Demographic Changes in South Africa, 1996-2001

Introduction

South Africa has been relatively under represented in the demographic literature (Caldwell and Caldwell, 2003; Sibanda, and Zuberi, 1999). Thus, not much is known about the demographic transitions and socioeconomic conditions prevailing in this country, particularly prior to the 1990s. The inadequacy of information on population characteristics has been the main impediment to researchers in the field of demography. This situation is changing following the first democratic elections in 1994 and the availability of various databases that provide a wealth of information on all population groups regarding population characteristics in South Africa (Caldwell and Caldwell, 2003; Sibanda, and Zuberi, 1999; Udjo, 1998, 2003; Kaufman, C., de Wet, T. and Stadler, J., 2001; Moultrie and Timaeus, 2002, 2003). The availability of reliable demographic data offers an opportunity to examine the prevailing levels, trends and differentials of mortality, fertility and migration in South Africa.

Demographic literature available in the country does suggest that there are four recurrent themes regarding **demographic patterns** in South Africa (Chimere-Dan, 1994). First, there has been an interest in the three components of population change (fertility, mortality and migration). On the one hand, studies have tended to focus on the levels, trends and differentials in fertility, mortality and migration (Chimere-Dan, 1995; Dorrington et al, 2001; Sibanda, and Zuberi, 1999; Moultrie and Timeaus, 2001, 2002, 2003; Crush, 2003). On the other hand, there has been a focus on the causes and consequences of the observed demographic patterns (Udjo, 1998; 1999).

Second, racial differences have dominated available and emerging demographic studies in South Africa. There is no doubt that in the South African context, race and racial relations have had intricate consequences and have given rise to complex demographic profiles and structures. In fact it is true to say that any discussions of South African demography is incomplete without mentioning the racial composition. The understanding of the racial differences in demographic patterns is central to the comprehension of the demography of South Africa. To underline the importance of race in understanding South African demography, Mencarini's study of fertility and

infant mortality concluded that "race is the most important factor in economic, social and demographic difference" (Mencarini, 1999).

Third, partly arising from the race factor, demography remains highly politicised in South Africa. Population numbers have been seen as a potential instrument for political opportunity and power. As in many other multiracial or multicultural societies where, despite heterogeneity, population size remains the basis for important policy decisions, and demography is drawn into the political arena. In the context of the extreme racial hostility that existed in the past, population number was tied to a sceptre of racial domination by whites and seen as a source of legitimate majority power by Africans.

Lastly, the poor quality of existing demographic data due mainly to past political and racial factors has also occupied a central focus in the existing literature (Dorrington, 1999; Orkin, Hirschowizt, and Lehohla, 1997; Sadie, 1994). This theme has received a lot of attention and has been a subject of some heated discussions (). As we shall see in the subsequent section, it suffice for our discussion here, that the available demographic data in the country are of good quality and much better than in most other African countries.

Given the above scenario, the main objective of this study is to describe demographic changes in South Africa that have taken place between 1994 and 2004 using demographic data collected by Statistics South Africa through censuses and surveys. The demographic parameters examined include population size and growth, age-sex structure, fertility, mortality, migration and urbanisation.

Data Sources

There are three main sources of demographic data, namely population censuses, demographic survey and vital registration. In the new South African two population censuses have been conducted in 1996 and 2001 (Statistics SA, 1999, 2003). Compelled by the need to collect social and economic data needed for development planning and, in line with the practice in most developed countries, immediately after

the first democratic elections, South Africa decided to conduct censuses every five years (). However, given the high costs associated with population censuses, quinquenneial censuses have been abandoned in favour of decennial ones, as is the case in most developing countries. This means that the next census is expected in October 2011.

The second major source of demographic data are sample surveys conducted by Statistics SA and other organisations such as the Human Sciences Research Council (HSRC), Medical Research Council and Universities, just to mention a few. Although a detailed examination of sample surveys is not the purpose of the present paper it is in order to mention some of them. Since 1993 Statistics South Africa (previously known as Central Statistics Services) has conducted October Household Surveys. Some researchers have used October Household Survey (OHS) to study various aspects of the population of South Africa and its provinces (Udjo, 1997, 1998; Van de Berg, et. Al, 2002).

The 1987-88 South African Demographic and Health Survey (SADHS) conducted by HSRC marked an important land marked in the history of demographic data in South Africa as it was the first major demographic survey to be made available to non-South African (Moultrie and Timaeus, 2002). This was followed by the 1998 SADHS which has formed the basis of a number of demographic studies (Moultrie and Timaeus, 2002, 2003.).

The World Bank sponsored study on the Living Standards and Development (LSDS) carried out by the University of Cape Town in 1993 also provided a wealth of demographic information for the country (Chimere-Dan, 1995; Mencarini, 1999)

The third source of demographic data is the Vital Registration System. Whenever a vital event (birth, death, marriage) occurs people are supposed to register it with the Department of Home Affairs. The recorded births, deaths and marriages are published from time to time by Statistics South Africa (Statistics South Africa, 2003; Dorrington, et. Al, 2001).

Furthermore, there are a number of official administrative records that can be used to compile demographic information for the country (Statistics SA, 2003). Some of these sources include school registers, hospital records and voters roll, just to mention a few. In addition to these, demographic estimates and projections prepared by such organisations Development Bank of Southern Africa, Medical Research Council of South Africa, the University of Stellenbosch and the Bureau of Market Research of the University of South Africa (UNISA) can be used as a source of demographic information for the country (Sadie, 1994; Vaart and Von Tonder, 2001, Statistics SA, 2001).

Data Quality

There are several ways of gauging the quality of reported demographic data. One way that is frequently used in the analysis of demographic data in developing countries is to calculate indices that measure the extent of age misreporting. Three of the most widely used indices were calculated for South Africa and these presented in Table 1.

The Whipples Index is a measure that gives the extent of age heaping as a result of preference for ages with terminal digits 0 and 5. The index is obtained by calculating the percentage of the total reported on ages ending with 0 and 5 in the 23 to 62 age range divided by one fifth of the total population in the same age range.

Whipples index was 97.3 for males, 97.2 for females and 97.1 for both sexes indicating that preference of ages ending in digits 0 and 5 was slightly more common among male respondents than female respondents. At provincial leve Whipples Indices range from 91 in Limpopo to 100 in Western Cape.

Unlike the Whipples Index which looks at preference for ages with end digits 0 and 5, the Myers Index examines the preference (or avoidance) of reporting ages ending with each of the ten digits 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. Myers index assumes values of 0 to 90. A value of 0 indicates no digit preference whereas a value of 90 indicates complete digit preference. For South Africa a whole the value of Myers index is 2.8 for males, females and both sexes. At provincial levels Myers Indices range from 2.1

in Gauteng and Western Cape to 4.3 in Eastern Cape. The values indicate that there is very little digit preference in South Africa.

The value of the UN Joint Age-Sex Score is South Africa in 2001 was 21.2 and it ranged from 17.2 in Western Cape to 32.7 in Mpumalanga. As a way of evaluating the index, the UN suggested that a value less than 20 implies that the data is "accurate", a value between 20 and 40 inaccurate and greater than 40 "highly inaccurate". This means that for South Africa as a whole the reported age statistics can be described as inaccurate but very close of the cut off point.

The analysis of Whipples and Myers indices and UN Joint Age-Sex Score indicate that the quality of reported age statistics in South Africa is good. This finding has encouraged us to use age statistics to study other characteristics of the population.

Table 1 Indices of Age Misreporting for South Africa and its Provinces, 2001

Province and Country	Whipples Indices			Myers Indices			Average Sex Ratio Score	Average Age Ratio Score for Female	Average Age Ratio Score for Female	United Nations Age-Sex Score
	Male	Female	Both	Male	Female	Both				
Eastern Cape	96.6	97.0	96.9	4.2	4.4	4.3	3.8	8.1	9.9	29.4
Free State	95.4	95.3	95.3	3.6	3.4	3.5	4.1	4.0	4.9	21.1
Gauteng	97.5	98.4	97.9	2.5	2.0	2.1	4.9	6.1	4.9	25.8
Kwazulu-Natal	99.1	99.4	99.3	2.7	3.1	2.8	4.2	6.4	7.6	26.6
Limpopo	92.1	91.1	91.5	4.0	4.2	4.1	5.5	9.7	11.1	37.5
Mpumalanga	95.5	95.2	95.4	3.6	3.6	3.6	4.9	7.3	10.5	32.5
Nothern Cape	98.9	98.1	98.5	2.6	2.4	2.4	3.2	3.7	3.7	17.2
North West	95.1	95.3	95.2	3.0	3.2	3.1	5.3	4.2	3.5	23.6
Western Cape	99.5	102.0	100.6	2.0	2.2	2.1	7.7	3.9	4.5	31.5
South Africa	97.3	97.2	97.1	2.8	2.8	2.8	3.5	4.7	5.9	21.2

Population Size, Growth and Density

The Population of South Africa has increased from 40 million in 1996 to 44 million in 2001 indicating an intercensal population growth rate of 2% per annum (see Table 2). If the population of South Africa continues to grow at this rate, it will reach 88 million in 2036.

The intercensal population growth rates range from -0.42% for Northern Cape to 3.69% for Gauteng. Gauteng, Western Cape and Kwazulu-Natal have population growth rates higher than the national average whereas the population growth rates for all the remaining provinces are below the national average.

In terms of population groups, the intercensal annual population growth rates range from 2.58% for the Africans, followed by that of the coloured population at 2.09, then the Asian population at 1.29 and that of the white population at –0.65%. The negative intercensal growth rate for the White population could be attributed to low fertility levels and large-scale emigration.

Table 2 also indicate the changes in the population distribution in South Africa. The provinces of Gauteng, Kwazulu-Natal, Western Cape and Mpumalanga increased their percentage share. Gauteng has increased its percentage share from 18% in 1996 to 20% in 2001 whereas Kwazulu-natal has increased its share from 20.7 in 1996 to 21% in 2001. Similar percentages for Western Cape are 9.7% and 10.1% respectively.

Table 2 shows that the population of South Africa is unevenly distributed. While Gauteng is the smallest province in terms of area (about 1% of the total land mass), it has the second largest population in the country. The province with the largest number of people is Kwazulu-Natal (21%), followed by Gauteng (20%), then Eastern Cape (14%), Limpopo (12%) and Western Cape (10%). North West (8%), Mpumalanga (6%) and Northern Cape (2%) have the least number of people.

In terms of population density, Gauteng had the highest population density, with approximately 520 people per square kilometer in 2001, while Northern Cape had the lowest population density with approximately 11 people per square kilometer.

Table 2 also indicates that Gauteng registered the largest increase in population density. Whereas in all the provinces population density changed by not more than 11 persons per square kilometer, the increase in Gauteng was by 88 persons per square kilometer.

The pattern of population distribution described in the preceding paragraphs could be attributed to the observed patterns of internal movements of people from the more rural provinces to the more urban provinces.

Racial Composition

For historical reasons, with the exception of the African population, the racial groups tend to cluster in specific provinces. The Western Cape and Northern Cape have a high proportion of the coloured population. Most South African Indians are in KwaZulu-Natal and most whites are in Gauteng, with a substantial number in the Western Cape. The three provinces where Africans constitute less than 70% of the population are Gauteng (62,7%), Northern Cape (31%) and Western Cape (17%). Chimere-Dan (1994) indicated that the three provinces of Gauteng, Northern Cape and Western Cape had the African population constituted less than 70%.

Table 2 Area, population and population density for each province, 1996 and 2001

Province and Country	Land Area	Population		Sex Ratio		Population Growth Rate	Doubling Time	Percentage Distribution		Population Density	
		1996	2001	1996	2001			1996	2001	1996	2001
Eastern Cape	169580	6,302,526	6,436,760	85.7	86.0	0.42	164	15.5	14.4	37	38
Free State	129480	2,633,504	2,706,776	97.2	92.1	0.55	126	6.5	6.0	20	21
Gauteng	17010	7,348,427	8,837,178	104.3	101.2	3.69	19	18.1	19.7	432	520
Kwazulu-Natal	92100	8,417,016	9,426,015	88.4	87.9	2.26	31	20.7	21.0	91	102
Mpumalanga	123910	2,800,657	3,122,988	94.7	92.1	2.18	32	6.9	7.0	23	25
Northern Cape	79490	840,322	822,727	96.5	95.2	-0.42	-164	2.1	1.8	11	10
Limpopo	361830	4,929,168	5,273,640	84.2	83.2	1.35	51	12.1	11.8	14	15
North West	116320	3,354,827	3,669,350	96.8	98.6	1.79	39	8.3	8.2	29	32
Western Cape	129370	3,956,873	4,524,333	95.8	94.0	2.68	26	9.7	10.1	31	35
South Africa	1,219,090	40,583,320	44,819,767	92.7	91.7	1.99	35	100.0	100.0	33	37

Age-Sex Structure

The distribution of a population by age and sex is very important for socio-economic and demographic considerations (Shryock et al. 1976: 105). Age–sex composition is closely related to the provision of social services. For instance, a rapidly growing population is likely to experience problems associated with the need for increased school facilities. The age–sex structure of the population may assist in understanding concepts such as dependency burden. The age–sex structure is also useful for the study of fertility and reproduction.

Figure 1 Population by Broad Age Groups for South Africa and its Provinces, 2001

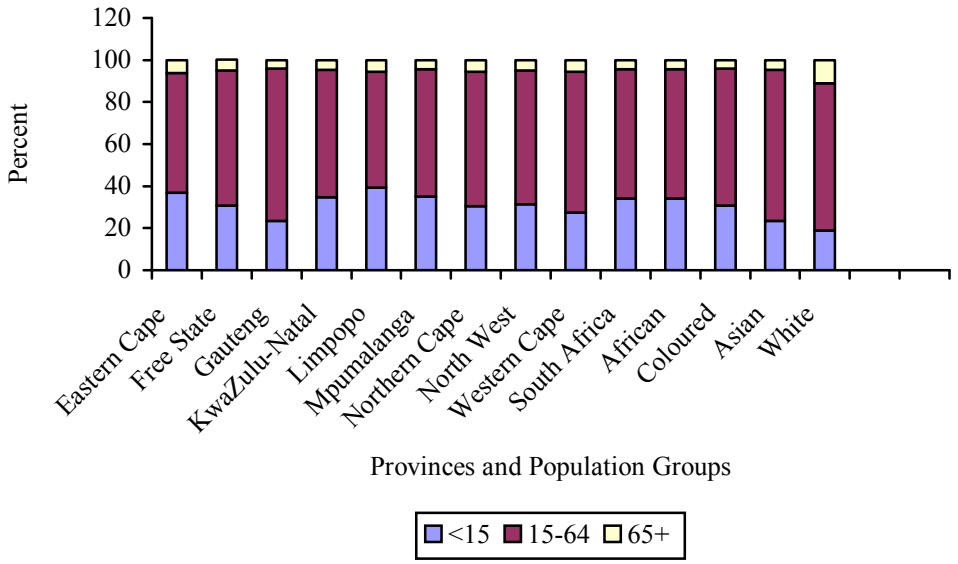


Figure 1 depicts the age distribution of the population of South Africa and its provinces, considering only three age groups, 0-14, 15-64 and 65 years and over. According to figure x.x Gauteng (23.6%) and Western Cape (27.3%) had the lowest proportions of children below 15 years of age and the highest proportions of the working age population (72.4% and 67.0%, respectively). On the other hand, Limpopo (39.4%) and Eastern Cape (36.8%) had the highest proportions of children and the lowest percentage of the working age population. The proportion of the elderly was more or less the same across provinces ranging between 4.0% and 6.3%. The percentage of the population below 15 years, between 15 and 64 years and 65

years and over for North West province ranked fifth and were closer to the national average.

There are variations in age-sex structure by population groups. The African population depicting a structure closer to the national population whereas the white population has a lower proportion of children below the age of 15 and a higher proportion of population in age groups 15-64 and 65 and over. The age-sex structure of the coloured and Asian population are between these two extremes. The coloured population closely resembles the African population whereas the Asian population is somewhat similar to the white population.

Sex ratios

Sex ratios are defined as the number of men per hundred women. Table 2 indicates sex ratios for South Africa and its provinces. The sex ratio for South Africa was 92.7 men per 100 females in 1996 and 91.7 males per 100 females in 2001. In both 1996 and 2001 censuses, provinces such as Limpopo, Kwazulu-Natal and Eastern Cape had sex ratios below the national average whereas all the other provinces had sex ratios above the national average.

The sex ratios range from 84 in Limpopo to 104 in Gauteng in 1996. Gauteng was the only province with a slightly higher number of men than women (104 men per 100 women in 1996 and 101 men per 100 women in 2001).

The poorer provinces have low sex ratios whereas the richer and more urbanized provinces have slightly high sex ratios. This could be a reflection of pattern of internal migration in the country.

Components of Population Change

In any area, be it a country, province, region or district, the population can change as a result of someone being born (births), someone dying (deaths) and someone moving into that area (in-migration/immigration) or someone moving out of that area (out-migration/emigration). The study of births is what is known as fertility whereas the

study of deaths is called mortality and migration deal with movement of people from one area to another. The following sections examine the changes in fertility, mortality and migration in South Africa with particular emphasis to the last 10 years.

Fertility

A number of indicators are used to measure fertility. A simpler summary measure of fertility is the Child Woman Ratio (CWR). CWR is the ratio of young children to women of reproductive age group at a given period of time. A commonly used age category of women and children that is applied to compute this ratio is the number of children aged under five years and women who are aged 15 to 49 years. The ratio does not directly refer to any actual number of births in the incidence of childbearing, but rather to the child population between the ages of 0-4 years; assuming that the children were enumerated correctly by age, they ought to be the survivors of births during the five-year period preceding the census.

The CWR for South Africa and its provinces calculated using the 1996 and 2001 population censuses are given in Table 3 below.

Table 3 Child Woman Ratios and Estimated TFR for South Africa and its provinces, 1996 – 2001

	$CWR_{(0-4)}$		$CWR_{(5-9)}$		TFR	
Province/Country	1996	2001	1996	2001	1996	2001
Eastern Cape	475.0	390.8	647.9	589.5	4.1	3.8
Free State	348.7	325.8	446.0	404.5	2.9	2.8
Gauteng	307.5	267.8	308.5	270.2	2.2	2.0
Kwazulu Natal	419.7	384.0	512.2	497.4	3.4	3.5
Mpumalanga	440.0	402.5	539.8	499.2	3.6	3.6
Northern Cape	403.0	363.1	476.6	418.4	3.2	3.1
Limpopo	525.1	427.2	729.6	627.6	4.6	4.1
North West	421.8	363.9	501.9	443.3	3.4	3.1
Western Cape	339.5	303.0	373.9	338.5	2.5	2.8
South Africa	406.2	352.0	492.6	442.0	3.3	3.3

African	375.6	480.2
Coloured	338.1	395.6

Asian	224.2	284.8
White	198.6	239.1
South Africa	352.0	442.0

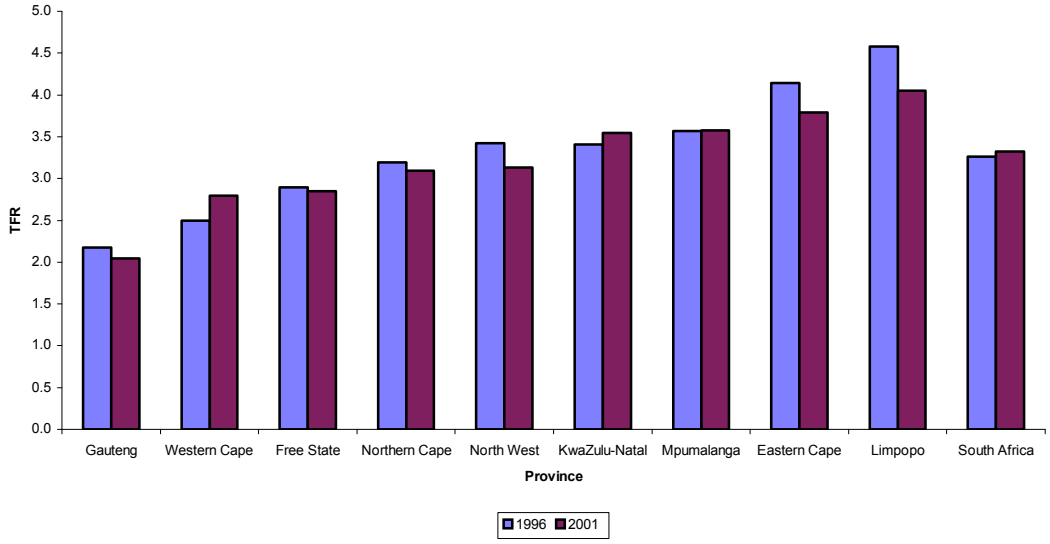
Table 3 presents fertility estimated based on Rele method. According to this procedure, TFR has remained constant between the 1996 and 2001 censuses.

Table 3 also indicates that there are variations by province. In both 1996 and 2001 censuses the provinces of North West, Kwazulu-Natal, Mpumalanga, Eastern Cape and Limpopo had TFR above the national average whereas the remaining provinces of Gauteng, Western Cape, Free State, Northern Cape had TFR below the national average.

The estimated TFR in 1996 range from 4.6 in Limpopo to 2. in Gauteng. Two provinces (Limpopo and Eastern Cape had TFR in 1996 greater than 4 children per woman Four provinces (Mpumalanga, Kwazulu-Natal, North West and Northern Cape) had TFR between 3 and 4 children per woman. Three provinces (Free State, Western Cape, Gauteng) had TFR below 3 children per woman. A similar pattern is observed in 2001 with one exception in that Eastern Cape joins the provinces with TFR below 3 and 4.

Table 3 further indicate that fertility is declining in all the provinces with a possible exception of Western Cape where fertility appears to be increasing and Kwazulu-Natal where fertility remained more or less constant.

Figure 2 Estimates of Fertility for South Africa and Provinces 1996-2001



Mortality

Mortality is one of the major components of population change in all developing countries including South Africa. The decline in mortality observed in developing countries after the second world war was responsible for rapid population growth in the countries. This led to a number of studies to estimate the levels, trends and differentials in mortality as well as the causes and consequences of the observed patterns. In the spirit of "demographic transition theory" the observed decline in mortality was supposed to be followed by a fall in fertility. However, fertility decline in most developing countries was slow to take place. As a result of this lag there was an upsurge of fertility studies both to understand the relevance and applicability of the demographic transition theory and to predict the onset of fertility decline.

With the advert of HIV/AIDS epidemic there has also been resurgence in mortality studies. Morbidity and mortality data are influenced by socio-economic and health conditions that prevail at a particular time in any area (country, province, region, district). There are several ways of measuring mortality. In this section, levels, trends and differentials in mortality in South Africa will be examined using Crude Death Rate (CDR) and life expectancy at birth.

The CDR for the whole population declined from 20 per 1000 in 1945 to 14 per 1000 in 1970 to 9 per 1000 in the early 1990s (Department of Social development, 2000;

Oostuizen, 2000). Thereafter the estimated CDR for the country shows an increasing trend. The estimated CDR from the 1996[1] census is 12.7 per 1000 whereas the estimated CDR from the 2001[2] shows a further increase to 18 per 1000 (see Table 4). The observed increase in CDR could be associated with the HIV/AIDS epidemic.

According to 1996 census, provincial variations indicate that CDR is lowest in Limpopo, followed by Eastern Cape, Gauteng, Western Cape, Mpumalanga, Northern Cape, Kwazulu-Natal, Free State and North West. In 2001 census CDR is lowest in Western Cape, Gauteng, Mpumalanga, Limpopo, Northern Cape, North West, Free State, Eastern Cape and Kwazulu-Natal.

Table 4 Crude Death Rates for South Africa and its Provinces

	1996			2001		
	Male	Female	Both	Male	Female	Both
Eastern Cape	13.1	9.5	11.2	25.7	19.5	22.3
Free State	16.8	13.8	15.1	20.6	18.6	19.5
Gauteng	13.1	9.9	11.3	11.6	10.3	10.9
Kwazulu Natal	17.5	12.3	14.6	29.9	24.5	27.0
Mpumalanga	16.3	12.2	14.0	14.1	10.4	12.1
Northern Cape	16.7	12.5	14.3	19.9	17.4	18.6
Limpopo	11.9	9.5	10.7	18.8	15.7	17.2
North West	16.9	13.8	15.1	19.3	18.1	18.7
Western Cape	13.9	10.0	11.8	11.0	10.4	10.7
South Africa	14.9	11.0	12.7	19.4	16.6	18.0

The low CDR for Limpopo and Eastern Cape and the fact that the CDRs for these two provinces are lower than similar values for Gauteng and Western Cape, implying that mortality is higher in the latter than the former is somewhat surprising and misleading. The expected pattern is for the richer provinces to have a lower mortality than the poor province. The anomaly described above could be related to the differences in the age sex-sex structure of the population of the two provinces. As

[1] CDR for 1996 were calculated by the author using Age Specific Death Rates from South African Life Tables published by Statistics South Africa (2002).
[2] CDR for 2001 were calculated by the author using data from deaths in the household in the last twelve months after adjusting the reported statistics using the original Brass Growth Balance Method. It is anticipated that the results of this exercise will appear as a separate publication.

seen in the section on age-sex structure Limpopo and Eastern cape have a young population whereas Gauteng and Western Cape have an old population.

The CDR is indeed a "crude" measure of mortality because it does not take into account the population's age-sex structure. As a result of this, CDR is not a good index for campaigning mortality levels for different provinces or the same country at different times because the CDR is very much affected by influences of the age structure. Other things being equal, populations with a relatively large proportion of older populations (for instance, Western Cape and Gauteng), often have higher the CDRs than population with a large proportion of younger populations (Limpopo, Eastern Cape).

Another measure used to study mortality is the expectation of life at birth (e_o). e_o refers to the average number of years an individual is expected to live assuming she experiences the given age specific mortality rates upon which the life table is based. e_o was calculated for South Africa and its provinces using data obtained from the 1996 and 2001 population censuses.
Table 5 indicate that the estimated e_o for South Africa as a whole declined for 56 years in 1996 to 46 years in 2001. Although the estimated e_o for 2001 is on the lower side, it compares favourably with estimates provided by other researchers and international agencies (UNICEF 200x; Schlemmer, xx; Rehle and Shishana, 2003). The decline in e_o is largely attributed to HIV/AIDS epidemic.

Furthermore, studies indicate that e_o would have been around 68.2 years without HIV/AIDS (). However, recent estimates suggest that e_o could be as low as 46 years. This indicates that utmost 20 years have been lost as a result of HIV/AIDS epidemic.

Previous estimates of e_o indicated improvement in mortality during the period before early 1990s. Available estimates indicate that e_o increased from 50 years in the early 1970s to 59 years in the 1980s and reaching 65 years in early 1990s (Oosthuizen, 2000; Udjo. 1997, 1998, 1999). Thereafter, as a result of the HIV/AIDS epidemic e_o started declining. Dorrington suggest that the turning point of mortality improvements occurred in 1992 when e_o started declining (Department of Social Development, 2000).

Like with the other demographic measures discussed in the preceding paragraphs, there are variations in e_o by Province and Race. According to 1996 census, Western Cape had the highest e_o, followed by Eastern Cape, Gauteng, Limpopo, Northern Cape, Mpumalanga, North West, Free State and Kwazulu-Natal.

Racial differentials in mortality indicate that life expectancy at birth is highest amongst the white population followed by the Asians and then the coloured and is lowest amongst the African population. For instance, Udjo(1999) estimated that eo for females ranged from 64,6 for Africans, 66,2 for coloureds, 67,1 for Indians and 73,7 for white. Furthermore, studies indicate that in South Africa the mortality for the whites declined from as early as the first decade of the last century whereas mortality transition for the other population groups started much later (Oostuizen, 2000). This pattern resembles variations in the socio-economic conditions of the various population groups.

Table 5 Expectation of Life at Birth for South Africa and its Provinces

	1996			2001		
	Male	Female	Both	Male	Female	Both
Eastern Cape	53.9	65.1	59.4	37.6	44.4	40.9
Free State	49.3	55.9	52.5	43.0	55.1	48.4
Gauteng	55.4	63.4	59.3	55.4	59.2	57.3
Kwazulu Natal	47.1	57.8	52.4	33.2	38.1	35.6
Mpumalanga	49.5	57.0	53.2	48.9	58.4	53.9
Northern Cape	51.1	59.4	55.2	42.4	46.3	44.3
Limpopo	54.0	64.8	59.3	47.3	51.5	49.3
North West	50.0	56.2	53.1	45.0	46.7	45.8
Western Cape	55.6	65.0	60.2	58.3	61.4	59.7
South Africa	52.0	61.2	56.5	44.0	48.5	46.2

Despite the weaknesses of the available data, the picture that emerges is that of a decline in e_o in all provinces after 1990. The male e_o has declined by about 10 years whereas decline in the female e_o is by about 5 years. Probably this suggest that more men than females have died of HIV/AIDS epidemic!

All the indicators presented in this section indicate that mortality is higher among men than women. For instance, in terms of e_o, e_o for females is 11 years higher than that of males. However estimates presented by other researchers indicate that excess female

mortality is about 4 years (Chimere-Dan, 1995 Oosthuizen, 2000). Moreover most available model life tables indicate that at a given level of mortality e_o for females is higher than e_o for males by utmost 2.5 years. These suggest that the issue of excess female mortality require further investigation. It suffices to mention that either the methodology upon which these estimates are based is biased or the excess female mortality is increasing with time. In either case it will be necessary to establish the factors responsible for the patterns described above.

Migration

Migration describes the movement into and out of countries (International Migration), and within countries, from non-urban to urban areas or vice versa, or from one province to another, or from one district council or ward or village to another district council or ward or village (Internal Migration). Both International and Internal migration are important in the South African context. As such each will be treated separately.

International Migration

The most recent official statistics on international migration were published by Statistics South Africa (2003). These cover the period 1945 to 2002. It should be noted that the immigration data refer only to people who have settled permanently in South Africa, excluding business visitors, students and tourists. In addition, the official statistics mentioned above do not provide adequate information on all contemporary aspects of international migration that are high on the public agenda (). Some of these issues include undocumented or illegal migrants, refugees and asylum seekers, emigration of skilled professionals (brain drain). The discussion of these aspects is beyond the scope of this paper. It suffice to mention that their numbers in South Africa are increasing rapidly following not only the re-integration of the country into the international community but also the globalisation of the economy (Agaze, 2003; Crush, 2003; Amoateng, Lucas and Kalule-Sabiti, 2003; Simelane, 1999; Kalule-Sabiti, Lucas and Amoateng, 2003; Zlotnik, 2003).

Figure 3 Immigration and Emigration for South Africa 1945-2003

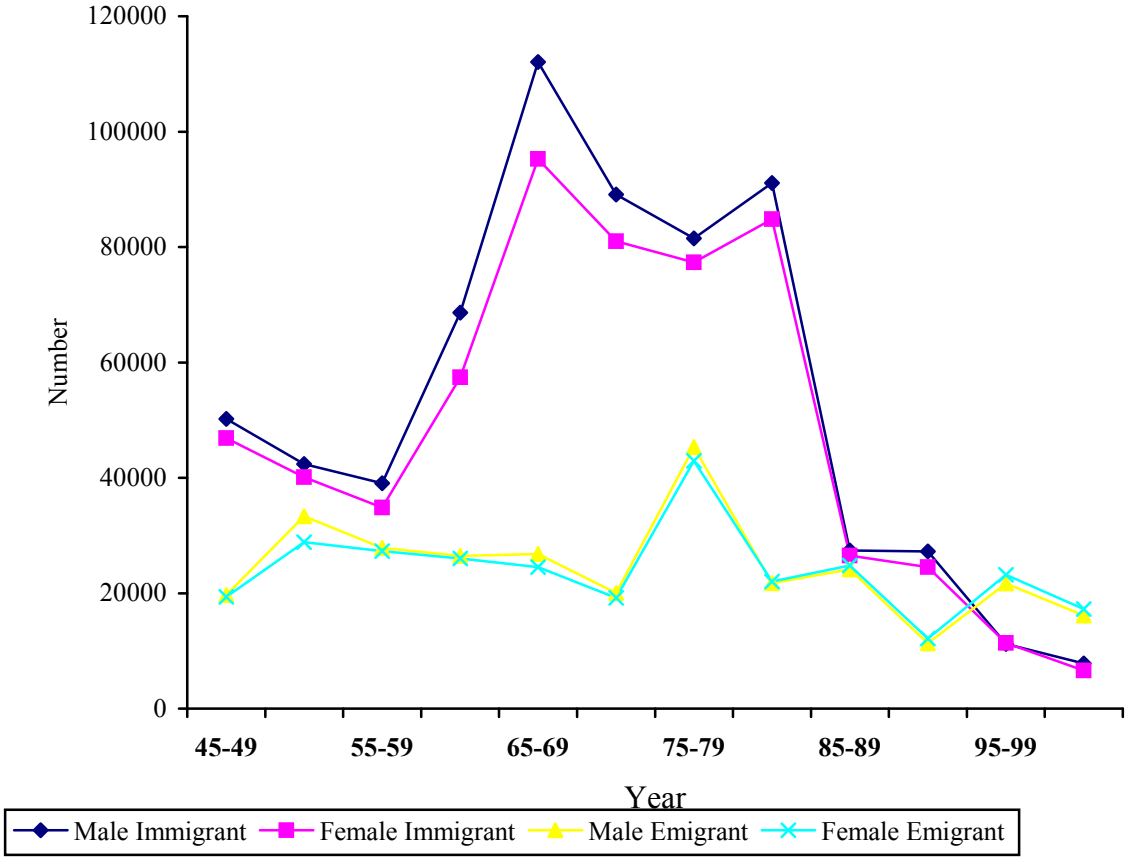


Figure 3 presents immigration and emigration statistics for South Africa since early 1940s. The available statistics indicated that more people immigrated to South Africa in the mid 1940s. Early 1950s witnessed a decline in the number of people immigrating to South Africa and then starting from late 1950s the number of immigrants increased reaching a maximum in the late 1960s. Thereafter, although immigration remained high a declining trend is observed.

Figure 3 indicate that for both immigrants to and emigrants from South Africa there are more males than females. The closeness of male and female migrants may be indicative of family migration.

The pattern of immigration to and emigration from South Africa is largely influenced by the socio-economic events that were taking place in the country. Government policies also played an important role in determining the nature and patterns of

international migration (Simelane, 1999). For instance, the decline in the early 1940s could be linked to the uncertainities following the rise to power of the national party in 1948. The economic prosperity in the 1960s could be linked to the rise in immigration. The worldwide economic recession following the increase in oil price in the ealy 1970s is partly responsible for the reduction in the volume of immigrants during that decade. The mass protest in the mid seventies, climaxed by the 1976 student revolt. The same increase in the number of immigrants in the 1990s could probably be attributed to people returning from exile.

Starting from 1992, for the first time in the history of South Africa, the number of emigrants surpassed that of immigrants. Initially, emigration could be attributed to the uncertainty of the political situation in the country and the fear of the blacklash if the black government is ushered in. Subsequently, other factors such as increase in security, crime became important.

Citizenship

Both the 1996 and 2001 census asked a question on citizenship. The results indicate that most of the people enumerated (99%) were South African citizens and only 1% were citizens of other countries. The same picture is observed at provincial level. However, Gauteng, Western Cape and North West have comparatively more citizens of other countries. Most

Figures 3-14 indicates the age-sex structure of the population enumerated in South Africa by citizenship.

The median age show the same results as population pyramids. One feature worth mentioning is that citizens from the more developed countries (Europe, America, Oceania) enumerated in South Africa are older than their counterparts from less developed countries (Africa and Asia). The median age of the population by citizenship range from 25 years for Asians to 53 years for Europeans (see Table 6).

Table 6 Median Age by Citizenship

Citizenship	Male	Female	Both
South Africa	21.9	23.9	22.9
SADC countries	30.2	24.9	28.7
Rest of Africa	28.4	24.8	27.6
Europe	53.3	53.1	53.2
Asia	25.1	24.4	24.9
North America	37.5	36.4	37.0
Central and South America	48.1	48.9	48.5
Australia and New Zealand	42.2	41.7	42.0
Total	22.1	24.0	23.1

Figure 4 Population Pyramid for South African Citizens, 2001

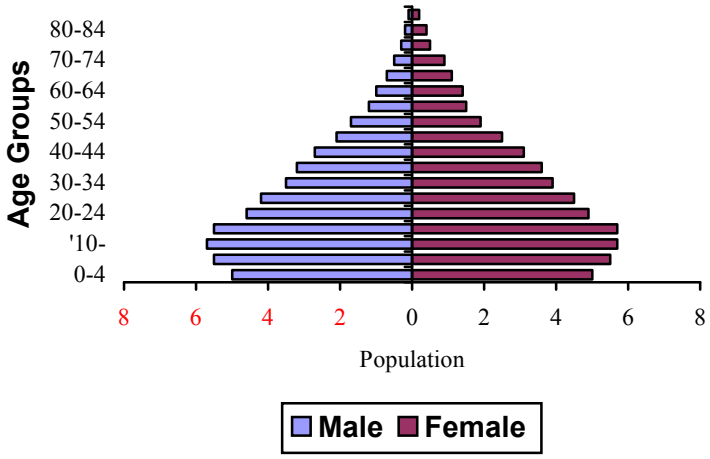


Figure 3 shows the age-sex distribution in five-year age groups of the total population of South African citizens enumerated in 2001 census. The pyramid is typical of a developing country in that it consists of a broad base indicative of a relatively greater proportion of younger age groups and a steadily decreasing proportion of older age groups. Population under the age of 5 consists of 9 percent of the province's total population, while at below the age of 15 years the constitute 31% of the total population. The proportion elderly (aged 65 years and over) is only four percent, while the proportion of the population aged 15 and 64 years, from which the economically active population is drawn, in 60 percent.

The pattern of age-sex distribution in the country varies with population group as Figures 4 to 7 indicate. The population pyramid of Africans (Figure 4) is similar to the one of the country as a whole. This merely reflects the dominating influence of the African population on the overall population of the country.

The White population in South Africa shows a very different age pattern. The pyramid for the white population (Figure 7) is bell-shaped, typical of a developed country. There are proportionately fewer children and more elderly people.

As with other demographic aspects, the population pyramid of the colored population in the country is similar to that of the African population whereas the pyramid of the Asian population is closer to that of the White population. Other researchers have made similar comparison when looking at other characteristics of the population groups in the country (Amoateng, Lucas and Kalule-Sabiti, 2003).

Figure 5 Population Pyramid for South African Citizens (Africans), 2001

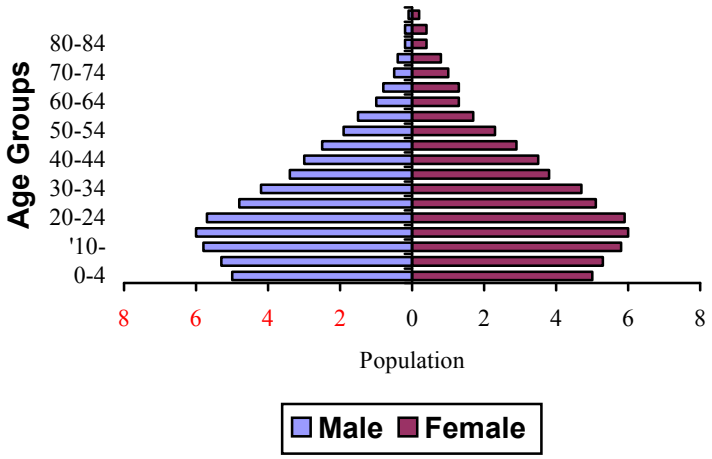


Figure 6 Population Pyramid for South African Citizens (Coloured), 2001

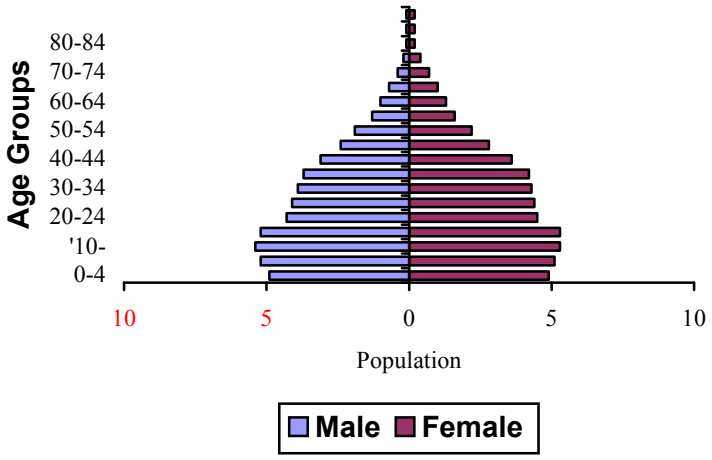


Figure 7 Population Pyramid for South African Citizens (Asian), 2001

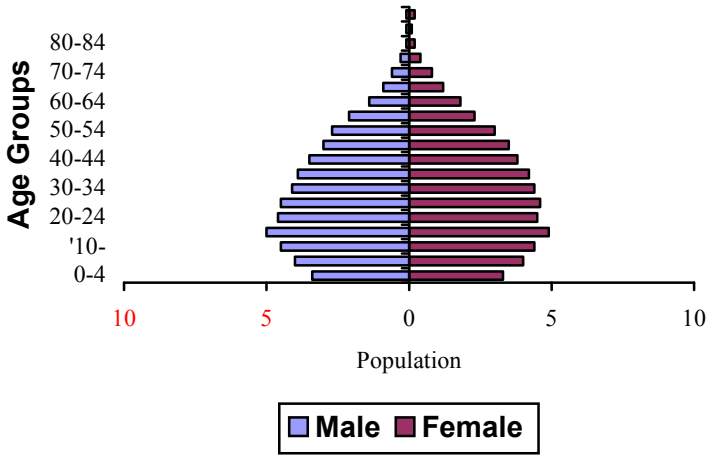
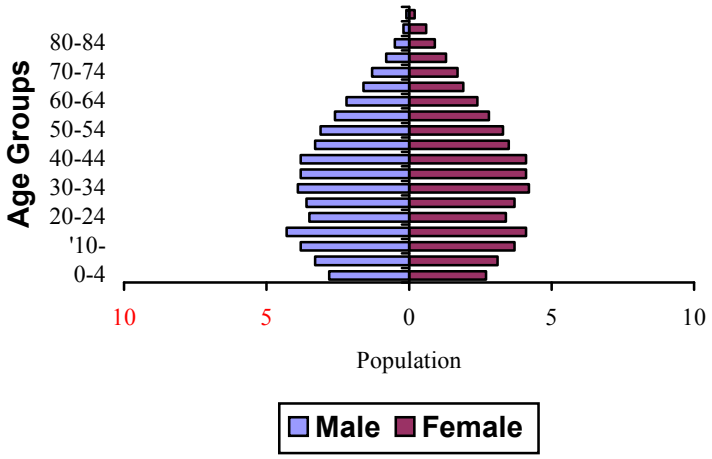


Figure 8 Population Pyramid for South African Citizens (White), 2001



Citizens of other countries enumerated in South Africa have population pyramid typical of migrant populations and reflecting some characteristics features of the population. Citizens of SADC and other African countries enumerated in 2001 South African censuses are predominately males. The population pyramid of citizens of SADC and other African countries not only show the predominance of males at each and every group but also the male population is concentrated in 20-54 age range. The same can be said of migrants from Asian countries.

Figure 9 Population Pyramid for SADC Citizens, 2001

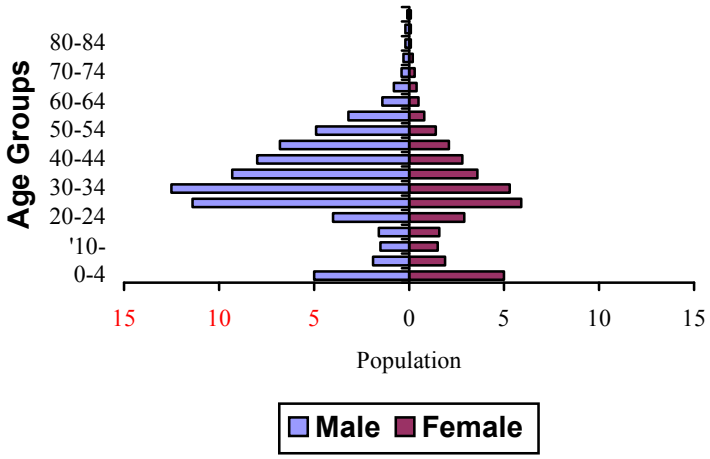


Figure 10 Population Pyramid for Recent of Africa, 2001

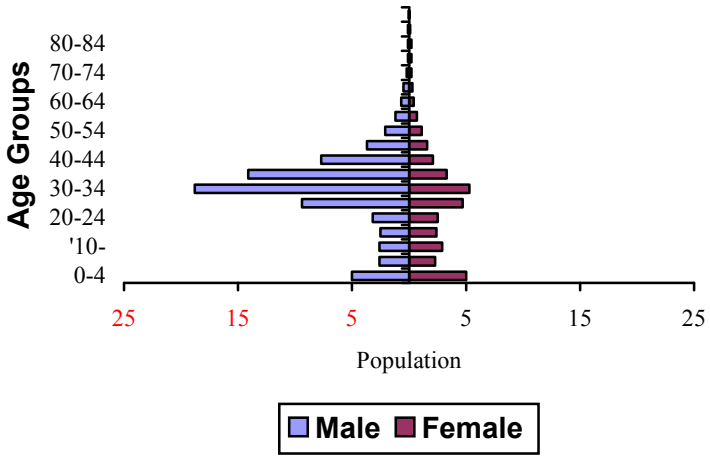
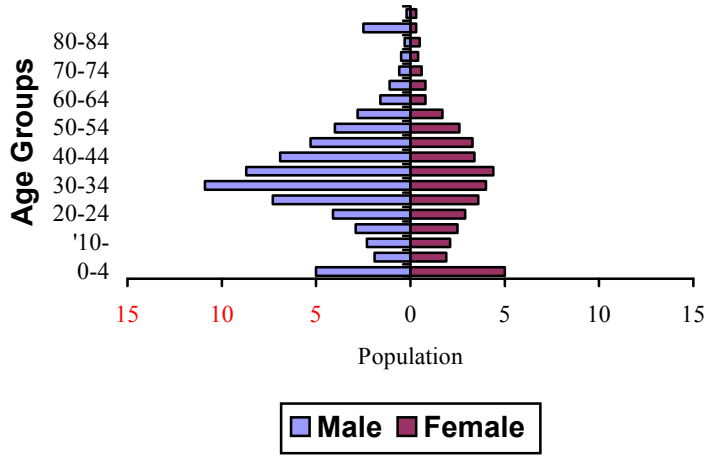


Figure 11 Population Pyramid for Asian Citizens, 2001



Citizens of European countries enumerated in 2001 South African census has a pyramid with more people in age group 0-4, very few people in age range 5-34 and more people in the age range 35-74. This indicates that most migrants from European countries are mature and older people and are moving with their families. Population pyramids for citizens of North American, Australia and New Zeland show a similar pattern to that of European citizens. The same can be said about immigrants from Latin America with the exception that the people

Figure 12 Population Pyramid for Europe Citizens, 2001

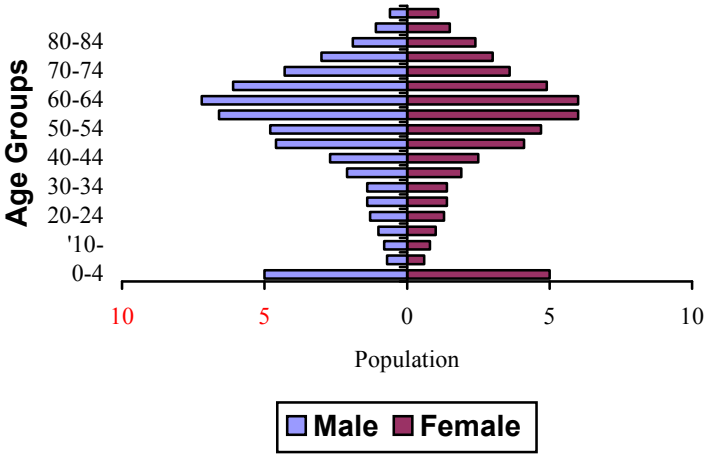


Figure 13 Population Pyramid for Latin America Citizens, 2001

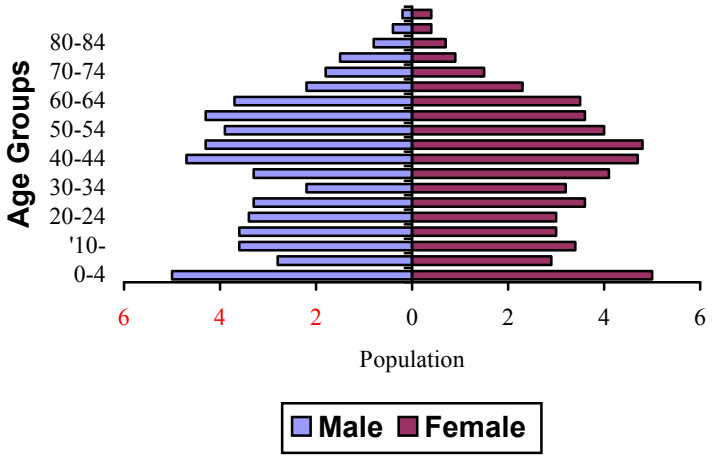


Figure 14 Population Pyramid for Central and North America Citizens, 2001

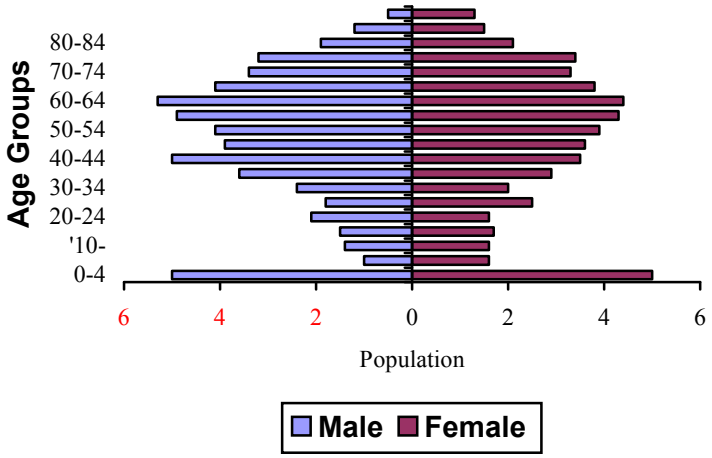
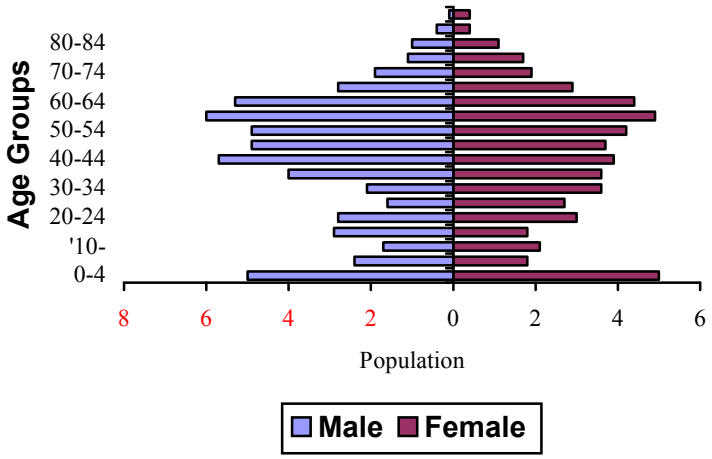


Figure 15 Population Pyramid for Australia and New Zeland Citizens, 2001



Internal Migration

Both the 1996 and 2001 census collected information on the usual place of residence and place of previous residence. This information permits one to study some aspects of internal migration in South Africa. If the usual place of residence is the same as place of previous residence then the respondent is not a migrant otherwise if the two are different then the respondent can be categorised as a migrant.

Table 7 Inter-Provincial Internal Migration for South Africa, 2001

Province	Number In-Migrants	Out-Migrants	Net Migrants
Eastern Cape	100894	354267	-253373
Free State	85905	130626	-44721
Gauteng	714287	296029	418258
KwaZulu-Natal	148597	227041	-78444
Limpopo	94111	257067	-162956
Mpumalanga	122878	152855	-29977
Northern Cape	50583	57119	-6536
North West	149494	173589	-24095
Western Cape	280005	98161	181844

Figure 16 Net Migration for South Africa and its Provinces, 1996-2001

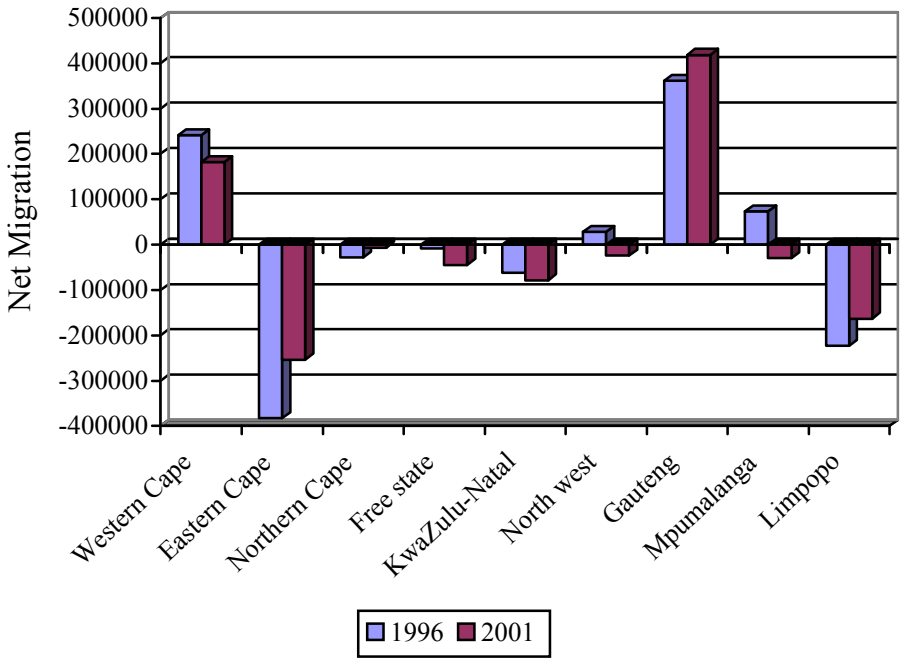


Table 7 indicates that patterns of internal migration varies from one province to another. In some provinces (for example Eastern Cape, Free State, Kwazulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West) the number of people moving into these provinces is lower than the number of people moving out of the provinces. Whereas in other provinces (Gauteng and Western Cape) the opposite is true. The observed pattern of internal movements could be related to existing patterns of social and economic development. Gauteng and Western Cape being the most urbanised and industrialised provinces in South Africa tend to attract a lot of people from the relatively poorer provinces.

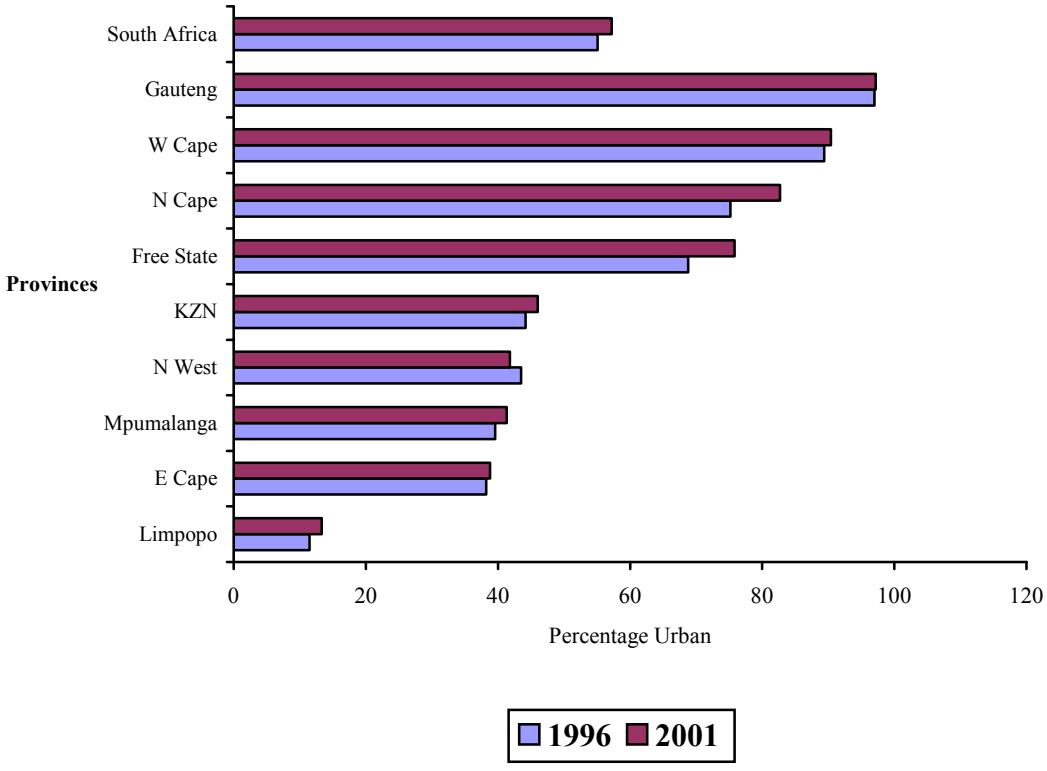
In addition, Table 7 show that the provinces of Mpumalanga and North West which used to attract people are now losing people.

One aspect of internal migration that has received a lot of attention in migration studies is that of rural-urban migration (). South Africa is one of the highly urbanised countries on the continent. The proportion urban has increased from 55.1 percent in 1996 to 57.5 percent in 2001 (Statistics SA, 2003). According to Population

Reference Bureau (2003), apart from South Africa, the following are the most highly urbanized countries in Africa in which over 50 per cent of the population lived in urban areas: Libya (86%), Morocco (57%), Tunisia (63%), Western Sahara (95%), Mali (55%), Djibouti (83%), Seychelles (63%), Equatorial Guinea (73%), Botswana (54%).

Figure 17 indicate the proportion urban by province in South Africa based on 1996 and 2001 censuses. According to the 1996 Census the percentage of the population living in urban areas ranges from 12% in the Limpopo to 97% in Gauteng in 2001. Gauteng, Western Cape, Free State and Northern Cape are the most urbanised provinces in South Africa, while Limpopo, Eastern Cape, Mpumalanga, North West, Kwazulu Natal are the least urbanised provinces. The same picture emerges when one considers 2001 census data.

Figure 17 Proportion Urban for South and Its provinces 1996-2001



Discussion and Conclusion

The demographic estimates presented in this paper can be regarded as fairly reliable and indicative of the major demographic changes that have taken place in South Africa since the first-ever democratic elections in 1994. Given the nature of demographic data available in the country, most estimates of fertility and mortality depend on indirect estimations. As such one should be cautious in interpreting these as they may tend to under or over state the true level depending on the methodology used and inherent assumptions.

The study has shown that the quality of the reported age statistics, as measured by Whipples and Myers indices and the United Nations Age-Sex Accuracy index, is quite good. This has encouraged us to use the reported age distribution to study other characteristics of the population. In particular, given that fertility data from the 1996 census are not yet available, the estimates of fertility utilised in this study are based on the reported child woman ratios. Although to some population specialists this is being naïve it is gratifying to note that TFR estimates calculated using Rele method are comparable with those based on other procedures. This means that as more data become available more and robust procedures should be utilized in order to obtain plausible demographic estimates for the country and its subdivision.

At national level, fertility has been found to have remained more or less constant between 1996 and 2001. Both 1996 and 2001 censuses give a TFR estimate of 3.3 children per woman. There are differentials by province with TFR being comparatively high in Limpopo, Mpumalanga, Kwazulu-Natal and low in Gauteng, Western Cape.

Mortality has worsened as a result of the HIV/AIDS epidemic. Expectation of life at birth has decreased from about 56 years in 1996 to 46 years in 2001. The decrease in life expectancy a birth is observed in all provinces in the country. The province of Kwazulu-Natal, which has the highest HIV/AIDS prevalence rate, also has the lowest life expectancy at birth.

Migration has been a major feature of the South Africa population. In terms of international migration, south Africa has been losing people to European and oceania countries. It has also gaining people from other African countries. Internal migration patterns are such that Gauteng and Western Cape have been gaining people whereas the remaining provinces have been losing people.

Lastly, in several aspects, this paper can be looked at as exploratory. Additional demographic research is needed to verify and explain some of the variations observed in demographic parameters. In this study, the rise in mortality has been attributed to the HIV/AIDS epidemic. However, it is possible that other factors such as the quality of data and the worsening of social and economic conditions might as well given rise to mortality increase.

South Africa, popularly described as a rainbow nation, is diverse as it is composed of multi-racial, multi-religious and multi-linguistic population. Since the 1960s, the overall fertility of the country has shown a significant decline. However, a pertinent question is whether all ethnic groups are party to the fertility declining process. The classical demographic transition theory that influenced demographic research in most countries, has noted that fertility transition varied along ethnic and religious divisions. It may be worthwhile exploring the nature and patterns of demographic behavior at this level.

The preceding paragraph is based on the belief that demographic research in South Africa will play the vital role in understanding the demographic transition in the African context. The advanced stage of demographic transition in any context entail irreversible population growth patterns **that affect the of components of population growth. It would therefore be of intere**st to investigate the course of such changes occurring in a heterogeneous society.

The need to conduct more demographic studies entails an increased number of population specialists willing and capable of collecting, analysing and interpreting demographic and social data. Furthermore, Statistics South Africa and other organisations collect enormous amount of demographic data that need to be analysed and presented to policy and decision makers for use in socio-economic planning.

Various official documents including the National Population Policy and HIV/AIDS Strategy have identified as the major challenges affecting the implementation of population and health policies and programmes in the country: “Limited institutional and technical capacity for demographic analysis and for using population data and information for integrated population and development planning”.

In the light of the above, there is need to enhance the technical capacity of technical planning staff in pertinent Government institutions at all levels and in all sectors with regard to methodologies for integrated population, development and gender sensitive planning and programming; expand opportunities for training in demography and population studies and strengthening monitoring and evaluation of the population and reproductive health. There is therefore need to strengthen the existing population training programmes and encourage more students to register for demography/population studies.

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