

Barbara A. Anderson

**Fertility in South Africa: Current Issues and
Prospects for the Future**

PSC Research Report

Report No. 03-532

February 2003

PSC POPULATION STUDIES CENTER
AT THE INSTITUTE FOR SOCIAL RESEARCH

UNIVERSITY OF MICHIGAN

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Fertility in South Africa: Current Issues and Prospects for the Future

Barbara A. Anderson

Professor, Department of Sociology
Senior Research Scientist, Population Studies Center
University of Michigan

and

Visiting Researcher
Human Sciences Research Council
Pretoria, South Africa

Acknowledgements: An earlier version of this paper was presented at the Conference, Fertility and the Current South African Issues of Poverty, HIV/AIDS and Youth, sponsored by the Department of Social Development, South Africa, and the Human Sciences Research Council, Pretoria, South Africa, October 24, 2002.

Rob Dorrington and Leigh Johnson kindly provided estimates of the proportion of children who are orphans from their modeling. John Romani and Johan van Zyl contributed helpful comments.

The research upon which this paper is based was supported by Human Sciences Research Council, a Mellon Foundation grant to the Population Studies Center, University of Michigan, A National Institutes of Child Health and Human Development Infrastructure grant HD41028 to the Population Studies Center, University of Michigan, the School of Public Health, University of Michigan and the University of Pretoria.

Views presented in this paper are those of the author and do not represent positions of the University of Michigan or of the Human Sciences Research Council.

Abstract

Fertility Level, Trend and Desires

- Fertility in South Africa has declined rapidly, especially since the late 1960s. The pace of this decline is in line with that of the less developed regions of the world but is very rapid in comparison with sub-Saharan Africa as a whole.
- HIV/AIDS has a modest effect on the level of fertility in South Africa, compared to other causes of the decline in South African fertility. Seemingly HIV/AIDS leads to at most a 10% reduction in fertility.
- Current low fertility in South Africa mainly reflects the desires of women. There is an unmet need for family planning, especially among rural African women. However, if women perceive that conditions for having children improve, urban African women and white women could increase their fertility.

Infant and Child Survival

- South Africa had a low infant mortality rate in comparison with less developed world regions up to the 1970s. The pace of infant mortality decline in South Africa has been slow compared to the rest of the developing world.
- Rural Africans have especially high infant mortality. Since 1994 some factors related to infant death for rural African children have improved (safe drinking water), but other factors have remained virtually unchanged (sanitation).
- HIV/AIDS is likely to lead to a large increase in infant and child mortality.
- Negative health behaviors that typically increase with development, such as smoking and alcohol consumption, constitute risk factors for carrying a pregnancy to term and for survival of the infant.

Household Arrangements and the Welfare of Children

- There is no evidence that the proportion of children who are orphans has increased substantially up to 1998.
- In the 1990s the proportion of children who are fostered, especially among Africans, increased substantially. The increase is especially pronounced among children whose mothers were ill. If many of these ill women had HIV/AIDS, the increase in fosterage could presage a large increase in the percentage of children who are orphans.

Recommendations and Observations

1. Data need to be regularly collected to trace trends in fertility and infant and child welfare and in the factors related to these trends.
2. Although there have been improvements in some areas related to child welfare, more needs to be done to improve environmental conditions.
3. Infant morbidity and mortality could rise due to future increases in smoking and alcohol consumption by women.
4. The welfare of children with ill mothers, as well as that of orphans, needs to be attended to.

Datasets used: South Africa Demographic and Health Survey 1998
South Africa October Household Surveys 1994-99

Fertility in South Africa: Current Issues and Prospects for the Future

Fertility, fertility change and the design and rationale for fertility-reduction programs have been subjects of policy and political concern throughout the developing world and especially in South Africa. After the 1994 Cairo Conference there has been a shift from an emphasis on fertility reduction with the sole aim of reducing the growth rates of countries to a concern with reproductive health and with enhancing the ability for women and couples to achieve their fertility goals (United Nations, 1994; Finkle, 2002). The reproductive health perspective on fertility and population growth has been incorporated in South African population policies and was reflected in the South African Reconstruction and Development Programme (South Africa, Department of Social Development, 2001: 3).

Under apartheid, South Africans were skeptical about the motives of the South African government's population policies regarding fertility limitation (Chimere-Dan, 1993). Official government policy at that time encouraged high fertility for white women and tried to limit fertility of African women (Brown, 1987; Verwoerd, 1978).

In new South Africa, these earlier concerns have abated or disappeared, but there are mixed feelings about whether fertility should rise or fall. Unlike in the case of mortality, for which there is general agreement that lower mortality is better than higher mortality, there are various arguments as to whether fertility should be higher or lower.

This paper examines the history of the level and trend of fertility in South Africa in a comparative context. It considers how current fertility levels relate to people's fertility desires. Since people want surviving children rather than simply live births, it also examines the level of and factors related to infant survival. Then household arrangements and the welfare of children are examined, with a focus on orphanhood and child fostering. Finally recommendations and observations are made.

FERTILITY LEVEL, TREND AND DESIRES

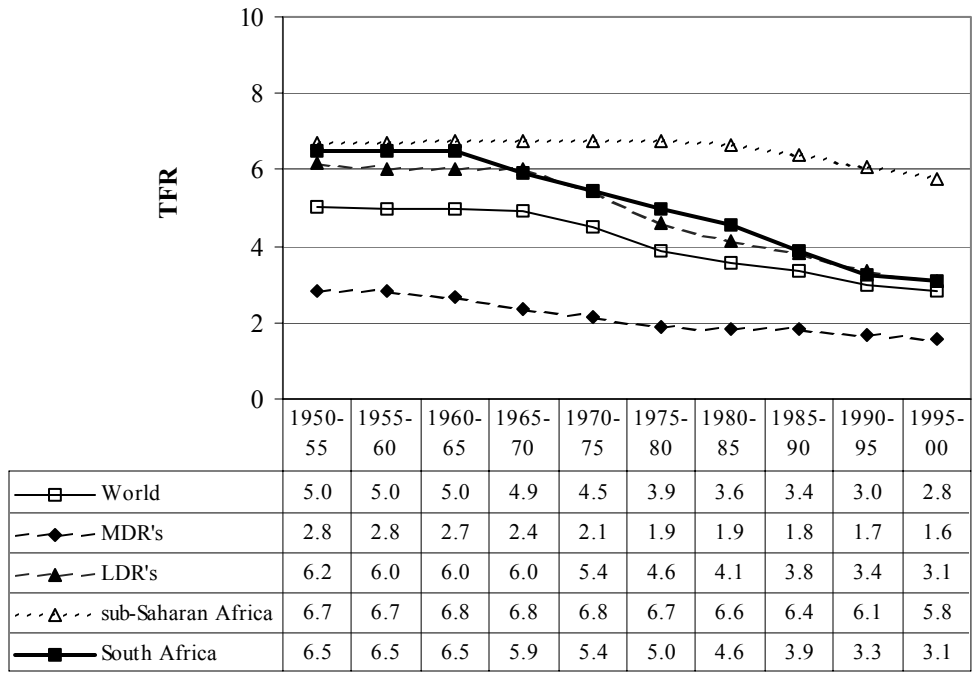
In this section, the level and trend in fertility in South Africa are examined in comparative perspective. The influence of HIV/AIDS on the level of fertility is discussed, and information on the desired level of fertility among South African women also is examined.

Level and Trend in Fertility in South Africa in Comparative Perspective

In order to think about whether fertility in South Africa is high or low, it is useful to look at the trend in fertility over time and how the level and trend compare to experience elsewhere in the world. Figure 1 shows the level and trend in one measure of fertility, the total fertility rate, 1950-2000¹.

¹ The total fertility rate is the number of children that a woman would have if she lived to age 50 and had the number of children at each age that was average for women in her country or in the group to which she belongs. For example, the total fertility rate could be calculated for all women in South Africa or for African women in South Africa.

Figure 1. Total Fertility Rate (TFR) - Lifetime Births to a Woman Under Current Fertility Rates

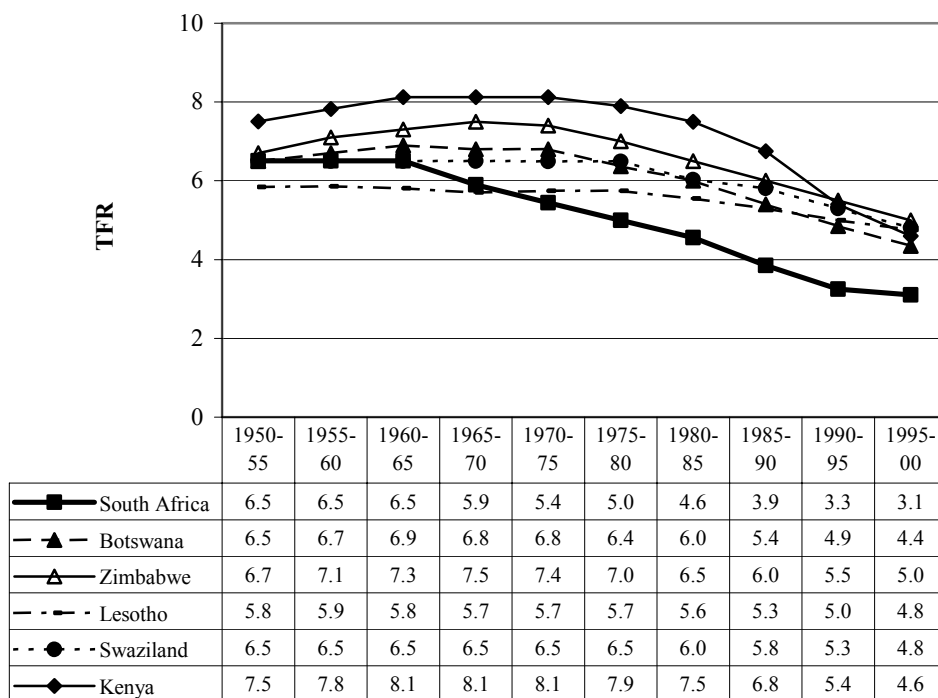


It is clear from Figure 1 that in the early 1950s, the level of fertility in South Africa was the same as in sub-Saharan Africa as a whole, but by the late 1960s, fertility in South Africa was distinctly lower than in sub-Saharan Africa overall. In sub-Saharan Africa as a whole, fertility declined gradually starting in the 1970s but was still quite high in the late 1990s – a total fertility rate of almost six children per woman. However, the level of fertility and trajectory of decline in the total fertility rate in South Africa has been virtually the same as that in the less developed regions (LDR's) of the world as a whole.² Thus, although fertility decline in South Africa was rapid in comparison to sub-Saharan Africa, it is normal for the LDR's overall.

Figure 2 shows similar information for South Africa in comparison with several other African countries. None of the other countries shown in Figure 2 experienced as early a fertility decline as South Africa, and since the 1970s all had a higher total fertility rate than South Africa. Fertility began to decline in Zimbabwe and Botswana in the 1970s and in Kenya, Swaziland and Lesotho in the 1980s.

² In Figures 1, 2, 4, and 5, the less developed regions (LDR's) comprise Africa, Asia (except Japan), Latin America and the Caribbean and Melanesia, Micronesia and Polynesia, and the more developed regions (MDR's) comprise Europe, North America, Australia/New Zealand and Japan. Sub-Saharan Africa is comprised of all countries in Africa except Algeria, Egypt, Libya, Morocco, Sudan and Tunisia. The data in these figures are from United Nations (2001).

Figure 2. Total Fertility Rate in Comparison with African Countries



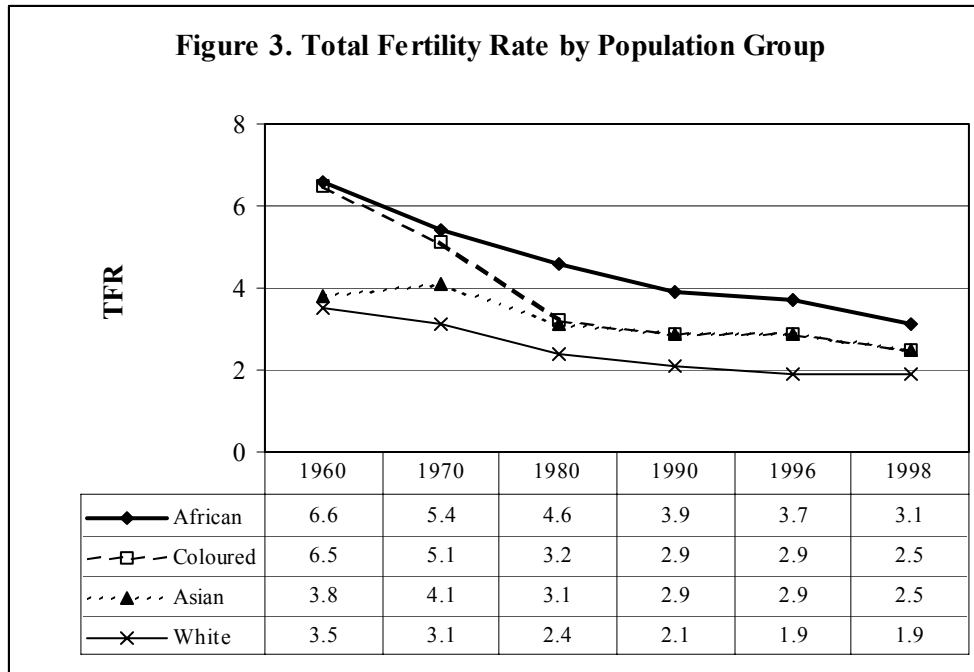
In South Africa, under apartheid, there were four official population groups: Whites, Asians, Coloureds, and Africans. Not only were there separate educational and health systems for each group, but also the rights and privileges for each group differed greatly.³ The White institutions and systems had the greatest resources, and the African systems had the least resources. The Coloured are a mixture of Dutch, Malay, and Khoikhoi. The Khoikhoi are an African group traditionally located in the Cape Town area. Intermarriage among these groups dates to the 17th century. Asians are primarily those of Indian background but also include those of Chinese background.

Figure 3 shows the course of the total fertility rate for the four population groups within South Africa. Although the precision of these estimates can be questioned, the general picture they portray should be accurate.⁴

Since Africans comprise the vast majority of South Africa's population, the course of the total fertility rate for South Africa as a whole is mainly determined by the fertility of the African population of South Africa. Over time there has been a convergence in the fertility of the different population groups in South Africa.

³ Apartheid laws were weakened beginning in the late 1980s and were largely abolished by 1990. The first democratic non-racial elections in South Africa were held in 1994.

⁴ The data in Figure 3 are from South Africa, Department of Social Development (2001: 42). It is noted that the estimates for Asian women shown in Figure 3 are not reliable due to the small sample size (South Africa, Department of Social Development, 2001: 51).



HIV/AIDS and Fertility Level

There has been much concern about the effect of HIV/AIDS on fertility in South Africa. There is evidence that being HIV-positive lowers fecundity. There are also arguments that behavioral changes among those who are HIV-positive could lead to either lower or higher fertility.

Based on a variety of studies in Africa, being HIV-positive seems to lower fertility 25-40% in comparison with HIV-negative women (United Nations, 2002c: 1; Zaba & Gregson, 1998). United Nations (2002c: 1-2) further argues that a 25% national adult prevalence of HIV/AIDS translates into a 10% decline in the total fertility rate, mainly through biological mechanisms. Given that from the mid-1980s through the mid-1990s, the total fertility rate in South Africa declined an average of 15% per year (United Nations, 2002b: 16), the overall effect of HIV/AIDS on the level of fertility is not likely to be large in comparison with other factors affecting fertility.

Some have thought the spread of HIV/AIDS could cause a sufficient large decline in fertility to basically depopulate South Africa. It has been estimated that taking into account mortality from all causes, including HIV/AIDS, the total fertility rate in South Africa would have to be at least 2.83 in 2005-2010 to avoid long-term population decline. The total fertility rate necessary to avoid long-term population decline would fall to 2.21 by 2045-2050 (United Nations, 2002a: Table 4). Given a total fertility rate of 3.1 in 1995-2000 (United Nations, 2001: 412), the threat of below replacement fertility, and thus population decline, does not seem immediate.

Desires for Higher or Lower Fertility

The level of fertility is affected by fertility desires on the part of women and couples, by contraceptive use, by abortion, and by fertility-inhibiting effects of diseases such as HIV/AIDS. Throughout the world, once a substantial portion of the population can effectively control their fertility, fairly large fertility fluctuations are possible in response to changing economic or

political circumstances. Fertility can decline in times of economic hardship (Ranjan, 1999) and then increase when the situation improves. Fertility levels can also fluctuate greatly due to changing fertility desires on the part of women and couples. The Baby Boom in the United States was caused both by delayed childbearing from women who had postponed childbearing during the Depression of the 1930s and by an increase in desired family size (Anderson, 2002: 445-447).

South Africa in the early twenty-first century is classified by the United Nations as an intermediate fertility country.⁵ The United Nations is considering revising their fertility assumptions for projections of the populations of the intermediate fertility countries. The current proposal for the medium-fertility projection assumption is for the total fertility rate to fall to 1.85 before the year 2050 and then to remain unchanged (United Nations, 2002a: 17). This assumption projects eventual below-replacement fertility for all the current intermediate fertility countries, including South Africa. In a situation of below-replacement fertility, too few babies are born to prevent long-term population decline. Below-replacement fertility now typifies most developed countries and is a major policy concern in many of the developed countries (Chesnais, 1995; Ueno, 1998; United Nations, 1999).

Swartz (2002) argues that it is possible that fertility of African women in South Africa will rise in the future. He points out that under apartheid, the political situation could have led women to have fewer children than they would have had otherwise. With a non-racial government in South Africa and with a decrease in violence, many African women could feel that the time has come for a higher level of childbearing, somewhat similar to the large rise in fertility in the United States and other countries after World War II.

Table 1 shows data on actual and ideal fertility among all women in South Africa and for the African, Coloured and white population groups.⁶ Data are also shown for urban Africans and for rural Africans.

Column 1 shows the ideal number of children that women in each group reported on average.⁷ The question about the ideal number asks how many children a woman thinks would be the best number for her to have, apart from the question of how many children she actually has borne.

Column 2 is based on a question about whether each pregnancy that resulted in a live birth occurred just when the woman wanted it (wanted birth), whether the woman wanted the pregnancy to occur later (birth occurred too early), or whether the woman had wanted that pregnancy never to occur (wanted no more children). Column 2 shows what the total fertility rate would have been for each group in the previous three years if only children who were wanted births had been born.⁸

⁵ Intermediate fertility countries are countries that had a TFR of 2.1-5.0 in the period 1995-2000.

⁶ Estimates are not shown for Asian women, since there were too few Asian respondents to calculate reliable estimates of the wanted total fertility rate or the total fertility rate (South Africa, Department of Health, 2002: 75).

⁷ For the ideal number of children, " Respondents who had no children were asked: 'If you could choose exactly the number of children to have in your whole life, how many would that be?' Respondents who had children in turn, were asked: '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?'" (South Africa, Department of Health, 2002: 72)

⁸ A child was defined as wanted if the mother reported that the pregnancy that resulted in that child was wanted at the time it occurred. The child was defined as not wanted if the woman stated that she preferred that the pregnancy had occurred later or had never occurred. If she preferred that the pregnancy had never occurred, she wanted no further children at that time.

Table 1. Actual and Ideal Fertility of Women Age 15-49, South Africa Demographic and Health Survey, 1998					
	(1)	(2)	(3)	(4)	(5)
	Ideal Number of Children	Wanted Total Fertility Rate	Total Fertility Rate	(3) – (1) Actual minus Ideal Fertility	(3) – (2) Actual minus Wanted Fertility
All Women	2.9	2.3	2.9	0.0	0.6
African	3.0	2.4	3.1	0.1	0.7
Urban African	2.7	1.9	2.3	-0.4	0.4
Rural African	3.3	3.0	4.0	0.7	1.0
Coloured	2.5	2.1	2.5	0.0	0.4
White	2.3	1.5	1.9	-0.6	0.4

Source: South Africa, Department of Health (2002a: 73, 75)

Column 3 shows the total fertility rate for each group. Columns 4 and 5 show different indicators of whether women were having fewer children than they wanted, more children than they wanted, or the number of children that they wanted

Column 4 shows the difference between the total fertility rate and the ideal number of children. Based on column 4, for women in South Africa as a whole actual and ideal childbearing match almost perfectly. However, this overall match masks differences among population subgroups. African women, especially rural African women, were having more children than their ideal number. The average excess over a lifetime of 0.7 children per rural African above her ideal number suggests a substantial unmet need for family planning.

However, urban African women and white women are having over a lifetime fewer children than their ideal number.⁹ These results give some support to Swartz's (2002) idea that women in South Africa could increase their fertility as the situation in South Africa normalizes. It also lends support to the view that currently low fertility in South Africa is partially the result of timing decisions or a "wait and see" attitude on the part of some South Africans, while they hope that the situation in the future will be more favorable to their having additional children than they think it is now.¹⁰

Column 5 shows the difference between the total fertility rate and the wanted total fertility rate. The results in column 5 suggest that women in all groups are having births that they either never wanted to have or that they would have preferred occurred later. These results suggest that women from all groups in South Africa would benefit from increased contraceptive effectiveness.

It might seem that the results in columns 4 and 5 for urban African women and for white women are contradictory, but actually they are not. Urban African and white women would like to have more children if the circumstances were appropriate. Appropriate circumstances could include a

⁹ Analysis of the South Africa Demographic and Health Survey, 1987-89 showed substantially higher desired than actual fertility for white women and somewhat higher desired than actual fertility for Asian and Coloured women (Mostert, 1990: 63, 70).

¹⁰ For some time desired fertility has been higher than actual fertility in European countries that have actual below replacement fertility (Chesnaï, 1998). Thus, this kind of finding does not necessarily indicate a fertility increase in the near future.

better economy, a lower level of violence, a more peaceful home life, or less home/work conflict. However, in less than ideal circumstances, many South African women are having unwanted births. Women wished some of their unwanted births had occurred later, and women wished some of their unwanted births had never occurred. For all South African women for the three years before the 1998 South Africa Demographic and Health Survey, 53% of the pregnancies that resulted in a live birth were unwanted. Forty-six percent of the unwanted births happened earlier than the women wanted, and 17% of the births were not wanted ever (South Africa, Department of Health, 2002a: 74).

INFANT AND CHILD SURVIVAL

The aim of childbearing is not only to have a child but to have a child who survives. One reason for low fertility levels in much of sub-Saharan Africa in the past has been extended breast-feeding and post-partum abstinence, with the rationale that a fairly long inter-birth interval increased the survival chances of the child who had already been born (Page & Lesthaeghe, 1981). In this section, the level and trend in infant mortality in South Africa are examined in comparison to other regions and countries of the world. Then levels and trends in factors related to infant and child survival are examined.

Levels and Trends in Infant Mortality in South Africa in Comparative Perspective

One common measure of the chance that a child who is born alive will live is the infant mortality rate (IMR).¹¹ Figure 4 shows the IMR for South Africa in comparison with the world as a whole, the more developed regions of the world, the less developed regions of the world, and sub-Saharan Africa as a whole.¹²

In the 1950s the IMR in South Africa was much lower than that of the world as a whole and much lower than in all less developed regions or in sub-Saharan Africa. However, by the 1960s, the IMR had only declined modestly in South Africa, while in the rest of the less developed world, the decline was much steeper; by 1995-2000, the IMR in the LDR's was 36% of its 1950-55 value, while in South Africa the 1995-2000 value was 60% of the 1950-55 value. In sub-Saharan Africa, the decline in the IMR was somewhat more rapid than in South Africa, although the level of the IMR in sub-Saharan Africa remained above that in South Africa even in the late 1990s.

¹¹ Out of one thousand births, the infant mortality rate is the number of children who die before their first birthday.

¹² The estimate of the IMR from the United Nations (2001: 412) shown in Figures 4 and 5 for South Africa 1995-2000 differs from the Statistics South Africa (1999) estimate of an IMR of 41 per thousand and from the South Africa Demographic and Health Survey (2002: 102) estimate of 42 for the ten-year period preceding 1998. However, the overall pattern shown in the figures is reasonable.

Figure 4. Infant Mortality Rate (IMR) - Number of Deaths by Age One Year per Thousand Births

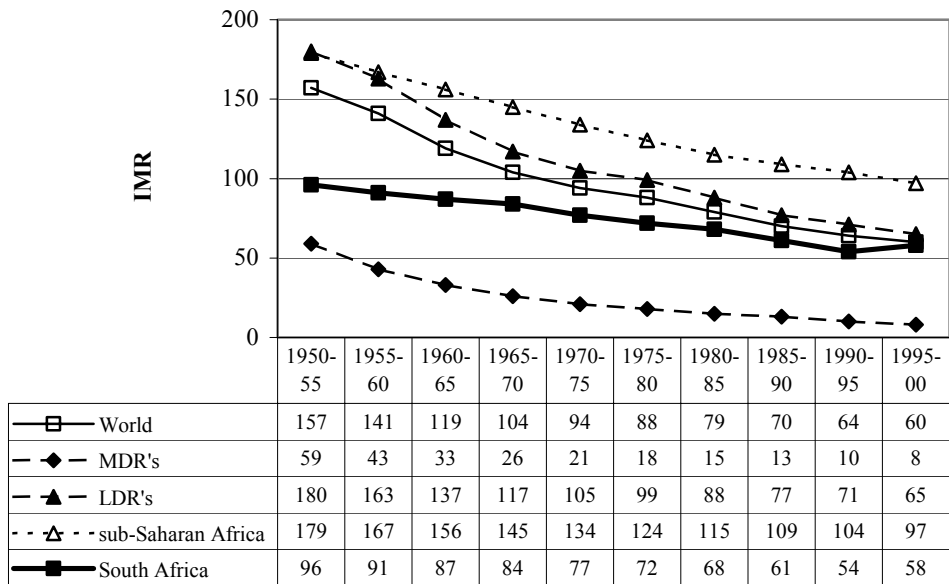
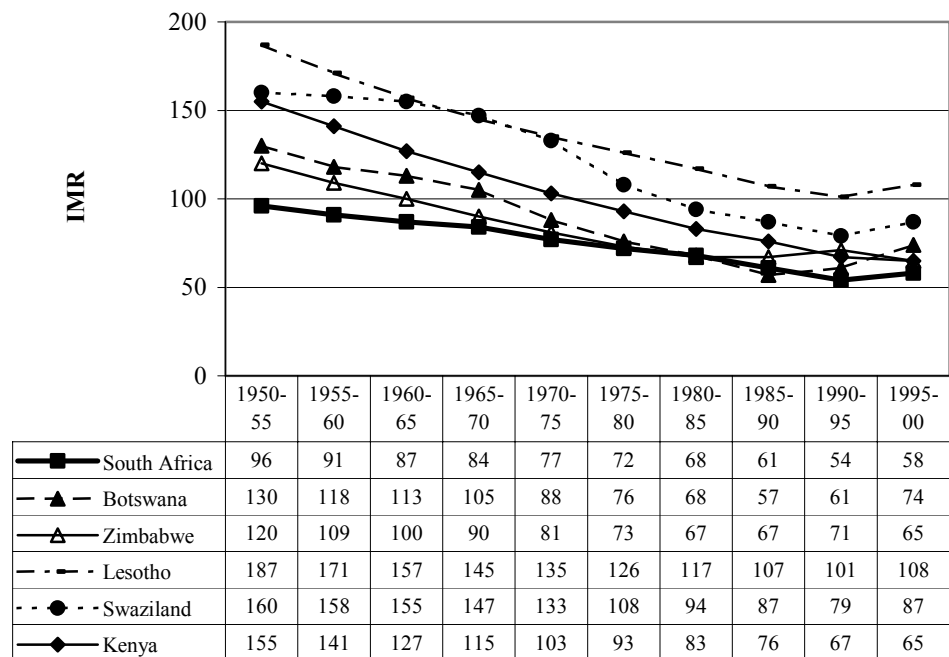


Figure 5. Infant Mortality Rate in Comparison with African Countries



In Figure 5 we see a similar pattern for the comparison of IMR in South Africa with IMR in other countries in the region. For example, in 1950-55 the IMR in Kenya was 61% higher than that of South Africa, while by the 1995-00 the IMR in Kenya was 12% higher than in South Africa.

It is clear that South Africa has had fairly high infant mortality in light of the relatively low level of fertility. It is also clear that the high overall IMR in South Africa is almost totally due to the high chances of death of African infants. Statistics South Africa (1999) estimated an overall IMR of 41, but estimated the value for the African population to be 43, for the Coloured population 24, and for the white and Asian populations 19. Similarly, the South Africa Demographic and Health Survey (South Africa, Department of Health, 2002a: 102) estimated for the ten years before 1998 an overall IMR of 42, but a value of 47 for the African population and a value of 11 for the white population. For the rural African population IMR was estimated as 54.

Levels and Trends in Factors Related to Infant Mortality in South Africa

This section considers trends in factors related to infant mortality. First factors that have been important for infant and child mortality throughout the developing world are examined. Then the influence of HIV/AIDS on infant and child mortality is discussed. Finally the possible influence of negative health behaviors adopted from developed countries, specifically alcohol consumption and tobacco use, is discussed.

Socioeconomic Characteristics, Health Care and Environmental Factors

Three kinds of explanations for factors related to the level of infant mortality in settings in which the IMR is high have been proposed. First, household socio-economic characteristics have been thought to be important. The most prominent of these has been the education of the child's mother (Caldwell, 1979; Caldwell & McDonald, 1982; Hobcraft, 1993; Mason, 1984; Morelos, 1996; Sufian, 1990; United Nations, 1985; Wolff, 1993). Second, direct access to health care and health programs has been cited (Frankenberg, 1995; Jain, 1985; Lalou & LeGrand, 1995; Niraula, 1994; Sandiford *et al.*, 1991). Factors in this area include access to health facilities, medical attendance at birth, use of prenatal care, and participation in vaccination programs. Third, the environment in which the infant lives is thought to be important. Factors in this area include purity of the water supply and the type of sanitation available (Esrey & Habicht, 1985; Hammerslough 1990; Merrick, 1985; Pant 1991; Rajna, Mishra & Krishnamoorthy, 1998; Timaeus & Lush, 1995; van Poppel & van der Heijden 1997).

Table 2 indicates that all of the suggested factors are related to the IMR in South Africa for the ten-year period before 1998. Urban children, children whose mothers are more educated, those whose mothers had antenatal(prenatal) care and medical care at delivery, those with piped drinking water, and those with better sanitation facilities had a higher chance of survival.

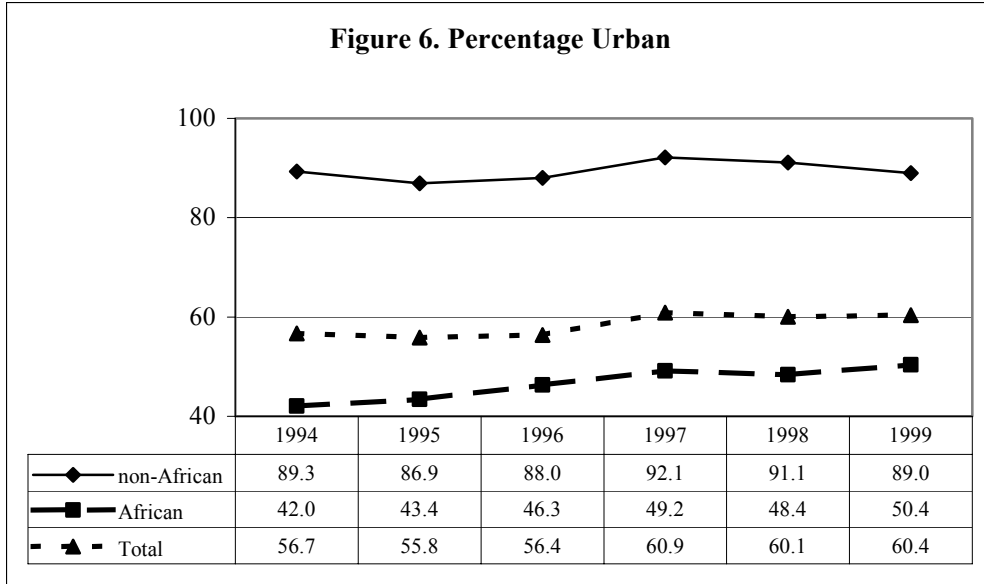
A multivariate analysis of factors related to infant and child survival of African and Coloured children 1989-1994 (Anderson, Romani *et al.*, 2002) found that medical attendance at delivery was important for both African and Coloured children. Clean water also was important for the survival of African children, while sanitation was important for the survival of Coloured children. Education of the mother was relatively unimportant, and distance to a health facility did not matter once other factors had been taken into account.

Table 2. Relation of Various Characteristics to the Infant Mortality Rate, Ten-Year Period Before 1998	
Characteristic	IMR
Residence	
Urban	33
Rural	53
Education of Mother	
No education	59
Sub A-Std 3	54
Std 4-Std 5	42
Std 6-Std 9	40
Std 10	30
Higher	29
Maternal Health Care	
No antenatal care or medical care at delivery	43
Both antenatal care and medical care at delivery	36
Drinking Water	
Piped	35
Other	64
Sanitation	
Flush	29
Latrine	25
Other	64
Source: South Africa, Department of Health (2002a: 102, 105)	

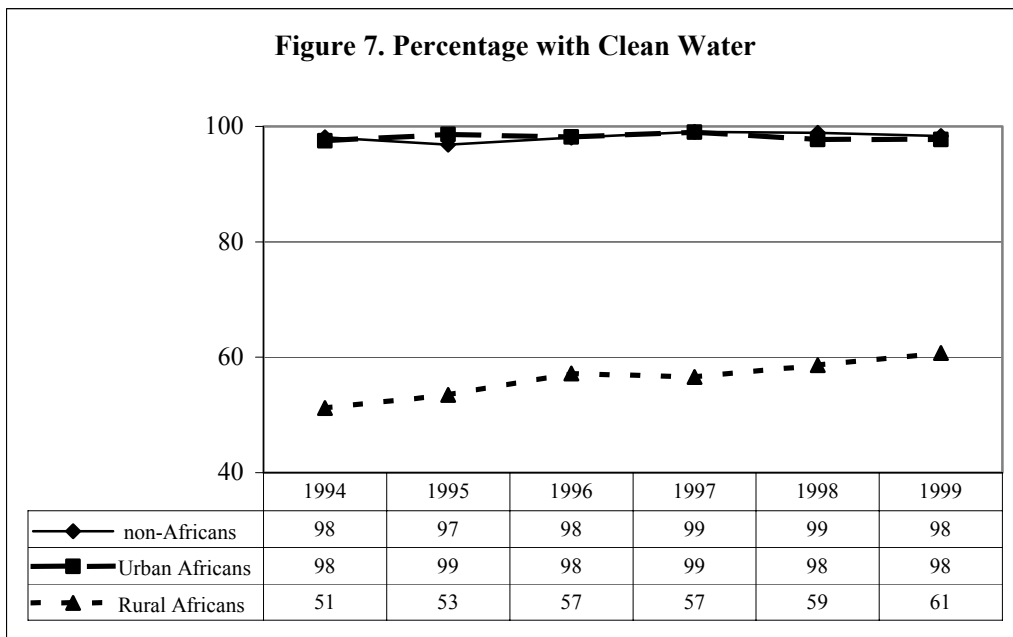
Data from the South Africa October Household Surveys conducted 1994-1999 can be used to trace some of these factors related to infant and child survival over time.¹³ Figure 6 shows the percentage of the total, the African and the non-African population of South Africa that lived in urban places 1994-1999. Although the percentage of Africans that live in urban places increased, even in 1999 more than one-half of all Africans lived in rural places. All of the factors listed in Table 2 that contribute to infant survival are more readily available in urban than in rural settings.

The trend in Figure 6 makes clear that a rapid transfer of the African population from rural to urban locations is not likely. Thus factors related the high IMR for rural Africans remain important in the overall African IMR.

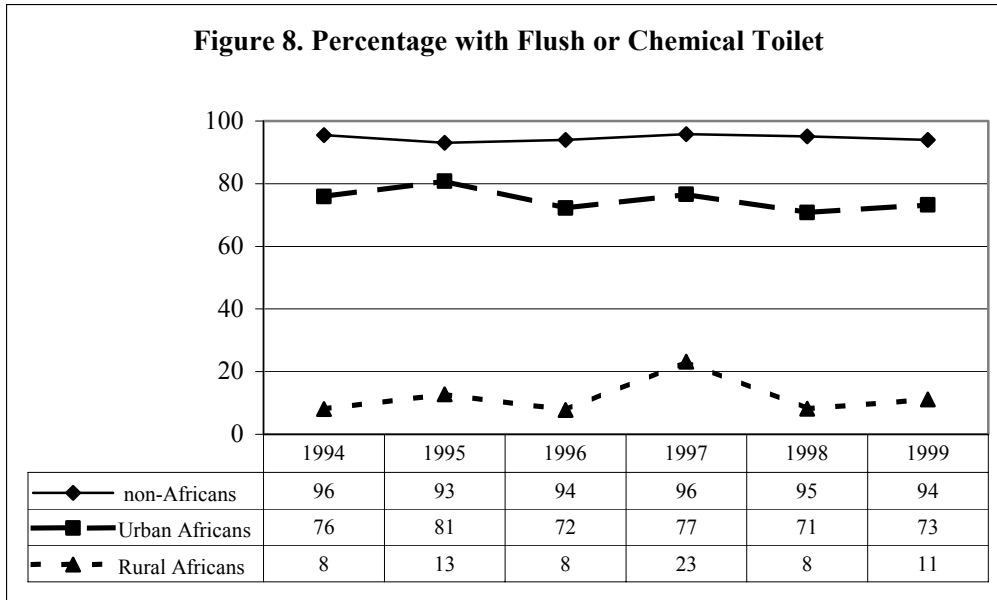
¹³ See Statistics South Africa (2001) for a discussion of the 1995-99 October Household Surveys. See Anderson, Romani, *et al.* (2002) for a discussion of the 1994 October Household Survey. The values in Figures 7-9 are estimates from the October Household Surveys calculated by the author in collaboration with Heston E. Phillips, Johan A. van Zyl, and John H. Romani.



A major initiative in South Africa has been to increase the provision of clean water for drinking and cooking. Figure 7 shows the percentage of non-Africans, urban Africans and rural Africans who had clean water 1994 through 1999.¹⁴ Almost all non-Africans and urban Africans had clean water, while in 1999, 40% of rural Africans did not have clean water for drinking and cooking. The increase in the percentage with clean water between 1994 and 1999 from 51% to 61% is a substantial accomplishment, but there is still much to be done.



¹⁴ Clean water is defined as water from a private or communal tap or from a water tanker. This follows the convention in Statistics South Africa (2001).



Improved sanitation has also been a stated governmental priority. However, Figure 8 shows there was no increase in the percentage of rural or urban Africans who had a flush or chemical toilet in the last half of the 1990s. Almost all non-Africans had a flush or chemical toilet at all dates.

HIV/AIDS and Infant and Child Mortality

There is much concern about the effect of HIV/AIDS on infant and child survival. The mother to child transmission rate for HIV-positive mothers has been estimated as 13-32% in developed countries and 25-48% in developing countries (Bryson, 1996; Dabis *et al.*, 1993). For those infected from birth, studies have found the average time to AIDS has a range of 1-6.3 years (Auger *et al.*, 1988; Commenges *et al.*, 1992; Downs *et al.*, 1995; Jones *et al.*, 1989; Lui *et al.*, 1988; Oxtaby *et al.*, 1992; Pliner *et al.*, 1996). Use of nevarapine during delivery of a baby to an HIV-positive mother can reduce the chance of mother to child transmission of HIV by about 50%, but a substantial portion of babies of HIV-positive mothers would still be infected (World Health Organization, 2001). An increase in HIV/AIDS is likely to lead to a large increase in infant and child mortality whether or not nevarapine is universally administered to HIV-positive mothers.

Negative Health Behaviors: Alcohol and Tobacco Use and Infant Mortality

Through much of the developing world, unhealthy behaviors common in the developed countries, such as smoking and a high level of alcohol consumption, have increased. (Bah, 1993; Gwatkin, 1980; Walker, 1996; World Health Organization, 1999). Increases in these behaviors are expected to contribute to higher adult mortality for both sexes in the developing world, including South Africa (Beaton, 1997; Gunawardene, 1999), as they have already in many parts of the world (Nizard & Munoz-Perez, 1993; Peto *et al.*, 1994).

Engaging in these behaviors has especially large mortality consequences for men, since men tend to smoke and to drink alcohol more than women (Waldron, 1997). However, these behaviors by

women can have additional consequences through the birth of less healthy babies with increased chance of infant or child death. For example, smoking by pregnant women has been found to contribute to the chance of a low birthweight newborn (Al-Awadi & Amin, 1992; Bener, Abdulrazzaq & Dawodu, 1996), smoking by the mother increases the chance of early neonatal death (Fourn, Ducic & Seguin, 1999; Gray *et al.*, 1991) and increases other complications for the newborn (Odendaal, van Schie & de Jeu, 2001). Also, maternal alcohol consumption is related to malnutrition among children (Setswe, 1994). High levels of alcohol consumption and associated fetal alcohol syndrome have been a source of concern in South Africa (May *et al.*, 2000). There is evidence that unhealthy behaviors, especially smoking and drinking, increase the chance that a person will become HIV-positive (Allen *et al.*, 1993; Dowe *et al.*, 2001; Gwati *et al.*, 1995; Mbulaiteye *et al.*, 2000; Nopkesorn *et al.*, 1998; Tengia-Kessy, Msamanga & Moshiro, 1998).

Table 3 shows the percentage of South African women age 15 or older who use tobacco or consume alcohol (South Africa, Department of Health, 2002a; 232, 239). The table also shows the percentage of those that are alcohol dependent among those who ever consumed alcohol.¹⁵

Table 3. Alcohol and Tobacco Use Among Women Age 15 or Older, 1998						
	(1) % who ever used tobacco	(2) % who smoke daily	(3) % who ever drank alcohol	(4) % who drink alcohol now	(5) % who are alcohol dependent	(6) (5)/(3) Among those who ever drank alcohol, % who are alcohol dependent
All women	25	9	26	17	6	23
African	19	4	19	12	10	53
African urban	20	5	20	13	11	55
African rural	18	3	18	12	8	44
Coloured	52	37	41	24	18	44
White	44	23	70	51	6	9
Asian	12	8	15	9	2	13

Source: South Africa, Department of Health (2002a: 232, 239)

In 1998, about one-quarter of all South African women had used tobacco and about one-quarter had drunk alcohol at some time. Ever use of alcohol and of tobacco was much higher among Coloured and white women than among African or Asian women. Coloured women and white women also were much more likely than African or Asian women to smoke daily and to be current users of alcohol. Thus, there is the potential for increased use of tobacco and of alcohol among Coloured and white women to contribute to an increase in the morbidity and mortality of infants.

The results for alcohol dependence are somewhat different from the other results in Table 3. Coloured and African women were more likely to be alcohol dependent than white or Asian

¹⁵ Alcohol dependence was assessed based on questions about drinking behaviour, reaction of others to the person's alcohol consumption, drinking in the morning, and feelings about drinking (South Africa, Department of Health, 2002: 238).

women. In addition, among those women who ever drank alcohol, African and Coloured women were much more likely to become alcohol dependent than Asian or white women; among African and Coloured women who ever drank alcohol, more than 40% were alcohol dependent, raising the specter of a large increase in fetal alcohol syndrome if overall alcohol use by women increases. Fetal alcohol syndrome has been recognized as a serious problem among children of Coloured women (Croxford & Vilhoen, 1999; May *et al.*, 2000), but many in South Africa have the impression that African women do not consume alcohol. Although it is unknown what the future level and pattern of alcohol use among African women in South Africa will be, the results in Table 3 point to the potential for serious future problems for children of African women.

HOUSEHOLD ARRANGEMENTS AND THE WELFARE OF CHILDREN

The conditions and household setting in which a child lives are important. This section examines two aspects of children's lives, first whether the child's mother is alive, and second, for children whose mother is alive, whether the child lives in the same household as his or her mother.

Orphanhood

A major concern about the impact of HIV/AIDS on children is the death of the child's mother, leaving the child an orphan (Ainsworth & Filmer, 2001; Daily Mail & Guardian, 2001; Desmond, Michael & Gow, 2001; Hunter & Williamson, 2000; McGreal, 1999; UNICEF, 1999, 2000; USAID, 2001a, 2001b). Elsewhere in sub-Saharan Africa the proportion of children who are orphans is often high (Case, Paxson & Ableidinger, 2002).

Figure 9. Estimated and Modelled Percentage of Children Age 0-14 Whose Mother is Dead

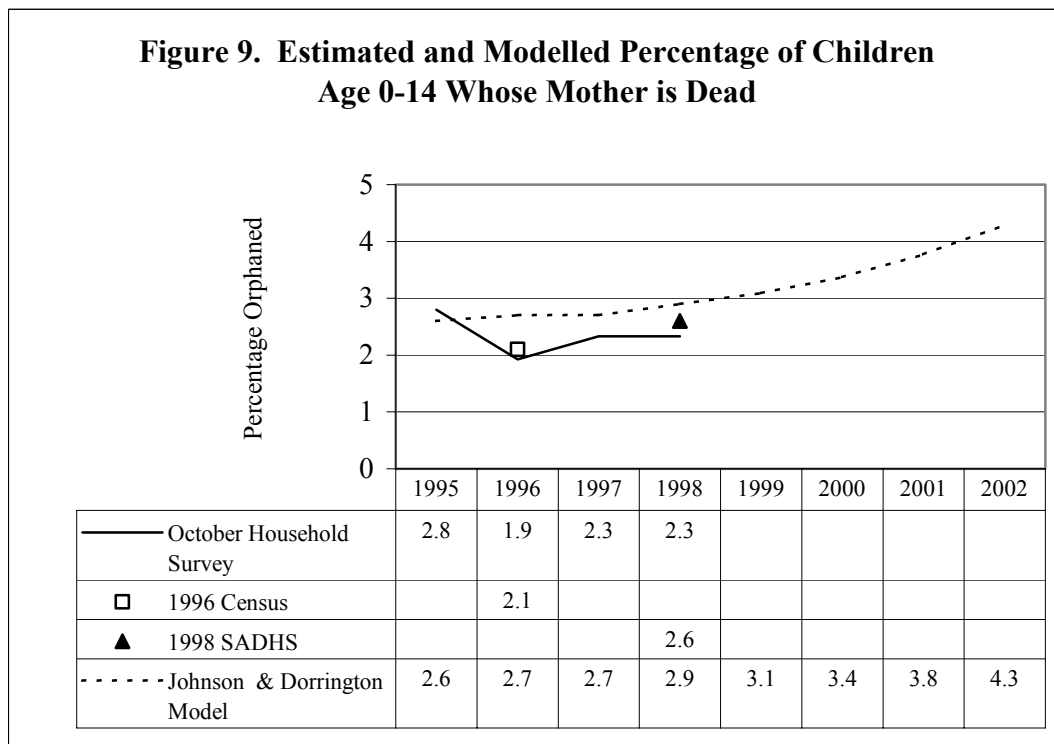


Figure 9 shows various estimates of the percentage of children who are orphans, according to the UNAIDS definition of an orphan, which is a child age 0-14 whose mother is dead (Gregson, Garnett & Anderson, 1994; UNAIDS, 2000). The October Household Survey estimates, the estimate from the 1996 Census, and the estimate from the 1998 SADHS are based on empirical data, using questions about survival of individuals' mothers (Anderson, Phillips *et al.*: 2002, low estimates). The estimates from the Johnson and Dorrington model (Johnson & Dorrington, 2001) are based on a model of the spread of the HIV/AIDS epidemic, calibrated to results of HIV tests from South African antenatal clinics (Dorrington *et al.*, 2001).

The estimates of the percentage of children who are orphaned from all these sources are quite close to each other. In developing countries in the absence of AIDS, it is estimated that for about 2% of children under age 15 the mother is dead (SIDA, 2000: 14). By this standard, the level of orphanhood in South Africa in the late 1990s was slightly higher than would be expected in the absence of AIDS.

From both the empirically-based estimates and the model-based estimates, there is little indication of an increase in the proportion of children who are orphans through the late 1990s. One wonders how this can be true given the extent of HIV/AIDS in South Africa and given the high level of public concern about HIV orphans. The likely explanations include the time lag between an adult becoming HIV-positive and death and the requirement that for a child to be an orphan, the child's mother needs to be deceased rather than alive but ill.

For estimates relevant to sub-Saharan Africa as a whole Gregson *et al.* (1994: 457) assumed an average period from HIV infection to death from AIDS of 9 years. The U. S. Bureau of the Census in its projections has assumed a median time from HIV infection to death from AIDS of 8.5 years, while UNAIDS assumes a lag of 10 years from HIV infection to death from AIDS (Hunter & Williamson, 2000: 23). The UNAIDS program assumes a period of 8.6 years for males and 9.4 years for females in developing countries from HIV infection to death from AIDS (UNAIDS, 2002: 43). If any of these assumptions apply to South Africa, there is an average of 8-10 years between the time a South African adult becomes HIV-positive and the time he or she dies from AIDS.

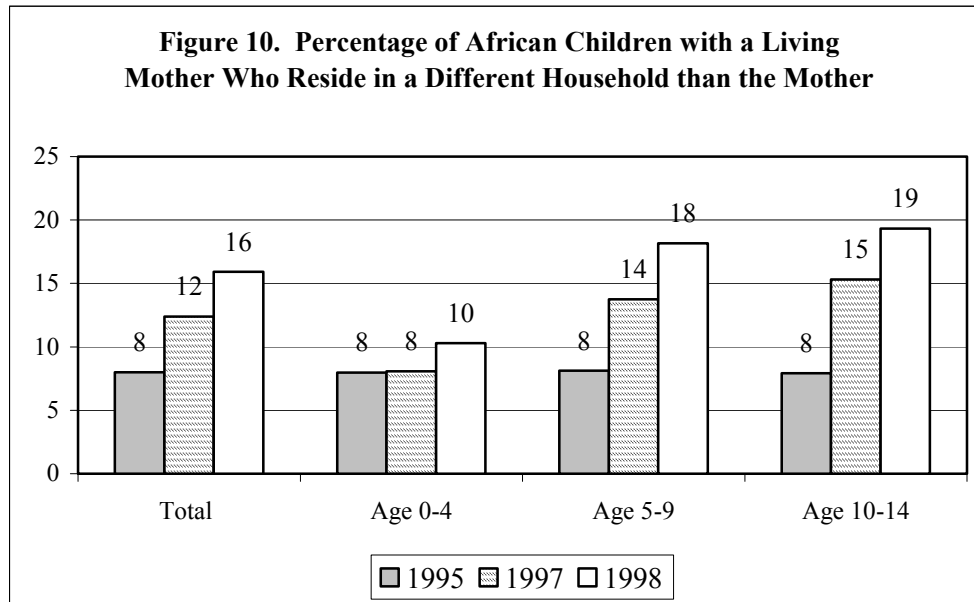
The first AIDS case in South Africa was diagnosed in 1982 (South Africa, DNHPD, 1994). Deaths from AIDS in the late 1990s pertain mainly to people who became HIV positive in the late 1980s. In 1990, 0.7% of women attending antenatal clinics in South Africa were HIV-positive; in 2001 the figure was 24.8% (South Africa, Department of Health, 2002b: 6).

Through the late 1990s, there could have been little increase in the proportion of children who were orphans because the children's mothers, even if HIV-positive, had not been infected long enough to have died. A child is not an orphan if his or her mother is ill, as long as the mother is alive. Much of the perception of the increase in orphans in the late 1990s could have been due to the need for care by many children with very ill, but living, mothers.

Fostering

One option for the care of children whose mothers are ill but living is their fosterage by relatives. Child fosterage has long been common among the African population of South Africa, as it is elsewhere in sub-Saharan Africa (Bledsoe, 1994; Kaufman, Mahara & Richter, 1998).

Figure 10 shows the percentage of African children whose mother was alive who were fostered (not living in the same household as the mother) in 1995, 1997 and 1998, based on data from the October Household Surveys (Anderson, Phillips *et al.*, 2002).¹⁶



There is a large increase between 1995 and 1998 in the proportion of African children who were fostered. It is not likely that this is the result of increased labor migration of African women, since a similar increase is found for the children of women who were either the head of household or spouse/partner of the head of the household, and thus were not labor migrants away from their families.¹⁷

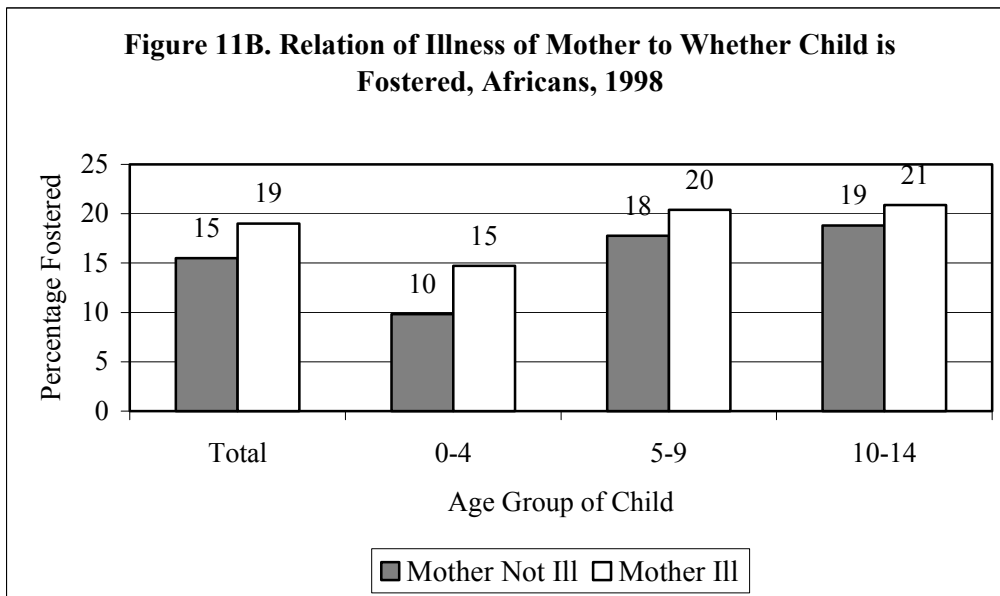
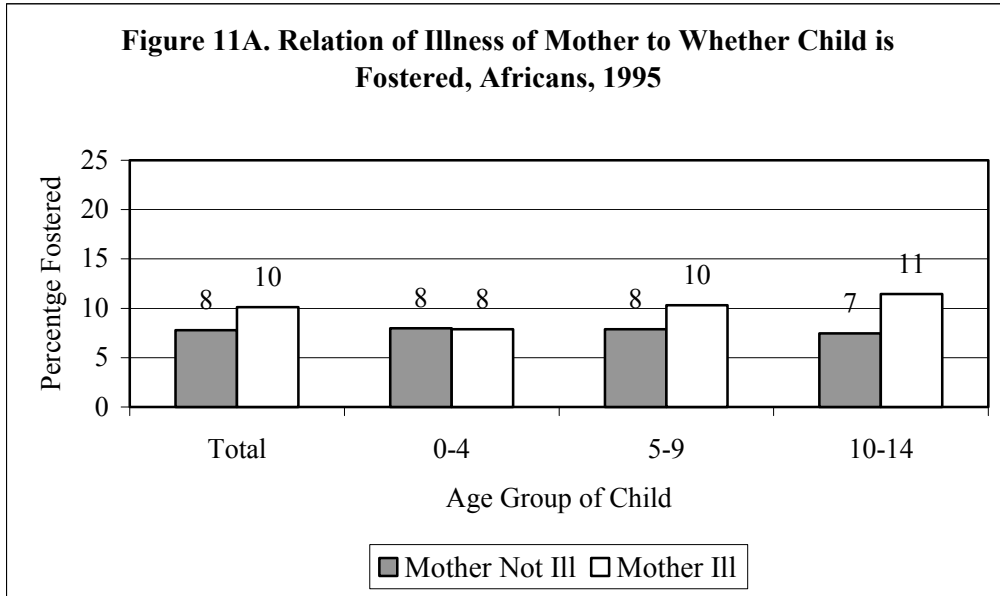
It is likely that part of the cause of the increase in fosterage was an increase in the proportion of mothers who were alive but ill with HIV/AIDS between 1995 and 1998. Figures 11A and 11B show the percentage of African children who were fostered in 1995 and in 1998 according to whether the child's mother stated that she had been ill in the previous month. These figures are also based on the October Household Surveys.

It is clear that the tendency to foster children increased between 1995 and 1998. It is also clear that recently ill mothers were much more likely to have young children fostered in 1998 than in 1995. In 1995 whether the mother had been ill recently was unrelated to whether a child of hers age 0-4 was fostered; in 1998 if a mother had been ill in the previous month, there was a 50% increase in the chance that the 0-4 year old child was fostered. If recent illness consisted of influenza or some other temporary ailment, this would not lead to a decision to have the child fostered. However, long-term serious illness could motivate the fostering out even of young

¹⁶ Each woman under age 55 was asked for each child she had borne the birth date of the child, whether the child was still alive, and whether the child resided in the same household as the woman. The data for 1996 have not been released, and comparable data were not collected in the 1999 October Household Survey.

¹⁷ This is based on unpublished research by the author in collaboration with Heston E. Phillips, Johan A. van Zyl, and John H. Romani.

children. Mothers who reported having been ill recently in 1998 were more likely to have had HIV/AIDS and thus needed to make a long-term arrangement for the care of young children than were recently ill mothers in 1995. If this argument is correct, the fosterage results could presage a large increase in the percentage of children who are orphans in the future.



RECOMMENDATIONS AND OBSERVATIONS

- 1. Data need to be regularly collected to trace trends in fertility and infant and child welfare and in the factors related to these trends.**

The empirical data on orphans and on fosterage that have been released to date only extend through 1998. Similarly, data that can be used to examine factors related to childbearing only extend through 1998. In order to assess the situation related to fertility and child welfare in South Africa, data must be regularly collected on a consistent basis. Relevant data were collected in the 2001 South Africa Census and in the 2002 general Household Survey. Hopefully those datasets will be available soon and will allow further tracking and analysis of trends.

- 2. Although there have been improvements in some areas related to child welfare, more needs to be done to improve environmental conditions.**

Although the availability of safe drinking water to rural Africans has increased, even in 1999 39% of rural Africans did not have safe drinking water. There were no noticeable changes in sanitation.

- 3. Infant morbidity and mortality could increase due to future increases in smoking and alcohol consumption by women.**

Although smoking and alcohol consumption is lower among women than among men, if the pattern in other countries is followed in South Africa, the rates for South African women will increase. There is the potential for a substantial increase in fetal alcohol syndrome and other problems for infants and children associated with negative health behaviors on the part of their mothers.

- 4. The welfare of children with ill mothers, as well as that of orphans, needs to be attended to.**

Although there has been little sign of an increase in the proportion of children who are orphans to date, a large increase is likely in the future. Equally important is the welfare of children whose mothers are alive but too ill to care for them.

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