decided to have fewer children. Barnett and Blaikie (1992) claimed that in Africa HIV-positive women are worried about leaving behind many children as orphans who would suffer economically. In a study of six US cities, Levine (1995) found that AIDS orphans had a lot of unmet needs especially economic ones. A review of care of AIDS orphans in Africa by Webb found that the orphans were not receiving enough care and attention from the providers. Although extended family of orphans has provided a lot of assistance, rampant poverty in the African region does not allow the relatives to satisfy the economic needs of the orphans. Also couples looking after AIDS orphans of dead relatives may limit their own family sizes in order to economically manage the extended household.

Behavioural changes due to HIV/AIDS epidemic may exert a downward pressure on fertility. Gregson, et al. (1998) claimed that positive changes in sexual behaviour due to the epidemic in Zimbabwe were expected to reduce fertility further through delayed onset of sexual relations, increased condom use and more widespread monogamy. Zaba and Gregson (1998) analysed data from controlled studies in Africa and concluded that the fertility of HIV-positive women was lower than that of HIV-negative

women in all but the youngest age group, with the differential increasing with women's age and epidemic duration. Also, Gregson (1994) developed a demographic model of fertility based on proximate determinants, which postulated that severe HIV/AIDS epidemics would lead to a fall of 27.9% in Uganda, 29.6% in Nigeria and 30% in Zimbabwe with a corresponding absolute decline in total fertility rate of 2.01, 1.72 and 1.58 respectively. He went further to claim that despite increased mortality, the long-awaited fertility transition in Africa would be effected by HIV/AIDS epidemic.

However, it is possible for fertility to increase in the face of HIV/AIDS epidemic. For instance, Setel (1995) argues that the high rates of stillbirths, spontaneous abortion and infant and neonatal mortality may reduce culturally prescribed periods of abstinence of HIV-infected women in sub-Saharan Africa who are trying to have children, thereby increasing fertility. Also by drastically increasing infant and childhood mortality, HIV/AIDS may increase fertility in endemic areas, if couples decide to replace their dead children or even close relatives. Further, some HIV-infected women with unmet reproductive goals may be tempted to accomplish them with the hope that some children may be born free of HIV (De Cock, et al. 1994 and Datta, et al. 1994). It has been claimed that with the genocide of 1994 in Rwanda, procreation has become a public duty to replace the dead loved ones despite high prevalence of HIV/AIDS (Economist 1997).

B. HIV/AIDS Epidemic in Uganda

Uganda has experienced HIV/AIDS for about two decades now. AIDS was first identified in Africa in Uganda in 1982 (Serwadda, et al. 1985) and since then the disease has spread all over the country. A recent report of the Ministry of Health on HIV/AIDS surveillance estimated that 1,438,000 people were HIV infected by the end of 1999 (STD/AIDS Control Programme 2000). Of these 1,294,200 were adults and 143,800 were children of 12 years and below. Of the total estimated adults living with HIV/AIDS, 761,300 (58.8%) were women and 532,900 (41.2%) were males. The average prevalence rate for adults was estimated to be 8.3%.

As table 1 shows, HIV/AIDS prevalence levels increased to around 30 per cent in the antenatal sentinel sites in 1992 and then declined, but are still above 10% in most sites.

AIDS is the fourth leading cause of death among the under-five children. It is suspected that the epidemic has reversed gains made in infant and under-five mortality. The infant and child mortality increased from 118 and 198 to 122 and 203 between the 1969 and 1991 censuses. More recently, Uganda Demographic and Health surveys of 1995 and 2000/2001 showed another deterioration of health among infants and under-five from 81 and 147 to 88 and 152 per 1000, respectively (Uganda Bureau of Statistics 2001). In addition, with an estimated 1.7 million orphans, Uganda has the highest proportion of AIDS orphans in the whole world, most of who have been caused by AIDS.

The epidemic has affected women more than men because women are biologically, socially and economically disadvantaged. They are more at risk than men of receiving contaminated blood and blood products during pregnancy and delivery of children because of limited blood testing facilities in the country. Women are more exposed to risky situations than men due to their dependency on men for socioeconomic survival and have limited formal education and information on HIV/AIDS. Traditionally, women bear the burden of caring for the sick and the affected and often forgo productive activities to fulfill such duties.

Because the primary route of HIV transmission in Africa is through heterosexuality, it is not surprising that the highest rates of infection in Uganda are among the most sexually active persons, especially young women. Studies have found that the prevalence rates are highest in ages 20-34 years (over 35% in early 1990s) and girls aged 15 –19 years are HIV infected 6 times more than boys of the same age group (Uganda AIDS Commission 2000). The prevalence rates were over 44% of the STD

patients in the country's referral hospital, Mulago, in late 1980s and early 1990s. The HIV incidence rates rose to 12 per 1000 person years among females in the Kyamulibwa cohort study in 1993.

C. High Fertility in Uganda

Uganda is one of the remaining fourteen countries in sub-Saharan Africa and sixteen countries world wide, which have sustained high fertility in the recent past (United Nations 2001). As table 2 shows Uganda's total fertility rate was reported in the 1969 and 1991 censuses and 1995 and 2000/2001 demographic and health surveys to be 7.1 in 1968/69 and 1990 and then slightly changed to and stagnated at 6.9 in 1992-95 and 1996-2000. Many reasons have been advanced for the constant high fertility in the country. First, unlike many African societies whose women practice long abstinence after child delivery, most of the ethnic groups in Uganda do not observe this practice for long. The Uganda Demographic and Health Survey (UDHS) of 1995 found that the median length of postpartum abstinence was only 2.2 months, which is too short to reduce fertility (Uganda Department of Statistics and Macro International 1996). This short period does not vary much by education (2.1 – 2.6 months), rural-urban residence (not at all), age (not at all between below and above 30 years) and sub-national regions (1.3 – 4.1 months). In fact, Ntozi (1995) found that couples in some ethnic groups in the western part of the country resume sex within a week after childbirth in observance of a cultural ritual.

Second, because of strong pro-marriage traditions, the institution of marriage is held in high regard and encouraged among Ugandans. For instance, in rural Uganda and among the uneducated, a woman who dies unmarried embarrasses the family, which has to perform some sexual rituals on her remains to prevent a curse against the family. Some of these rituals include a brother consummating sex with the deceased by urinating on the sexual organs of the sister and passing the remains through the rear door of the house before the burial. Such rituals put pressure on single women in rural areas to marry as soon as suitors are available. The parents also try to marry off their daughters as early as possible to avoid such calamities and to get bride wealth that would be used by the sons in marriage. Until recently, many girls were forced to drop out of school and get married. These practices have tended to suppress the age at first marriage for a long time. The 1991 census and 1995 UDHS show that the median age at first union was still below age 17.6 years. Since traditionally, marriage is for procreation in Ugandan societies, early marriage means early age at birth (65.9% of women were mothers by age 20) and many subsequent births.

Further, the pro-marriage traditions have sustained high proportion of ever married in Uganda. The 1969 and 1991 censuses showed that huge 94% and 97% respectively had ever married or were living in some union by age 45 years. These high levels had in fact increased to 99.6% in the 1995 UDHS. Also, the proportions of women who were widows and divorcees in the highly reproductive ages of 20-34 were low, implying minimal effect on fertility. In any case, remarriages of widows and divorcees were encouraged through levirate practice until recently, when the risks of HIV infection due to widow inheritance became too high to ignore.

Third, the Ugandan societies attach high values on children. Like in many developing countries, various ethnic groups in Uganda look at children as sources of labour, prestige, power, security, insurance and continuing lineage. Uganda is predominantly agricultural and children contribute a lot to the subsistence living of their families in form of labour in producing food and cash crops and looking after domestic animals. Producing many children including sons is a great source of happiness and physical security and an indicator of high status and power in the society. Future economic insurance in old age is measured by the number of children a family has. Ntozi (1995) observed that assistance in emergencies such as funerals, sickness, payment of school fees and organizing wedding parties was obtained from a range of relatives and largely depended on the size of the nuclear and extended family.

Most families in Uganda still highly value producing several sons, who would continue the lineage of the family. Hence, the search for sons makes many couples, including the highly educated ones end up with larger families than initially desired. Even highly educated men marry second wives or use mistresses in order to produce several sons (Ntozi 1993). The 1995 UDHS found a strong desire to have children and a preference for large families in Uganda. Married men (48%) were found to be more pronatalist than married women (18%) after producing 6 living children (Uganda Department of Statistics and Micro International 1996).

The fourth reason for sustained high fertility is limited use of modern contraceptives. Bongaarts (1978) and Bongaarts and Potter (1983) demonstrate that modern contraception can drastically reduce fertility levels in a short time. In the case of Uganda current use of modern contraceptives is still too low to make an impact on fertility. In 1988/89 demographic and health survey, the current use by currently married women (CPR) was 4.9% and it rose to only 8.9% in 1995 and 18% in 2000/01. This is despite high level of awareness of modern methods, from 77.9% in 1988/89 to 91.6% in 1995 and 98.7% in 2000/01. It is important to note that the majority of currently married women in the 1995 UDHS (37%) explained the wide difference between their knowledge and use of methods in terms of wanting children. This shows that the desire for children is very strong and with 6 living children, over a quarter of these women did not want to limit their childbearing. Other reasons given for non-use of contraceptives were sub-fecundity or infecundity (by 12.4%), knowing no method (8.3%), had reached menopause (7.2%), partner opposed (6.6%), respondent opposed (5.6%), knew no source of methods (5.6%), side effects (4.5%) and prohibited by religion (3.1%).

Fifth, frequent sexual activity exposes women to high risk of pregnancy. In the absence of effective contraception, the risk to pregnancy is highly influenced by the frequency of sexual intercourse among Ugandan women. Four weeks before the 1995 UDHS, a high 60% of women in reproductive age group were sexually active. The likelihood of women being sexually active was highest in ages 25-29 (70.2%), 30-34 (69.2%), 35-39 (66.9%) and 20-24 (65.5%) as well as among the uneducated (64.5%) and rural women (61.3%). However, sexual activity is high even among the adolescents (40.9%), urban women (52.9%) and the most educated (48.3%). In the 1985 survey of women in southwestern Uganda, the mean number of times women had sexual intercourse per week was 3.5 partly because of cultural obligations to do so (Ntozi 1995).

Sixth, in the absence of sexual abstinence, short breastfeeding contributes a lot to high fertility. Short periods of breastfeeding among Ugandan women were found to lead to fairly short postpartum amenorrhea (resumption of menstrual periods) with a median of 12.6 months (Department of Statistics and Micro International 1996). This period varies from 11 to 16 months between young women (below 30 years) and older women (30 years and above), 7 to 13 months (urban-rural) and 6 to 15 months (uneducated – highly educated). Combining postpartum amenorrhea with abstinence leads to a median length of postpartum insusceptibility, which was reported in the UDHS of 1995 to be 13.4 months, which is fairly short, ranging from 9 to 16 months between the uneducated and highly educated.

Seventh, high infant and child mortality levels may have contributed to sustained high fertility in the country. The killer diseases of children notably malaria and diarrhea have continued to be highly prevalent in the country (Uganda Department of Statistics and Micro International 1996). For instance, of the 770 infants aged 6-11 months, a high 38% had suffered from diarrhea in mere two weeks before the 2000/01 UDHS (UBOS 2001). The censuses of 1969 and 1991 indicated that infant mortality rose from 118 to 122 deaths per 1000 live births and under-five mortality increased from 198 to 203. Although the 1995 UDHS showed dramatic improvement in infant and under-five mortality to 81 and 147 respectively, the UDHS of 2000/01 reported some lost ground back to 88 and 152 respectively. It is likely that couples reacted to the worsening mortality situation by producing replacement and more children so that some can

survive. The levels of mortality are not yet low enough to make couples confident to produce only that desired number of children.

Eighth, lack of a large urban and educated population in the country stifled fertility decline. It is known that urban and fairly educated women have lower fertility than those in the rural areas and are less educated. For two decades of 1970s and 1980s when other African countries were busy educating their populations (for example in Tanzania), building their industrial and urban sectors (like in Kenya, Botswana and Zimbabwe), Uganda was trapped in civil wars that stagnated the economy and progress towards a highly educated population. By 1991, only 11.3% of the country was urban leaving the rest in rural areas with mostly agricultural subsistence economy. Females who had never been to school were at a staggering 45.7% of the total female population aged 6 years and over. Only 7 % of the females had attained at least secondary education (Republic of Uganda 1995). Since Ugandan women educated below secondary school level have been associated with even higher fertility than that of the uneducated, the low proportion of women educated to secondary school level meant little progress towards fertility decline (Republic of Uganda 1995).

D. Prospects for Fertility Decline

Although so far the fertility levels in Uganda have been sustained at high levels, the prospects for a decline in the future are high because of several factors. First, evidence available shows that fertility has declined in areas and households most severely affected by HIV/AIDS. A cross-sectional prospective study in Rakai, the district where the first case of HIV was diagnosed in 1982 and was severely affected by the epidemic showed substantial reduction in pregnancy prevalence of women infected with HIV (Gray et al. 1998). It was further observed that the odds ratio of pregnancy among HIV-positive women compared to women without HIV was 0.45. Also the pregnancy rate among HIV-positive women was 23.5 per 100 woman-years lower than that of HIV-negative women (30.1 per 100 woman-years), with a reverse pattern for the levels of pregnancy loss (18.5% compared to 12.2% respectively). In a separate study, Donovan (1998) concluded that HIV-infected women in Rakai were 55% less likely to be pregnant, while HIV-symptomatic women were 77% less likely to be pregnant and pregnancies among HIV-positive women were 50% more likely to end in miscarriage or stillbirth.

A longitudinal study of 3684 women aged 15-49 years in another severely affected district of Uganda, Masaka by Carpenter et al. (1997) showed results corroborating the findings in Rakai. Over the 6-year period of follow-up from 1989/90 to 1995/96, total fertility rates declined from 7.0 to 6.1. The general fertility rate among HIV-seropositive was 192 per 1000 women lower than 212 per 1000 among the HIV-seronegative women. In every age group, fertility levels were lower among the seropositive than the seronegative except 15-19. The HIV-infected women were found to have 20% lower fertility than the uninfected women. This decline in fertility is explained as a result of co-infection with other sexually transmitted diseases, such as syphilis and gonorrhoea.

Three cross-sectional surveys covering 9 districts in the country were done to study the impact of AIDS on the population variables including fertility. The first two surveys were conducted in six districts in east, west and central parts of Uganda in 1992 and 1995 while the third survey was carried out in three districts in northern Uganda in 1997. Similar questionnaires were used in the three surveys to get information on fertility from women in reproductive age groups and a verbal autopsy method was used to probe for persons living with HIV/AIDS or died of the disease in 1797 households in 1992, 2352 in 1995 and 1206 in 1997.

The findings of this study are displayed in table 3 where households are categorized into two types. First, AIDS affected households are the units whose member(s) died of AIDS or is/are currently suffering from it. The second category is non-AIDS households, which are defined as the units that had

not experienced any AIDS death. The table shows that between the 1992 and 1995 surveys fertility declined in the six districts. The total fertility rate in AIDS affected households fell from a high 6.8 in 1992 to 5.3 in 1995 and in non-AIDS affected households the drop was from 8.0 to 6.3. All the households in the six districts experienced a decline in fertility from 7.3 to 6.0. A comparison of the two types of households shows that AIDS affected households had lower fertility (6.8 in 1992 and 5.3 in 1995) than the non-AIDS households (8.0 in 1992 and 6.3 in 1995). This pattern is also true of the three northern Uganda districts, which reported a total fertility rate of 5.6 in AIDS households versus 7.2 in non-AIDS households (last columns of Table 3).

Table 4 presents results derived from the 1991 census and UDHS of 1995 for the 9 survey districts. It can be seen in the table that between 1991 and 1995 total fertility rate decreased in the six districts from 7.4 to 6.2. This finding confirms the fertility trend presented above from the 1992 and 1995 surveys linking the decline to HIV/AIDS epidemic.

However, the fertility levels are displayed by table 4 to have increased in the three northern districts from 6.6 to 6.9 between the 1991 census and 1995 UDHS. This is perhaps due to more recent epidemic in the area compared to the six districts. Another possible reason is the civil war in northern Uganda, which could have contributed to higher fertility to replace the dead. Notwithstanding these results, the 1997 figure (6.8) showed in table 3 compared to those in table 4 indicates a possible decline of fertility as the epidemic is more felt in the area.

Preventive education and information on the epidemic has emphasized and promoted change of sexual behaviour and use of condoms as a strategy for reducing HIV infection rates. Recent studies by STD/AIDS Control Programme (2000) have indicated that condom accessibility and use had increased in 1990s. For example in Mpigi district in 1996, 66.2% of the adolescents aged 15-19 years had acquired condoms and current condom use with non-regular sexual partners was 54.8%, which is high. Also, studies by Ntozi et al. (2001) on high risk groups in Uganda, such as commercial sex workers, bar maids, long haul truck drivers, street children and adolescents have showed that condom use has increased dramatically among these groups since the epidemic started. This increase in condom use among these groups, which are mostly in young ages may continue in future and have an adverse effect on fertility.

The second reason for expecting fertility decline in Uganda to start soon is the recent evidence showing that populations with some characteristics have started experiencing fertility decline. According to results of recent census and demographic and health surveys, women living in urban centers have reduced their fertility. The 1988/89 UDHS reported a total fertility rate of 5.7, which decreased to 5.6 in the 1991 census and fell to 5.0 in 1995 UDHS. The fall in fertility in urban centers was perhaps mostly responding to increased current use of modern contraceptives by the currently married women (CPR) from 12.2% in 1988/89 to 28.1% in 1995 (more than double in 6 years). Since then the CPR has increased by 48% to 41.6% in 2000/01 in less than 6 years, implying a further decline in fertility of urban women. It should be pointed out that the annual growth rate of urban population in Uganda increased from 3.8% in 1969-80 period to 6.4% between 1980 and 1991. The latter period experienced a high rate of urbanization, which is expected to continue rising due to recent economic liberalization and privatization policies that may lead to increased inflow of investments into the country.

Another factor that may be reducing fertility in the country is education. Women with post-primary education have been engaged in monetary economy as employees or petty traders in the informal sector. This development has increased competition between childbearing and income generating activities for women (Mulindwa 1999). Hence, total fertility rate of women with post primary education gradually declined from 6.0 in 1968-69 to 5.9 in 1985-88 and then fell to 5.3 in 1991 and 5.2 in 1995. This fertility decline was most likely associated with a rise in CPR of this group from around 10% in 1988/89 to 25.5% in 1995 (about two and half times in a short time). Since the CPR of the highly

educated has jumped (by 65.5%) to 42.2% in 2000/01, the prospects for further fertility decline in this category of population are high. In addition, the government recently embarked on universal primary education policy, which has dramatically increased primary enrolment from 2.8 to over 6 million and is focusing on promoting female child education. The government also intends to extend this policy to secondary education level, which will greatly expand the female population with post primary education and suppress fertility in the near future.

In addition, the costs of education have recently gone up with universal primary education due to the requirements to be met by parents for every child at school. At the same time, the benefits parents expected from their children have gone down since the children are in school most of the day and cannot help in farming activities. The new developments are expected to reduce the desired number of children and hence bring about fertility decline.

E. Conclusions and Recommendations

Uganda has sustained high fertility in the past due to socio-cultural, demographic and economic factors. It is expected that some of these factors will change in future, so that fertility will decline. Already fertility decline has occurred in some parts of the country in response to HIV/AIDS epidemic. To accelerate the fertility decline, government policy for universal education, especially post-primary education for girls should be promoted and supported by development partners.

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Table 1: HIV prevalence rates (percentages of pregnant women who were found HIV-infected) in antenatal sentinel sites between 1989 and 1999

Site/Hospital	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Nsambya	24.5	25.0	27.8	29.5	26.6	21.8	16.8	15.4	14.6	13.4	12.3
Rubaga	Na	Na	27.4	29.4	24.4	16.5	20.2	15.1	14.8	14.2	10.5
Mbarara	21.8	23.8	24.3	30.2	18.1	17.3	16.6	15.0	14.5	10.9	11.3
Jinja	24.9	15.8	22.0	19.8	16.7	16.3	13.2	14.8	11.0	10.5	10.8
Tororo	Na	4.1	12.8	13.2	11.3	10.2	12.5	8.2	9.5	10.5	4.5
Mbale	12.8	11.0	12.1	14.8	8.7	10.2	7.8	8.4	6.9	6.3	5.7

Na = Data not available

Source: STD/AIDS Control Programme (2000).

Table 2: Age specific fertility rates per 1,000 women and total fertility rates per woman in Uganda between 1968/69 and 2000.

	1969 census	1988/89 UDHS	1991 census	1995 UDHS	2000/01 UDHS
Time period	1968/69	1984-88	1990	1992-95	1996-2000
Age group					
15-19	198	187	152	204	178
20-24	341	327	329	319	338
25-29	322	319	324	309	298
30-34	253	273	275	244	259
35-39	189	224	207	177	187
40-44	87	96	95	89	76
45-49	35	36	32	29	40
TFR	7.1	7.3	7.1	6.9	6.9

Table 3: Age specific fertility rates per 1, 1000 and total fertility rates per woman in AIDS affected households (AHH) and non-AIDS affected households (NAHH) in 1992, 1995 and 1997 surveys

Age group	1992 survey in 6 districts			1995 survey in 6 districts			1997 survey in 3 districts		
	AHH	NAHH	ALL	AHH	NAHH	ALL	AHH	NAHH	ALL
15-19	284	408	337	372	286	318	286	240	265
20-24	314	414	363	228	296	271	256	348	324
25-29	320	280	301	194	299	261	191	279	257
30-34	199	204	201	133	197	172	213	236	232
35-39	115	175	140	89	116	105	79	210	173
40-44	83	94	88	53	48	51	67	87	82
45-49	38	21	30	0	27	12	20	35	29
TFR	6.8	8.0	7.3	5.3	6.3	6.0	5.6	7.2	6.8

Table 4: Comparing fertility rates derived from 1991 census and 1995 UDHS for the 9 districts studied in 1992, 1995 and 1997.

Age group	Six districts surveyed in 1992 and 1995		Three northern districts surveyed in 1997	
	1991 census	1995 UDHS	1991 census	1995 UDHS
15-19	173	174	175	163
20-24	341	340	325	345
25-29	333	290	311	275
30-34	286	204	253	272
35-39	218	142	176	184
40-44	97	73	69	140
45-49	31	19	12	0
TFR	7.4	6.2	6.6	6.9