

Mpumalanga Provincial Government



Department of Agriculture and Land Administration

Integrated Resource Information Report

Albert Luthuli

06 May 2005

**RESOURCE MANAGEMENT AND LAND USE PLANNING
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Albert Luthuli

Summary

Albert Luthuli is situated in the eastern part of Mpumalanga highveld and escarpment. Major towns in the area are Carolina, Badplaas, Elukwatini and Dundonald. Moderate summers and cold winters characterize the climate of the area. The annual rainfall increases from west to east from as little as 600 mm to more than 1 600 mm. The area of 5 600 km² is covered mainly by grassland, with small patches of tropical forest in the lower lying areas. Mixed farming is practiced in the area. Cattle, sheep, maize, sunflower seed, soybeans, tobacco and vegetables are produced. Commercial forest plantations cover large part of the steep slopes on the escarpment. An irrigation scheme was developed at the Vygeboom Dam near Badplaas. The Komati River drains the largest part of the area towards the east. The Nooitgedacht and Vygeboom Dams are situated in the Komati River. The area has various tourist attractions, most notably is the mineral springs at Badplaas and the Songimvelo Nature Reserve.

GENERAL INFORMATION

Common Name(s)	Carolina / Eerstehoek
Area	557,279.0 ha
Coordinates	29°47'24"E 25°42'36"S 31°08'24"E 26°32'24"S
District Municipality	Gert Sibande District Municipality
Region	Gert Sibande Region
Towns	

Name

Carolina
Dundonald
Elukwatini
Mlondozi
Mswati

Neighbouring Municipalities

Name

Emakhazeni

Mbombela
Mkhondo
Msukaligwa
Steve Tshwete
Umjindi

Natural Resources

Climate

Rainfall

Rainfall Range 650 to 1,600 mm per year

Temperature

Temperature Zone 46/14

	DJF	Mar	Apr	May	JJA	Sep	Oct	Nov
T	17.3	16.2	13.4	9.5	7.4	11.3	14.9	16.3
Tn	12.8	11.7	8.6	4.7	2.8	6.7	10.2	11.8
Td	21.8	20.7	18.2	14.3	12	15.9	19.6	20.8
Tmax	24.4	23.3	20.9	17	14.6	22.3	22.3	23.4
Tmin	10.2	9.1	5.8	2	1.7	4.1	7.5	9.2

Temperature Zone 46/25

	DJF	Mar	Apr	May	JJA	Sep	Oct	Nov
T	17.3	16.7	15.3	13.1	11.9	14	15.9	16.8
Tn	12.8	12.1	10.5	8.4	7.2	9.5	11.5	12.2
Td	21.8	21.3	20.1	17.8	16.6	18.5	20.3	21.4
Tmax	24.4	23.9	22.8	20.5	19.3	21	22.8	24
Tmin	10.2	9.5	7.8	5.7	4.5	6.3	9	9.6

Temperature Zone 57/14

	DJF	Mar	Apr	May	JJA	Sep	Oct	Nov
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T	20	17.5	13.8	10	7.4	13.9	17.6	18.9
Tn	17.6	14.8	10.1	5.6	2.7	10.2	14.9	16.2
Td	22.4	20.2	17.5	14.4	12.1	17.6	20.3	21.6
Tmax	23.8	21.7	19.6	16.9	14.8	19.7	21.8	23.2
Tmin	16.2	13.3	8	3.1	0	8.1	13.7	14.7

Temperature Zone 57/25

	DJF	Mar	Apr	May	JJA	Sep	Oct	Nov
T	20	19.2	16.9	13.8	11.9	15.7	18	19.3
Tn	17.6	16.5	13.4	9.5	7.2	11.5	15.2	16.6
Td	22.4	21.9	26.4	18.1	16.6	19.9	26.8	22
Tmax	23.8	23.4	22.4	26.6	14.3	22.3	22.4	23.5
Tmin	16.2	14.9	11.4	7.1	4.5	9.1	13.8	15.1

Temperature Zone 67/35

	DJF	Mar	Apr	May	JJA	Sep	Oct	Nov
T	21.5	20	17.9	15.6	14.2	18	20.1	20.8
Tn	17.5	15.5	12.6	9.4	7.4	12.7	15.6	16.6
Td	25.5	24.5	23.2	21.8	21	23.7	24.6	25
Tmax	27.8	27.1	26.2	25.3	24.9	26.3	27.2	27.4
Tmin	15.2	12.9	9.6	5.9	3.5	9.7	13	14

Temperature Zone 77/35

	DJF	Mar	Apr	May	JJA	Sep	Oct	Nov
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T	23.6	21.8	18.9	16	14.3	18.9	21.9	22.6
Tn	17.6	15.8	12.7	9.4	7.5	12.8	15.9	16.8
Td	29.6	27.8	25.1	22.6	21.1	25	27.9	28.4
Tmax	33	31.2	28.6	26.4	25	28.5	31.3	31.4
Tmin	14.2	12.4	9.2	5.6	3.6	9.5	12.4	13.5

T - Average Temperature

Tn - Average Night Temperature

Td - Average Daily Temperature

Tmax - Average Maximum Temperature

Tmin - Average Minimum Temperature

Soils

Land Types

Land Type	Area (ha)	%
Duplex soils with red B horizons (Da)	1,416.5	0.3
Dystrophic and/or mesotrophic; red soils not widespread (Bb)	65,789.0	11.8
Dystrophic and/or mesotrophic; red soils widespread (Ba)	75,353.5	13.5
Pedologically young soils (lime rare or absent) (Fa)	203,166.7	36.5
Red and yellow dystrophic and/or mesotrophic (Ac)	180,939.1	32.5
Red, dystrophic and/or mesotrophic (Ab)	5,883.4	1.1
Red, high base status > 300 mm deep (no dunes) (Ae)	19,460.3	3.5
Yellow, dystrophic and/or mesotrophic (Ad)	4,486.0	0.8

Soil Clay Contents

ClayClass	Area (ha)	%
Clay	4,700.9	0.8
Clayey	27,233.1	4.9
Loam	159,810.1	28.7
Loam & Clay	118,233.7	21.2
Loamy Sand	51,269.3	9.2

No Data	80.8	0.0
Non-perennial pans	224.6	0.0
Sandy	39,333.9	7.1
Sandy Loam	80,843.9	14.5
Very Clayey	0.5	0.0
Very Sandy	71,426.3	12.8
Waterbodies	4,122.3	0.7

Soil Depth

Soil Depth Class	Area (ha)	%
Deep	45,086.1	8.1
Medium Deep	32,572.1	5.8
Medium Shallow	73,795.6	13.2
No Data	69.1	0.0
Non-perennial pans	224.6	0.0
Shallow	38,065.4	6.8
Steep Slopes	154,825.6	27.8
Very Deep	167,340.9	30.0
Very Shallow	36,159.7	6.5
Very Steep Slopes	5,017.8	0.9
Waterbodies	4,122.3	0.7

Soil Form Association

Soil Form Association Class	Area (ha)	%
Ar, My, Va	1,460.3	0.3
Ar-dominant	235.2	0.0
Av, Gc, We, Cv	30,853.3	5.5
Es, Gs, Cf	25,362.5	4.6

Gs, Cf, Es	60,841.5	10.9
Hu (30%), Sd (30%)	65,818.9	11.8
Hu, Av, Cv, Gc	68,019.9	12.2
Hu, Sd, Sw, Gs	17,187.2	3.1
Hu-dominant	160,835.1	28.9
Lithosols, Cv, Gc, Hu	4,212.2	0.8
Lithosols, Cv, Va	4,839.5	0.9
Lithosols, Hu, Cv, Gc	20,378.1	3.7
Lithosols, Hu, Cv, Sd, Sw	66,482.2	11.9
No Data	69.1	0.0
Non-perennial pans	224.6	0.0
Rg, Ar	16,229.3	2.9
Sd, Bo, My, Ar, Hu	10,108.0	1.8
Waterbodies	4,122.3	0.7

Topography

Elevation

Range (m)	Area (ha)	%
701 - 800	1,588	0.3
801 - 900	7,938	1.4
901 - 1000	15,877	2.8
1001 - 1100	17,465	3.1
1101 - 1200	15,877	2.8
1201 - 1300	19,052	3.4
1301 - 1400	31,754	5.7
1401 - 1500	47,631	8.5
1501 - 1600	66,683	12.0

1601 - 1700	230,215	41.3
1701 - 1800	103,200	18.5

Slope

Class	Area (ha)	%
Level (0 - 3%)	120,762	21.7
Moderate (4 - 15%)	264,791	47.5
Steep (16 - 25%)	74,230	13.3
Very Steep (25+%)	97,496	17.5

Vegetation

Acocks Veld Type (1975)

Acocks Veld Type	Area (ha)	%
Bankenveld (61)	13,410	2.4
Lowveld Sour Bushveld (9)	21,773	3.9
North-eastern Mountain Sourveld (8)	7,488	1.3
North-eastern Sandy Highveld (57)	234,132	42.0
Piet Retief Sourveld (63)	280,477	50.3

Water Resources

Dams

Dam	Primary Drainage Region	River	Capacity
Nooitgedacht	Crocodile/Komati	Komati	78.7
Vygeboom	Crocodile/Komati	Komati	78.3

Drainage Regions

Drainage Region / Catchment			Area	%
Primary	Secondary	Tertiary		

Elands	Elands	Elands River	1,521.1	0.3
Elands	Elands	Shiyalongube River	52.0	0.0
Komati	Komati	Komati River	288.0	0.1
Komati	Komati	Seekoei Spruit	233,093.3	41.8
Komati	Komati	Upper Komati	231,609.7	41.6
Usutu	Usutu	Mbuluzi River	56,461.9	10.1
Usutu	Usutu	Small Usutu River	27,738.9	5.0
Usutu	Usutu	Usutu River	4,933.9	0.9
Olifants	Olifants	Klein Olifants River	1,580.4	0.3

Land Utilisation

Land Cover (1995)

Class	Area (ha)	%
Barren rock	96.6	0.0
Cultivated: temporary - commercial dryland	37,817.3	6.8
Cultivated: temporary - commercial irrigated	7,539.6	1.4
Cultivated: temporary - semi-commercial/subsistence dryland	8,258.2	1.5
Degraded: thicket & bushland (etc)	1,149.6	0.2
Degraded: unimproved grassland	15,108.0	2.7
Dongas & sheet erosion scars	54.8	0.0
Forest	45.6	0.0
Forest plantations	86,436.3	15.5
Mines & quarries	183.7	0.0
No Data	13.3	0.0
Thicket & bushland (etc)	33,083.1	5.9
Unimproved grassland	358,068.4	64.3
Urban / built-up land: residential	5,900.7	1.1
Waterbodies	2,968.3	0.5
Wetlands	555.7	0.1

Silos

Silo	Owner	Commodities	Capacity (Ton)
Badplaas	OTK		
Carolina	OTK	Maize (White & Yellow), Soya beans	82,058

Co-operatives

Location	Co-operative
Badplaas	Laeveld Korporasie (LK)
Carolina	OTK

Conservation Areas

Name	Authority	Area (ha)
E.T.T.C. Nature Reserve		
Nooitgedacht Dam Nature Reserv	Mpumalanga Parks Board	2962
Overvaal Nature Reserve	Aventura	
Songimvelo Nature Reserve	Mpumalanga Parks Board	3375

Demographic Information

Population Distribution and Dynamics

Population Group (Dominant)

	2001	1996
African	184,576	177,481
Coloured	297	258
Indian	251	279
White	2,812	3,239
Total	187,936	182,348

Home Language (Dominant)

	2001	1996
Afrikaans	2,901	3,139
English	684	524
IsiNdebele	1,977	1,230
IsiXhosa	732	455
IsiZulu	63,643	61,475
Sepedi	983	476
Sesotho	1,086	764
Setswana	465	134
SiSwati	114,465	111,999
Tshivenda	78	12
Xitsonga	592	511
Other	329	263

Place of Birth

	2001	1996
RSA	186,097	

SADC (Excluding RSA)	1,669
RestAfrica	22
Europe	67
Asia	64
North America	9
Central/South America	7
Australia/New Zealand	0

Citizenship

	2001	1996
RSA	187,330	181,945
SADC (Excluding RSA)	529	298
Rest of Africa	10	11
Europe	20	2
Asia	64	0
North America	9	4
Central/South America	4	1
Australia/New Zealand	0	0

Demographic Characteristics

Age

	2001	1996
Age 0 - 4	22,763	24,075
Age 5 - 14	53,555	53,108
Age 15 - 34	64,484	61,810
Age 35 - 64	38,073	32,419
Age 65+	9,060	8,163

Gender

	Males		Females	
	2001	1996	2001	
0 to 4	11,417	11,789	0 to 4	11,347
5 to 14	26,563	26,347	5 to 14	26,992
15 to 34	29,374	27,762	15 to 34	35,110
35 to 64	15,484	13,564	35 to 64	22,588
Over 65	3,391	3,237	Over 65	5,670
Total	86,229	82,699	Total	101,707

Persons with Disabilities

	2001	1996
Sight	2,950	7,312
Hearing	1,515	2,585
Communication	366	
Physical	3,107	3,632
Intellectual	772	1,034
Emotional	1,399	
Multiple	1,171	710

Socio-Economic

Highest Level of Education

	2001	1996
None	31,402	31,928
Some Primary	13,842	11,725
Complete Primary	4,414	5,002
Secondary	19,432	19,698
Grade12	12,086	8,056
Higher	3,910	2,508

Persons Attending Education Institutions

Institution	2001	1996
None	20,364	
Pre-school	2,565	
School	72,692	
College	110	
Technikon	94	
University	63	
Adult Education Centre	91	
Other	52	

Economic Active Population

	2001	1996
Employed	20,537	20,847
Unemployed	22,458	22,507
No Economical Active	60,339	
Total Labour Force	42,995	

Industry

	2001	1996
Agriculture/Forestry/Fishing	5,556	5,540
Community/Social/Personal	4,677	3,942
Construction	1,096	1,027
Electricity/Gas/Water	209	310
Financial/Insurance/Real Estate/Business	717	596
Manufacturing	1,504	1,043
Mining/Quarrying	685	1,964
Other	0	

Private Households	1,713	1,991
Transport/Storage/Communication	702	1,127
Undetermined	1,282	1,840
Wholesale/Retail	2,392	2,138

Occupation

	2001	1996
Clerks	1,005	805
Craft/Trade	1,971	2,252
Elementary	7,048	7,355
Legislators/Senior Officials	614	727
Unspecified/Not Economically Classified	0	
Plant/Machine Operators	1,855	2,294
Professionals	881	2,289
Service Workers	1,779	1,879
Agricultural/Fishery	2,100	
Technicians	2,248	683
Undetermined	1,040	

Individual Monthly Income

	2001	1996
None	147,184	136,306
R 1 to R 400	13,139	5,031
R 401 to R 800	17,450	19,849
R 801 to R 1,600	4,044	2,867
R 1,601 to R 3,200	3,103	1,860
R 3,201 to R 6,400	1,948	2,139
R 6,401 to R 12,800	621	326
R 12,801 to R 25,600	161	78

R 25,601 to R 51,200	63	55
R 51,201 to R 102,400	62	21
R 102,401 to R 204,800	145	
R 204,801+	16	

Travel to work

	2001	1996
Bicycle	503	
Bus	3,568	
Car Driver	2,134	
Car Passenger	3,721	
Minibus/Taxi	3,441	
Motorcycle	292	
Train	222	
NA	92,521	
Foot	80,882	
Other	653	

Households and Housing

Household Size (Average)

Household Size	2001	1996
1	6,035	
2	5,253	
3	5,242	
4	5,428	
5	4,794	
6	3,844	
7	2,935	
8	2,042	

9	1,464
10+	2,637

Dwelling Type (Dominant)

	2001	1996
Formal	23,187	17,693
Informal	2,670	2,937
Traditional	13,748	14,445
Other	70	60

Rooms per Household (Average)

Room(s)	2001	1996
1	2,636	2,869
2	4,954	4,377
3	5,143	4,798
4	9,548	9,406
5	5,480	4,758
6	5,213	4,622
7	2,796	1,997
8	1,745	1,340
9	952	542
10 +	1,209	646

Household Income

	2001	1996
None	12,357	7,785
R 1 to R 4,800	6,352	4,940
R 4,801 to R 9,600	10,132	8,010

R 9,601 to R 19,200	5,998	7,748
R 19,201 to R 38,400	3,268	2,609
R 38,401 to R 76,800	1,795	946
R 76,801 to R 153,600	770	478
R 153,601 to R 307,200	257	241
R 307,201 to R 614,400	75	46
R 614,401 to R 1,228,800	51	
R 1,228,801 to R 2,457,600	93	
R 2,457,600+	38	

Energy Source for Cooking (Dominant)

	2001	1996
Electricity	8,361	
Gas	689	
Paraffin	3,023	
Wood	20,265	
Coal	6,871	
Animal Dung	191	
Solar	79	
Other	197	

Energy Source for Lighting (Dominant)

	2001	1996
Electricity	19,987	8,841
Gas	266	579
Paraffin	968	2,372
Candles	18,130	23,390
Solar	81	
Other	243	0

Access to Piped Water (% Households)

	2001	1996
Dwelling	3,373	5,440
Inside Yard	15,134	8,847
Communal Stand	5,724	8,931
Communal Stand 200m+	5,865	
Borehole	1,554	2,230
Spring	1,708	7,697
Rain Tank	388	1,820
Dam/Pool/Stagnant Water	657	
River/Stream	3,409	
Water Vendor	301	
Other	1,562	326

Toilet Facilities (% Households)

	2001	1996
Flush Toilet	5,077	4,496
Flush Septic Tank	890	
Chemical Toilet	1,023	
VIP	8,317	
Pit Latrine	19,853	26,896
Bucket Latrine	1,425	1,311
None	3,090	2,574

Telephone Facilities (% Households)

	2001	1996
Telephone and Cellphone	1,794	
Telephone	1,796	2,176
Cellphone	8,224	

Neighbour	3,401	1,824
Public Telephone	17,999	18,329
Other Nearby	2,324	3,136
Other Not Nearby	1,454	5,261
No Access	2,683	4,543

Refuse Removal (% Households)

	2001	1996
Municipal Weekly	4,879	4,238
Municipal Other	574	267
Communal Dump	443	1,846
Own Dump	27,139	23,613
No Disposal	6,640	4,751

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