

FOOD'S FOREWORD

The Department of Health and Welfare is proud to present the first release of Limpopo Mid-Year population estimates report 2004.

The Mid-Year population estimates were derived from the analysis of the 1996/2001 Census data. The report provides a picture of the Limpopo population in terms of numbers, age and sex distribution and distribution by district.

One of the major challenges in development planning has been the limited utilisation of population statistics as a planning tool. Mid-year population estimates are meant to provide a framework for planning from a people-centred approach. The publication of this report will therefore enable government and relevant stakeholders to effect appropriate planning taking population factors into consideration.

We therefore urge all stakeholders within and outside government to make use of the estimates as a guiding tool for planning.

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ACKNOWLEDGEMENT

I would like to extend my sincere thanks to Statistics South Africa (Stats SA) for not only conducting Census 1996 and Census 2001 but, above all, for making the results easily accessible. This report would not be forthcoming had the census results not been made easily accessible.

Special thanks go to the Population and Development Unit for having taken the initiative in making use of the census data and produce the estimates. Last but not least, unconditional appreciation is accorded to the management of the Department of Health and Welfare for the support it has offered in the whole process. This report would not have been published without its support.



SENIOR GENERAL MANAGER: WELFARE

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1. Introduction

Two all inclusive national censuses have been conducted in South Africa since the dawn of democracy in 1994. The first of these two censuses was conducted in October 1996 and the second in October 2001. Statistics South Africa (Stats SA) is the official government Agency authorised to conduct censuses in South Africa. Data from the two censuses has been used to derive the rate at which the population has grown between the two reference time points. This is on the assumption that population growth has basically emanated from changes in birth and death rates, with minimum influence due to migration.

The fact that data are disaggregated by province makes it possible to derive population growth rates at provincial level. This document makes use of data for Census 1996 and Census 2001 to derive the rates at which the male and female populations of Limpopo province grew between 1996 and 2001. The derived rates are then used to produce mid – year population estimates for the province for 2004, as indicated in the subsequent sections of this document.

It is important to note that Limpopo province consists of six district municipalities two of which – Sekhukhune and Bojalela – are cross boundary in nature. The cross boundary situation has got an impact when it comes to planning as people can and are entitled to service delivery irrespective of geographical location in terms of the demarcation of the district municipalities. Consequently population estimates have been produced catering for both scenarios. The first scenario which follows immediately hereafter provides population estimates at provincial and district municipality level while incorporating the population of the cross boundary districts in totality. The second scenario provides estimates without considering the populations of the cross boundary districts municipalities that falls under Mpumalanga province.

2. ESTIMATION OF THE MALE AND FEMALE POPULATIONS WITH THE CROSS BOUNDARY DISTRICTS IN TACT

The following information was published by Statistics South Africa (Stats SA) for Limpopo province. Take note that the figures for Sekhukhune and Bojlabela cross boundary districts are not partitioned in terms of the populations which fall under Limpopo and Mpumalanga provinces. The figures in bold face in Table 3 exclude the people who belong to Mpumalanga province.

Table 1: Age distribution in five - year intervals by district: Males

Age group	Mopani	Vhembe	Capricon	Waterberg	Sekhukhune	Bohlabela	Total
0 - 4	51810	69570	65056	33094	57708	35794	313032
5 - 9	63014	83568	78883	37070	68451	42175	373161
10 - 14	67969	85341	82413	37276	71630	44945	389579
15 - 19	62218	78774	75918	35657	66030	40605	359202
20 - 24	42326	51623	46152	26409	37469	25272	229251
25 - 29	30542	35129	31700	23294	23020	16412	160097
30 - 34	24179	26991	26125	19496	17752	13103	127646
35 - 39	20892	24195	24171	18082	16286	11080	114706
40 - 44	17664	18790	20691	15691	14130	8628	95594
45 - 49	15318	14944	17397	12311	12606	7315	79891
50 - 54	12455	12196	14859	9725	10860	6249	66344
55 - 59	9238	8451	11018	7146	7888	4669	48410
60 - 64	7201	7554	9937	6584	8014	4394	43684
65 - 69	4500	6041	7666	4417	5725	2863	31212
70 - 74	4006	6133	6216	3862	5473	3000	28690
75 - 79	2273	3415	3733	2229	3346	1666	16662
80 - 84	1818	2712	3115	1646	2595	1546	13432
85 +	1082	1651	1861	980	1532	673	7779
Total	438507	537077	526911	294969	430516	270388	2498368

Table 2: Age distribution in five - year intervals by district: Female

Age group	Mopani	Vhembe	Capricon	Waterberg	Sekhukhune	Bohlabela	Total
0 - 4	52862	69254	65790	33261	58329	36752	316248
5 - 9	64337	84640	78763	36255	69019	42712	375726
10 - 14	69218	86823	83483	37351	72457	45281	394613
15 - 19	63675	79471	76800	36180	68007	40936	365069
20 - 24	48484	60755	53002	28483	47044	30756	268524
25 - 29	41567	50927	44121	26758	35598	24776	223747
30 - 34	34345	39719	37360	21531	28708	20517	182180
35 - 39	32676	37349	35690	20504	28197	17987	172403
40 - 44	26679	31309	28637	16352	22809	13976	139762
45 - 49	22631	24983	24193	14099	20665	12042	118613
50 - 54	15503	18542	19928	10519	18090	8962	91544
55 - 59	10446	12619	15841	78001	14090	6378	67175
60 - 64	12667	13346	17251	8938	13934	6968	73104
65 - 69	9968	16264	14075	6905	11661	6326	65199
70 - 74	9477	16077	13547	6178	11935	6455	63669
75 - 79	4181	7936	6917	3232	5741	2605	30612
80 - 84	4425	7722	7428	2909	5912	2489	30885
85 +	2588	5069	4952	1926	4475	1432	20442
Total	525728	662802	627781	319181	536670	327351	2999513

Source: <http://www.Statssa.gov.za/extract.htm>
Date accessed: 18 Augustus 2004

Table 3: Age distribution in five - year intervals by district: Limpopo

Age group	Mopani	Vhembe	Capricon	Waterberg	Sekhukhune	Bohlabela	Limpopo
0 - 4	104672	138824	130846	66355	116037	72546	629280
5 - 9	127351	168208	157646	73325	137470	84887	748887
10 - 14	137187	172163	165896	74626	144087	90225	784184
15 - 19	125893	158245	152718	71837	134037	81542	724272
20 - 24	90811	112378	99154	54891	84514	56028	497776
25 - 29	72109	86056	75820	50052	58618	41189	383844
30 - 34	58524	66710	63486	41027	46459	33620	309826
35 - 39	53568	61544	59861	38587	44483	29067	287110
40 - 44	44343	50100	49328	32044	36939	22604	235358
45 - 49	37950	39927	41590	26410	33272	19356	198505
50 - 54	27957	30737	34788	20243	28951	15210	157886
55 - 59	19684	21070	26860	14947	21978	11047	115586
60 - 64	19867	20900	27188	15522	21948	11362	116787
65 - 69	14468	22305	21741	11322	17386	9190	96412
70 - 74	13483	22210	19763	10040	17407	9454	92357
75 - 79	6454	11351	10650	5461	9086	4271	47273
80 - 84	6244	10433	10543	4555	8507	4034	44316
85 +	3670	6720	6813	2906	6007	2105	28221
Total	964235	1199879	1154691	614150	967186	597739	5497880
					745469	595203	5273639

Source: StatsSA (2001)

According to StatsSA (1998, 22 – 24) Limpopo province had a total population of 4 929 368. This total consisted of 2 253 072 males and 2 676 296 females. Using the figures for Census 1996 and Census 2001, growth rates for the male and female populations are derived by use of the following formula.

$$Population_{t+n} = population_t e^{nr} \quad (1)$$

Where :

- n is the length of time;
- r is the rate of population growth;
- e is the base of natural logarithm which is equal to 2.71828;
- P_{t+n} is the size of the population at time (t + n) and;
- P_t is the size of the population at time t.

See Kpedekpo (1982: 25).

Results emanating from the calculations involving the above formula indicate that the female population grew at a rate of approximately 2.3% per year while the male population grew annually by 2.1%. The provincial population grew at an annual average rate of 2.18%. The annual growth rates for males and females are used to project the mid – year population for Limpopo province as of September 2004 – the financial mid-year. This is done by taking into consideration the period that has elapsed between the census date and September 2004 - time between October 2001 and September 2004 which is close to 2 years and 11 months or 2.9 years. The mid-year population is then projected using the formula in equation 2 below.

$$\text{Population}_{\text{September 2004}} = \text{Population}_{2001} * e^{2.9*r} \quad (2)$$

From equation (2) the female population is estimated as follows:

$$\text{Population}_{\text{September 2004}} = 2999709 * e^{2.9*0.022816306}$$

$$= 2999709 \times 1.068156449$$

$$= 3\,204\,159$$

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The ratio of the projected figure to the census figure is used to adjust the census figures as indicated in Table 4 below. The same procedure is applied to the male population. In that breath, the adjustment factor for the female population is:

$$\text{Adjustment factor} = \frac{3204159}{2999709} = 1.068156611$$

Applying the procedure above to the male population, an estimated figure of 2 652388 males is obtained, with an adjustment factor of 1.061726438.

The results of the whole exercise, disaggregated by age and sex, are provided in Table 4.

Table 4: Mid - year population estimates for Limpopo province

Age group	Male population Oct. 2001 (1)	Estimated males, September 2004 (2) = (1) x 1.061771925	Female population Oct. 2004 (3) =	Estimated females, September 2004 (4) = (3) x 1.068365098	Males & females (5) = (2) + (4)
0 - 4	313032	332369	316248	337868	670237
5 - 9	373161	396212	375726	401413	797625
10 - 14	389574	413639	394613	421591	835230
15 - 19	359202	381391	365069	390027	771418
20 - 24	229251	243412	268524	286882	530294
25 - 29	160097	169986	223747	239043	409029
30 - 34	127646	135531	182180	194635	330166
35 - 39	114706	121792	172403	184189	305981
40 - 44	95594	101499	139762	149317	250816
45 - 49	79891	84826	118613	126722	211548
50 - 54	66344	70442	91544	97802	168244
55 - 59	48410	51400	67175	71767	123167
60 - 64	43684	46382	73104	78102	124484
65 - 69	31212	33140	65199	69656	102796
70 - 74	28690	30462	63669	68022	98484
75 - 79	16662	17691	30612	32705	50396
80 - 84	13432	14262	30885	32996	47258
85 +	7779	8260	20442	21840	30100
Total	2498368	2542697	2999513	3204575	5747272

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3. Estimates by district municipality

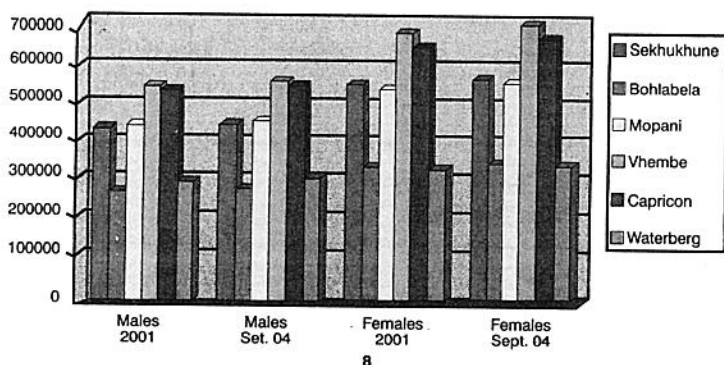
Data for Census 2001 can be disaggregated by district municipality. The proportions of males and females in a particular district are used as weights in proportionately disaggregating the mid – year population estimates in Table 4.

Table 5 provides the province's population statistics by district municipality and the results emanating from the disaggregating process while Figure 1 shows the estimates pictorially.

Table 5: Mid - year population estimates for Limpopo province by sex and district

Age group	Males 2001 (1)	Proportion of each district as weights (2)	Estimated males September 2004 (3) = (2) x 2542697	Females (2001) (4)	Proportion as weights (5)	Estimated females Sept. 2004 (3) = (5) x 3204575
Sekhukhune	430516	0.172319	438155	536670	0.178919	573359
Bohlabela	270388	0.108226	275186	327351	0.109135	349731
Mopani	438507	0.175517	446287	525728	0.175271	561669
Vhembe	537077	0.214971	546606	662802	0.22097	708115
Capricon	526911	0.210902	536260	627781	0.209294	670698
Waterberg	294969	0.118065	300204	319181	0.106411	341002
Total	2498368		2542697	2999513		3204575

Figure 1: Census 2001 and Mid - year population estimates for Limpopo province by sex and district



5. ESTIMATION OF THE MALE AND FEMALE POPULATIONS FOR LIMPOPO PROVINCE WITHOUT PORTIONS FALLING UNDER MPUMALANGA

Results of the census conducted in 2001 indicate that Limpopo province had a population of 5 273 642. The population had risen from 4 929 368, a figure reported for the province as per Census 1996. These two population figures indicate the population within Limpopo province, excluding the people who fall under Sekhukhune and Bohlabela within Mpumalanga province. Table 6 provides the census information in respect of the two censuses, disaggregated by sex.

Table 6: Census figures for Limpopo province

Census date	0.172298		Total
	Male	Female	
9 - 10 October 1996	2253072	2676296	4929368
9 - 10 October 2001	2394806	2878833	5273639

Source: Statistics South Africa (1998: 22); Source Statistics South Africa (2003: 28),

From the figures in Table 6 and, using the formula in equation (1), the female population of Limpopo is found to have grown at annual rate of 1.46% while the male population grew annually by 1.22%. These growth rates are used to project the province's population as of First September 2004. Taking into consideration the period between Census 2001 and September 2004 (i.e. 2.9 years) and, using the formula in equation (2), the female population is estimated at 3003295 while the male population is estimated at 2481028. The ratios of the population estimates to the figures of Census 2001 in respect of both sexes provide adjustment factors to estimate the population by age group. This process and its results are shown in Table 7 below.

Table 7: Mid - year population estimates for Limpopo province by sex without portions falling under Mpumalanga

Age group	Male population Oct. 2001 (1)	Estimated males, September 2004 (2) = (1) x 1.036017949	Female population Oct. 2004 (3) =	Estimated females, September 2004 (4) = (3) x 1.043219596	Males & females (5) = (2) + (4)
0 - 4	299642	310434	302866	315956	626390
5 - 9	358783	371706	361202	376813	748519
10 - 14	374677	388172	379595	396001	784173
15 - 19	344880	357302	350696	365853	723155
20 - 24	219633	227544	257272	268391	495935
25 - 29	152986	158496	214425	223692	382188
30 - 34	122015	126410	174730	182282	308692
35 - 39	109690	113641	165428	172578	286219
40 - 44	91372	94663	134151	139949	234612
45 - 49	76175	78919	113751	118667	197586
50 - 54	63307	65587	87458	91238	156825
55 - 59	46302	47970	64247	67024	114994
60 - 64	41870	43378	70420	73464	116842
65 - 69	30004	31085	62972	65694	96779
70 - 74	27484	27474	61064	63703	92177
75 - 79	15788	16357	29289	30555	46912
80 - 84	12800	13261	29602	30881	44142
85 +	7419	7686	19640	20489	28175
Total	2394827	2481062	2878810	3003255	5484317

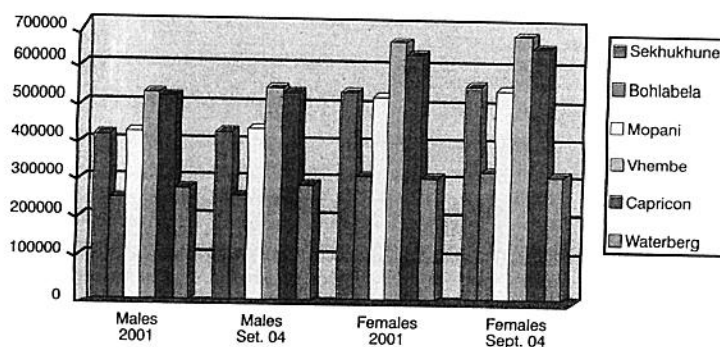
5. Estimates by district municipality excluding the population under Mpumalanga

Population estimates by district municipality are derived using the same method applied in the previous section. Data for Census 2001 is disaggregated by district municipality such that the proportions of males and females in a particular district are used as weights in proportionately disaggregating the mid - year population figures. Table 8 provides the province's population statistics by district municipality and the results emanating from the disaggregating process. The estimates together with the figures for Census 2001 are presented in Figure 2.

Table 8: Estimated by district municipality without the population under Mpumalanga province

District	Males 2001 (1)	Proportion of each district as weights (2)	Estimated males September 2004 (3) = (2) x 2481062	Females (2001) (4)	Proportion as weights (5)	Estimated females Sept. 2004 (3) = (5) x 3003255
Sekhukhune	328461	0.137167	340319	417008	0.144844	435003
Bohlabela	269089	0.112373	278804	326114	0.113273	340187
Mopani	438390	0.183074	454217	525840	0.182646	548531
Vhembe	537041	0.224271	556429	662839	0.230231	691442
Capricon	526689	0.219948	545703	628001	0.21813	655101
Waterberg	294942	0.123169	305590	319216	0.110877	332991
Total	2394612		2481062	2879018		3003255

Figure 2: Census 2001 and Mid - year population estimates for Limpopo province by sex and district without the population under Mpumalanga province



NOTE: These estimates have been derived using growth rates derived at provincial level. The user of these figures should bear in mind that actual growth rates at district level are likely to vary a bit from the provincial rates.

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