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Social Indicators in the Contemporary South Africa

Kwabena A. Kyei

Department of Statistics, University of Venda, Private Bag X5050, Thohoyandou 0950, South Africa
E-mail: Kyei61@Gmail.Com

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ABSTRACT Social indicators such as poverty, unemployment, and access to health care, education and social integration are among the issues that are considered in the well-being of the people of any country. South African household structure has undergone some changes over the past years. This study examines social and economic indicators of the country using a 10% sample from the census 2001 data. Basic statistical analyses have been done. The study produces the following results for the country: mean household size of 4 persons, annual population growth rate of 1.2%, literacy rate of 76%, mean household income of R3356 (about US$480) per month, and the unemployment rate of 47%.

INTRODUCTION

In the last decades, scientists have offered several alternative approaches to defining and measuring quality of life. Social indicators such as health, poverty, universal primary education, infant and child mortality, access to sanitation and crime have been used to measure quality of life (www.unstats.un.org/unsd/demographic/products/socind). According to Udjo, Orkin and Simelane (2000:6), the proportion of the population in extreme poverty in South Africa was 18% in 1995, which was higher than the level of the international goal put at less than 15%. At the same period, the infant mortality was 45 per 1000 births, teenage pregnancy was 35% among women aged 15 – 19 years, 81.7% of the households had access to toilet facilities in 1996 and 79.8% of the households had access to piped water (Udjo et al. 2000).

Between 1995 and 2002, the number of households in South Africa increased from roughly 8.4 million to 10.8 million in the face of rising unemployment and the average household size decreased significantly by almost half a household member (StatsSA 2003). During the same period, the proportion of single-person households increased from 12.6% to 21%. The proportion of households with unemployed members doubled to 27% in 2002, and workless households, in which no member is employed, rose to a 33% of all South African households (Pirouz 2005).

The average rural household size, according to Pauw et al (2005: 45) is 4.6 persons while that of the urban household is 3.5 persons. About 42% of South African households are headed by women (StatsSA 2010: 13). One of the reasons why the proportion of female-headed households is very high is the absence of male migrants. A substantial number of males are out-migrants working in different provinces away from their homes (StatsSA 2010: 14). In the non-urban areas there is an equal proportion (50%) of household heads between males and females, but in the urban areas male household heads constitute a higher proportion (64%) (SADHS 1998).

Only about one-third of children live with both parents. Even amongst children under the age of 2 years, two-thirds live in households with either only one or no parent present. Nearly 35% of all children under - 15 years live with only their mothers, while 3% live with their fathers only. About 25% of children live in households with neither parents present (StatsSA 2010: 13). Possible explanation for this high rate of foster-hood includes the cultural norms of young unmarried mothers sending their children back to their mothers (grandmothers) for care and also the general marital instability and the widespread system of labour migration (SADHS 1998; StatsSA 2010: 11-15).

Address for correspondence:
Kwabena A. Kyei
Department of Statistics,
University of Venda,
Private Bag X5050,
Thohoyandou 0950, South Africa
E-mail: Kyei61@Gmail.Com

There are some differentials in the characteristics of the households. Urban household sizes decreased more than rural households which remained significantly large. The decline in household size has occurred for households that are headed by employed individuals, headed by females or headed by pensioners (StatsSA 2010). The average household size with an unemployed head had decreased by more than one member to 3.6. On average, employed individuals headed smaller households (average size of just under 3.5 members in 2001 and 2002), whereas female- and pensioner-headed households tended to be larger (around 4 members and 4.6 members respectively in 2001 and 2002) (Pirouz 2005).

Income levels and socio-demographic factors like household size and structure dictate consumer expenditures (Pauw et al 2005). The level of household income is important in that education, type of dwelling, living standard, health care needs and the rest, all depend on income. Low income households spend a larger proportion of their income on necessities such as food. This affects the overall expenditure pattern of the household (Pauw et al 2005).

Income has strong but indirect effect on mortality through food, health care, preventative and curative measures of illnesses. Childhood mortality level is still high in South Africa. Certain social indicators such as health and education portray mortality level in the community or state. They reveal the "healthy" conditions in the country (Udjo et al. 2000; British Broadcasting Corporation 2006). It is against this background that this study is undertaken to find out the levels of these indicators, the inherent implications on the wellbeing of the South African population, and to make recommendations for the government and stakeholders as to how to continue improving the living conditions of the country, Africa's most developed country, further.

METHODOLOGY

Material/Data

Secondary data were used in this study. The data come from the census 2001 conducted by Statistics South Africa. A 10% sample size from the census 2001 data have been used, not the entire census data.

Methods/Analysis

Basic statistical analyses like mean, proportion, frequency, chi-square tests, bar and pie charts were done. Equally, some demographic modelling was done to get the estimates of some demographic indicators which the census data could not provide reliable information for (Dorrington et al. 2004). Demographic indicators obtained from the modelling are birth, death and growth rate. For the modelling, the two indices primarily used are the growth rate and the life expectancy (see Coale, Demeny and Vaughan 1996). First, the data were evaluated demographically using the United Nations Joint Score (United Nations Economic Commission of Africa (UNECA) 1989: 68- 69). The evaluation of the data quality is a very important aspect of statistical analysis in that data which are not reliable, which are grossly erroneous worth nothing for planners irrespective of the best statistical analyses that can be done from such data (UNECA 1989: 65 – 69).

Contingency tables from cross tabulation make it possible to identify frequency patterns for two or more categorical variables. It is a technique for obtaining the relationship between nominal data.

RESULTS AND DISCUSSION

Average Household Size

The average household size obtained from this analysis is 4 persons per household (Tables 1 and 7). Statistics South Africa puts its estimate at 3.8 (between 3.6 and 4.2) (StatsSA 2003). There is a decline from the size of 4.2 estimated from the SADHS for 1998. But our figure of 4 persons per household is the same as what Pauw et al (2005) also got. The Health Systems Trust estimated that in 1990, 1994 and 1996 the average household size was 4.5, 4.5 and 4.4 respectively. These estimates therefore indicate a declining household size (www.hst.org.za).

Household size in South Africa has significantly decreased over the years, particularly between 2002-2009 period; the average household size dropped by almost half a household member. For example the child-headed household has declined from 2.05 in 2002 to 1.94 in 2009, a decrease of 5.4%, and the male-headed household dropped from 5.05 persons to 4.78

persons, also showing a decrease of 5.3% during the same period (StatsSA 2010: 13). Over the same time the number of households rose from roughly 8.4 million to 10.8 million. Pirouz (2005) suggests that the reduction in size can mainly be attributed to smaller Black African households. Nevertheless the household sizes for the other population groups have also shrunk. Urban household size decreased more than rural households which remain significantly larger. The decline in household size has occurred for households that are headed by employed individuals, headed by females or headed by pensioners. The average female-headed household size declined by 5.2% between 2002 and 2009 while the average household size with an unemployed head decreased by more than one member to 3.6 (Pirouz 2005, StatsSA 2010: 13).

Household Structure and Composition

Table 1 shows the household structure and the likelihood composition of its members. The household structure suggests that each household is composed of 1.9 males and 2.1 females. Furthermore the 4 persons per household decomposes as 1.3 persons below 15 years, 0.2 above 65 years and 2.5 persons between ages 15 and 65. Analytically, most households consist of the head, some spouse/partner (0.44), some own children (1.4) who may or may not be in the economically active age group and some grandchildren (0.53). The grandchildren may be the children of young teenage mothers who after giving birth leave their children with their mothers in order to go and search for jobs in different locations. These young mothers (mostly not-married) live in single households where they are employed.

Table 1: Relationship by average household size

Relationship	*Percentages*	*Composition by household size*
Head/acting Head	25.78	1.03
Husband/wife/partner	11.12	0.44
Son/daughter	35.01	1.40
Adopted child	1.05	0.04
Stepchild	0.53	0.02
Brother/Sister	3.87	0.15
Parent	0.86	0.03
Parent-in-law	0.32	0.01
Grand/Great-grandchild	13.20	0.53
Son/daughter-in-law	0.84	0.03
Brother/Sister-in-law	0.74	0.03
Other relative	5.44	0.22
Non related person	1.26	0.05
Total	100.00	4.00

Source: StatsSA, 10% sample of the Census 2001

Some further analysis shows that only about one-third of children live with both parents (StatsSA 2010: 10). Even amongst children under age 2 years, two-thirds live in households with either only one or no parent present. Data from SADHS indicate that nearly 35% of all children who are younger than 15 years live with only their mothers, while 3% live with their fathers only. About 25% of the children live in households with neither parent present (SADHS 1998). Possible explanations for this high rate of foster-hood include the cultural norms of young unmarried mothers sending their children back to their mothers (grandmothers) for care, as mentioned earlier, marital instability and the widespread system of labor migration (SADHS 1998).

Income

The chi-square test conducted, showed a relationship between income and gender such that the males receive higher income than the females. This lends support to the observations made in the Limpopo province by Kyei and Gyekye (2011). Kyei and Gyekye (2011) showed that the level of unemployment in Limpopo is far higher for females than males. However, when the symmetric measures were estimated, it was found out that Phi statistic was 0.125, a Cramer's V statistic was 0.125 and a contingency coefficient was 0.124. Therefore these figures indicate that the relationship between income level and gender is quite weak and that while there is a relationship between gender and income, both sexes are exposed to almost the same level of income.

Approximately 57% of individuals in South Africa were living below the poverty income line in 2001, unchanged from 1996. Limpopo and the Eastern Cape had the highest proportion of poor people with 77% and 72% respectively of their populations living below the poverty income line. The Western Cape had the lowest proportion in poverty (32%), followed by Gauteng, which had 42% (Schwabe 2004). Udjo et al. (2000) estimated that incidence of poverty that is, the percentage of persons living below $1 a day) measured by poverty count ratio, was 18.2%,

while Statistics South Africa (2001) estimated the same to be 11% in the same year, 2000.

Table 2 shows that 68.7% of the respondents had no income. Of those who had income, the majority were in the income category 2 (which is R401-R800 per month or R4801- R9600 per annum). The modal monthly income level was R401. The table also shows that as the income category increased the percentage of people in the categories decreased. The average income is R3356.34 per month. An approximately 80.5% of the respondents earned less than R3200 per month. This figure means that those people earning below the average income are highly significant and could imply that there is a high chance of poverty among the population. Table 5 shows that at all income levels greater than R800 per month, males earn more than females. The table also shows that in general, males earn higher than females. This confirms the assertion that there are disparities between incomes and that favour the male population.

Table 2: Distribution of income

Category of Income	*Frequency*	*Percent*
1	2560357	68.7
2	205301	5.5
3	363400	9.8
4	197623	5.3
5	170998	4.6
6	123382	3.3
7	64687	1.7
8	24280	.7
9	8393	.2
10	3457	.1
11	2784	.1
Total	3725655	100.0

Source: StatsSA, 10% sample of the Census 2001

A study by Mackenbach et al. (2005) on the shape of the relationship between income and self-assessed health indicates that a higher household equivalent income is associated with better self-assessed health among men and women in all countries, particularly in the middle-income range. In the higher income ranges, the relationship is generally curvilinear and characterized by less improvement in self-assessed health per unit of rising income. In the lowest income ranges, the relationship is found to be curvilinear in four countries (Belgium, Finland, The Netherlands, and Norway), where the usual deterioration of health associated with lower income levels off or even reverses into an improvement. Consequently, concluding that assuming causality, the results of their study lend some support to the notion of decreasing marginal health returns of a unit increase in income at the higher income ranges (Mackenbach et al. 2005).

Drawing an analogy from Duleep's notes, South Africa is not grouped as an economically developed country (Duleep 1995). She is a third category country grouped as developing, though with a fast growing economy, sometimes regarded as a second world economy. During 2001, the rand traded at R8 to $1. If $600 was the benchmark at which income was no longer an important determinant of mortality, this amount would be equivalent to somewhere around the R4800 mark. This is well above the average income of most households at that time; it can be assumed that income was an important determinant of mortality.

Education

Table 3 shows that 65.7% of the respondents who were older than 5 years were at that time not attending school. This is quite a significant percentage. However, this category would account for those who have completed their education, those not of school-going age and those who had never attended any educational institution. The category identified as "No" accounts for those who, at the time of enumeration, were not in attendance in an educational institution. For those who were not attending school, (the No group), about 54% were females and 46% males); while for those who were attending school (the Yes group) about 51% were females and 49% were males (Fig. 1). Thus the proportion of those attending school was almost equal between the two sexes while for those not attending school, there is a significant difference

Table 3: Distribution of Present school attendance

School attendance	*Frequency*	*Percent*
1	2448904	65.7
2	94085	2.5
3	1103785	29.6
4	23138	.6
5	17442	.5
6	26514	.7
10	6565	.2
11	5222	.1
Total	3725655	100.0

Source: StatsSA, 10% sample of tCe he nsus 2001

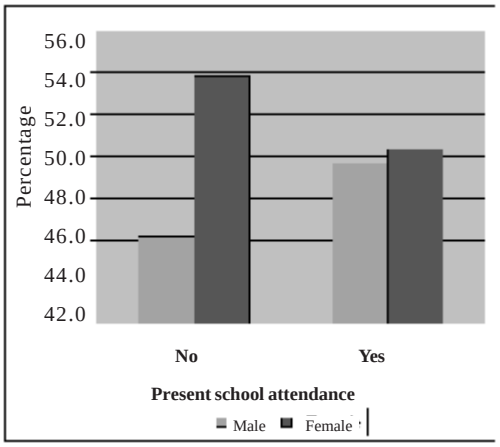

Fig. 1. Present school attendance by sex
Source: StatsSA, 10% sample of the Census 2001

between the sexes, females being higher. Table 4 shows that for the Yes group, (that is, respondents who are currently attending school, and who answered "yes" to the question whether attending school or not), about 90% are aged between 5 and 20 years. This implies that only 10% of the school-going ages were not in school.

Table 4: Distribution of present school attendance by age

Age group	*Present school attendance (%)*		
	No	*Yes*	*Total*
5-9	16.7	29.3	21.0
10-19	4.6	57.6	22.8
20-29	22.0	9.9	17.8
30-39	20.5	1.7	14.0
40-49	15.4	0.9	10.4
50-59	9.6	0.4	6.4
60+	11.3	0.3	7.6
Total	100.0	100.0	100.0

Source: StatsSA, 10% sample of the Census 2001

Research by Hallman and Grant (2004) shows that in South Africa, there is no gender disparity in school attendance. This finding supports the result from this study (Fig. 1). The research studies show sexual violence as one of the leading causes of poor school attendance for females. A study on sexual violence and girl's education by Hallman (2005) indicated that South Africa has gender-balanced and high enrollment rates compared with other sub-Saharan African countries, but school delays are a large problem and many young people progress through

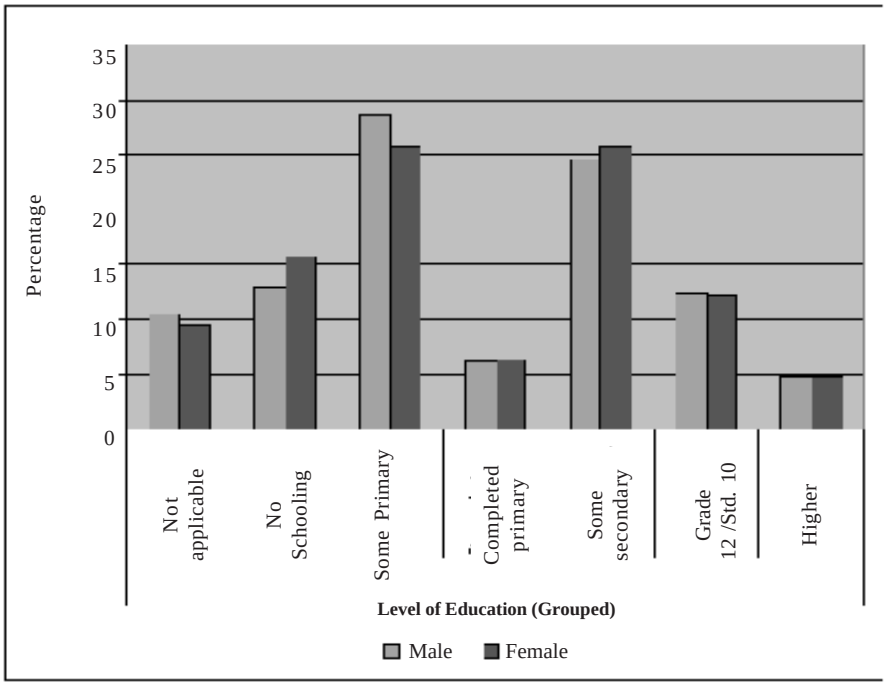

Fig. 2. Level of education by sex
Source: StatsSA, 10% sample of the Census 2001

school slowly. In 1999, only 36% of 20-24 year-olds nationally had achieved a matriculation certificate (Statistics South Africa 2001).

Hallman and Grant (2004), report that gender is an important determinant of the prevalence and timing of school delays. They suggested that although girls advance more quickly than boys through primary school, girls' performance begins to falter during secondary school. In Figure 2, we can see that the proportion of girls in primary school is almost 30% while that of boys is just about 25%. At age 14-15 years, 45% of males versus 35% of females would have had school delay. By age 20-22 years, however, 56% of males and 57% of females report having experienced at least one school delay. ("A delay" is defined as a year of non-advancement because of either not having enrolled at all during a particular year but having eventually returned to school; or withdrawing during a year, or repeating a grade because of poor performance during the previous year).

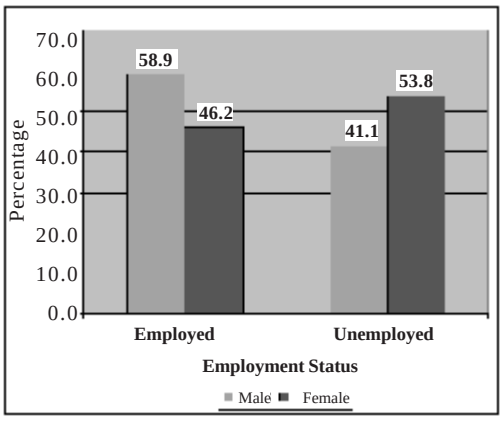

Fig. 3. Employment status by sex
Source: StatsSA, 10% sample of the Census 2001

Among young people who have had delays, the major sets of factors reported are economic constraints, lack of interest and poor performance. Among females, considerable percentages who have had delays report that to be preg-

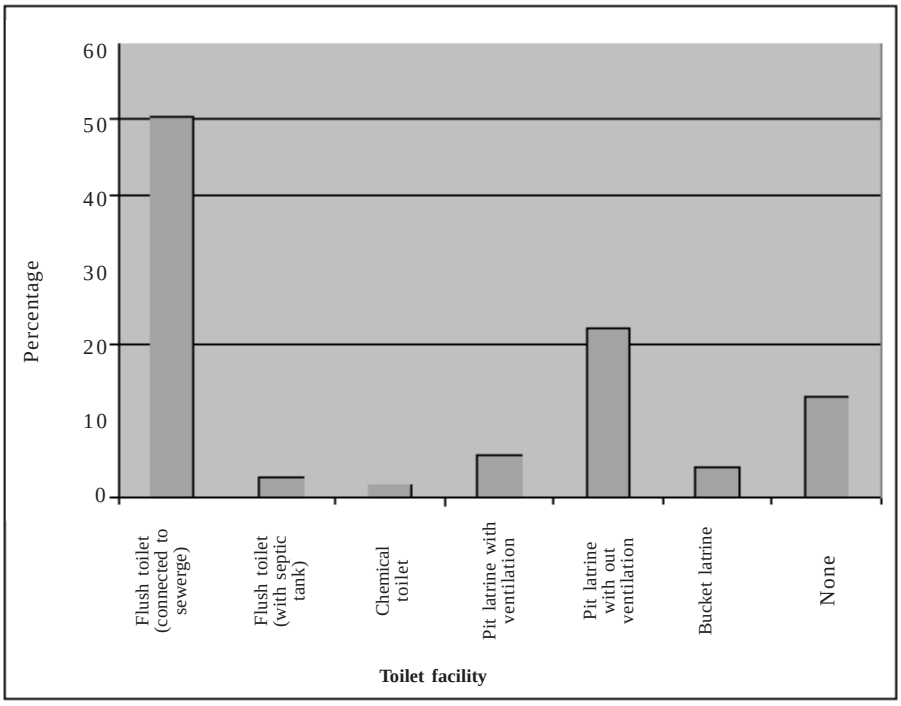

Fig. 4. Toilet facility
Source: StatsSA, 10% sample of the Census 2001

nancy-related. Adolescent childbearing in South Africa is high: in 1998, about 35% of 19 year-olds had been pregnant and 30% were already mothers (South Africa Department of Health 2006; Hallman 2005).

Employment Status

All individuals within a household between the ages 15 to 65 years were asked about their employment status. The information used in the analysis of employment status is a derived variable from questions asked about age, any work in the 7 days before October (2001), reasons why not working, active steps and availability.

Figure 3 shows the result of a cross-tabulation between employment status and sex. The figure shows that there are more employed males than females with a difference of over 10%. In South Africa, the percentage of employed males is higher than that of the females (Kyei and Gyekye 2011). From an on-going study in Sekhukhune district (one of the districts in the Limpopo province in the country) 67.8% of women aged between 20 and 50 years interviewed in a survey, reported that they are unemployed (Kyei and Maboko 2013 on-going research). Some people explain the higher percentage of employed males for job opportunities as due to the nature of the economy. That, as an evolving economy, construction and unskilled work available on the market favour men more than they favour women. In common practices, fewer females are employed in heavy duty jobs, requiring physical strength, such as mechanicals, construction and mining, as compared to males. Similarly, fewer males can be found in less physical jobs such as clerical and secretarial. Hence, if there are more vacancies of jobs requiring much physical strength, there would be more males than females employed in these areas and vice versa.

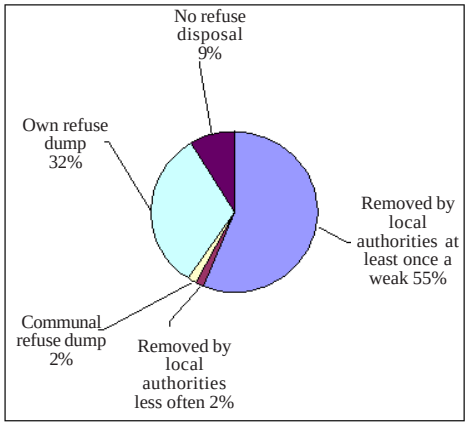

Fig. 5. Refuse or rubbish disposal
Source: StatsSA, 10% sample of the Census 2001

Table 5: Distribution of income by sex

Income	*Gender*		
	Male	*Female*	*Total*
1	66.5%	70.8%	68.7%
2	4.9%	6.0%	5.5%
3	8.2%	11.1%	9.8%
4	6.7%	4.1%	5.3%
5	5.9%	3.4%	4.6%
6	3.8%	2.9%	3.3%
7	2.3%	1.2%	1.7%
8	1.0%	.3%	0.7%
9	0.4%	.1%	0.2%
10	0.1%	.1%	0.1%
11	0.1%	.1%	0.1%
Total	100.0%	100.0%	100.0%

Source: StatsSA, 10% sample of the Census 2001

Toilet Facility

The most frequent toilet facility used is the flush toilet. This shows an above average access to water and sanitation. A lot still has to be done though to ensure that this percentage is improved upon. The analysis shows that 40% of the respondents had access to toilet facility that can be deemed unhealthy (Fig. 4). This considerably high percentage can account for the high mortality rates in the country. When a household is exposed to poor lavatory systems or no lavatory system, they are exposed to unsanitary environment and high mortality risk (Kyei 2011). These unsanitary environments can lead to infections and diseases, which in most cases are contagious and spread at very fast rates. An infection of an untreated person can lead to an infection of all members of the household/community.

Table 6: Estimated death rate

Year	*Death rate*	*Rank*	*Percentage change*	*Date of information*
2003	18.42	18		2003
2004	21.32	8	15.74	2004
2005	21.32	8	0.00	2005
2006	22.00	7	3.19	2006
2007	22.45	5	2.05	2007

Source: CIA World Fact Book 2007

Rubbish/Refuse Disposal

Rubbish and refuse disposal act as a measure of sanitation services. Proper disposal of waste translates to good sanitation and hence a clean and hygienic environment. Poor disposal of waste would result in possibilities of infection. For this reason, it is important that good sanitation practices be upheld. When asked about the disposal of rubbish/refuse, a high percentage of the respondents (55%) stated that they had their refuse/rubbish disposed of by local authority at least once a week (Fig. 5).

As this is mainly done in urban areas, it might mean that most of the respondents to this question are located in urban areas. It can also be assumed that for this 55%, the level of sanitation is of good standard. The proportion of households with flush toilets estimated from other sources is 47% (www.mindset.co.za).

Mortality

Earlier analysis conducted in this study has shown a relationship among high incidence of mortality, a generally young population, a high unemployment rate and a fair level of education. From the discussions above, it can be alluded from this that, the generally low average income is an indicator or shows possible explanatory variable in the analysis of the high mortality that prevails in South Africa. That is, poverty is indirect but a leading cause of increased mortality rates that pertain.

Demographic Indicators

As mentioned earlier, demographic modelling was done to get some estimates of demographic indicators like birth, death and growth rate, because death rate, for example, measures in part the quality of life of the people, and incidentally the census data could not provide reliable data on these variables. The data on mortality reportedly covering over 2.5 million death schedules were seen to be bogus (Dorrington et al. 2004: 6). A life table constructed for the females for example, gave a life expectancy at birth as 52.5 years with an average annual growth rate (r) of 1.3% (Kyei 2011: 12). The model constructed based on these two estimates in conjunction with the "North" Model Life Table and

Table 7: Key findings from this study

Indicator	*Category*	*Estimate*
Average household size:		4 persons per household
Growth rate:	Male	1.6
	Female	1.1
	Total	1.2
Average income:		R3356.3
Percentage earning below average income:		81.0%
Employment status:	Employment	52.7%
	Unemployment	47.3%
Type of educational institution:	Public	93.6%
	Private	6.5%
Level of education:	At most grade 12	71.0%
	Higher than grade 12	5.0%
Access to water less than 200 meters from dwelling:		72.5%
Source of water:	Regional/local water scheme	75.0%
Toilet facility:	Flush toilet	53.0%
Refuse/rubbish disposal:	Local authority	58.0%

Source: StatsSA, 10% sample of the Census 2001

Stable Population as developed by Coale et al. (1996), gave us the following birth, death and growth rates. *[The North Model Life Table was used because it has been found out that most sub-Saharan African countries have mortality patterns that are similar to those of the North rather than those of the West that had been prescribed or assumed. The comparison of the growth rate and life expectancy results in a level 18 mortality. That means the results of analysis give South Africa characteristics or indices similar to countries at level 18 of the North Model of the Coale et al. Life Table (1996). The stable population mortality levels as identified by Coale et al. (1996) ranges from level 1 to level 25.*]

Birth and Death Rates

The birth rate for this level is estimated to be 24.82 per 1000. Thus the demographic modelling gives an intrinsic birth rate of 25 births per 1000 in South Africa as at 2001. However other studies give different values. For example a publication by Wikipedia, shows that the birth rate in South Africa in the same year 2001 was approximately 21 births per 1000 population. A similar estimate of the birth rate in South Africa by the

WorldPress gives the value as 21.12 births. The estimate by most research shows that in 2001, South Africa had a birth rate well over 21 births per 1000 persons (www.mindset.co.za). The birth rate is usually the dominant factor in determining the rate of population growth. It depends on both the level of fertility and the age structure of the population.

The demographic modelling from this study shows an estimated death rate of 11.84 deaths per 1000 persons (Table 6). The death rate accurately indicates the current mortality impact on population growth. This indicator is significantly affected by age distribution, and most countries will eventually show a rise in the overall death rate, in spite of continued decline in mortality at all ages, as declining fertility results in an aging population.

Growth Rate

The modelling from this study gives intrinsic annual population growth rates of 1.6%, 1.1% and 1.2 for male, female and the total population respectively, while Statistics South Africa put the rates as 1.47 and 1.3 and 1.38 for males, females and the total respectively.

LIMITATIONS OF THE STUDY

The purpose of looking at social indicators of a country or state is to enable us measure the quality of life of the people over there. Mortality indicators like life expectancy and infant mortality rate are very good measures of the quality of life. But since our data on mortality are, according to Dorrington et al. 2004, bogus, the goal of measuring the quality of life from this study is somewhat defeated.

CONCLUSION

Table 7 summarizes the findings in this study. The following results are produced from the study: the mean household size is 4 persons; the annual population growth rate is 1.2%; the literacy rate is 76%; the mean monthly household income is R3356 (about US$480); the proportion of households earning below the mean monthly income is 81%; the proportion having access to water within 200 metres is 72.5 %; the proportion of households using flush toilet facilities is 53%; and the unemployment rate of 47%. The results from this study do not differ significantly from what Statistics South Africa has produced. For example, the mean household size from this study is 4 persons while that of Statistics South Africa is 3.8. The mean annual population growth rates are 1.6%, 1.1% and 1.2 for male, female and the total population respectively while Statistics South Africa put the rates as 1.47 and 1.3 and 1.38 for males, females and the total respectively. Statistics South Africa estimates the monthly median income at R2800 (R3033 for males and R2340 for females).

RECOMMENDATIONS

The study recommends that for the improvement and well-being of South African population, the governments (local, provincial and/or national) together with partners do the following: implement policies geared towards providing jobs for the economically active population, especially the female population as the level of unemployment for this sex is quite high; encourage full participation of basic education among young school-going children by making primary education free and accessible, because the 10% of the school-going age who are not in school at present is quite significant; improve gender equality in terms of access to jobs and income; and improve and sustain the policy of eradicating bucket-system toilets.

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APPENDIX

Codes for Income

1 = No income	**5**= R1601 –R3200/month	**9**=R25601- R51200/month
2 = R 1 – R400/month	**6**=R3201 – R6400/month	**10**=R51201-R102400/month
3 = R401 – R800/month	**7**=R6401 – R12800/month	**11**=R102401– R204800/month
4 = R801 – R1600/month	**8**=R12801- R25600/month	**12**=R204801 or more/month

Codes for School Attendance

1 = No	**5**=Tertiary, Technikon
2 = Pre– school	**6**= University
3 =Regular school, (Grade1 to Grade12)	**10**=Adult education
4 = College, post-Grade 12	**11 =** others