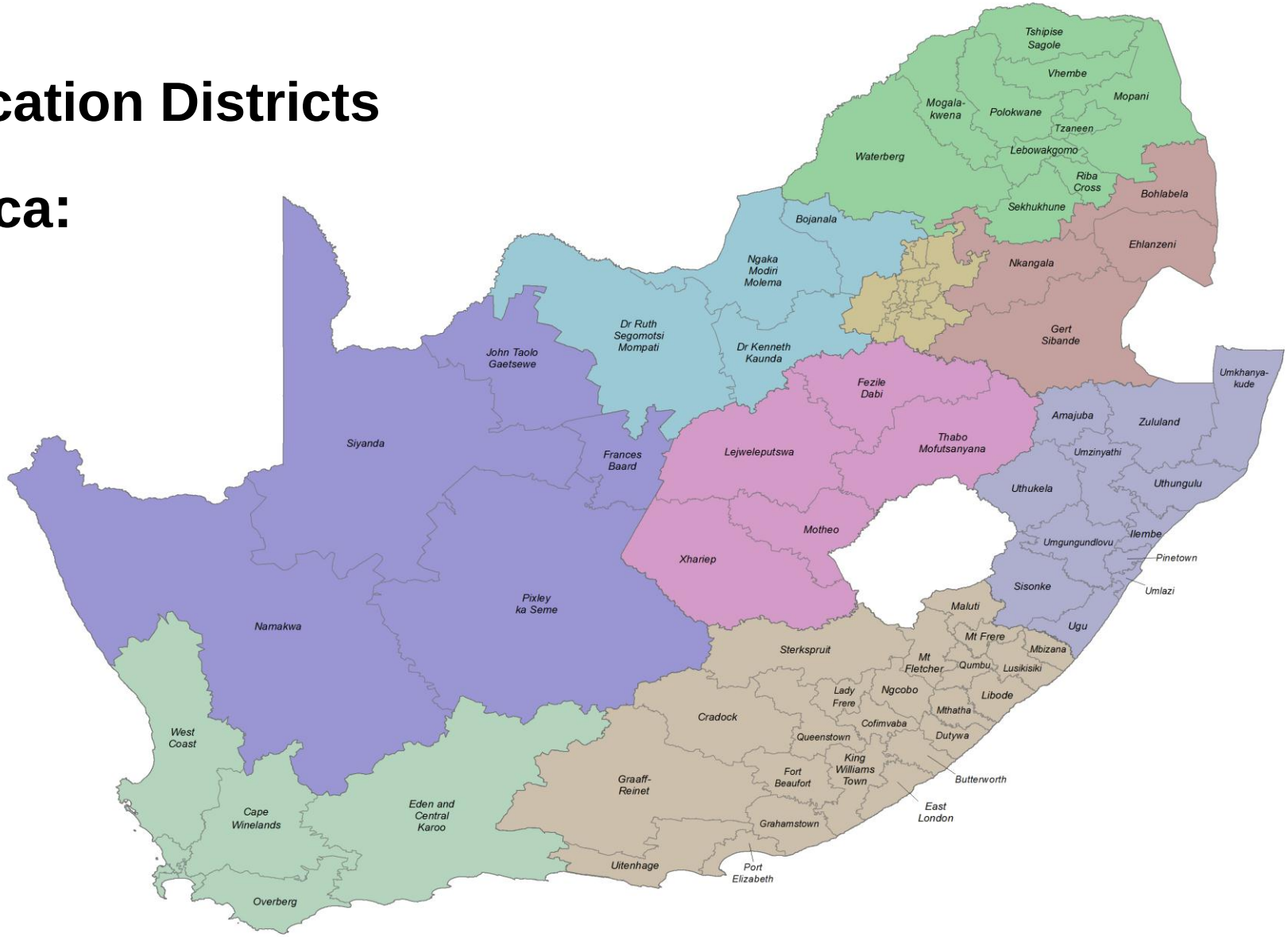
Atlas of Education Districts

in South Africa:



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unicef

Data Sources Used

The following data sources were used in the preparation of this report:

- Annual National Assessment, 2011 and 2012. Department of Basic Education
- Annual Survey, Ordinary Schools, 2011. Department of Basic Education
- Census 2011 and Census 2001. Statistics South Africa
- List of district offices, district directors, physical locations and contact details. Department of Basic Education
- List of No-Fee Schools and Quintiles. Department of Basic Education
- Matriculation Results, 2008-2012. Department of Basic Education
- National Education Infrastructure Management System (NEIMS), Department of Basic Education
- Schools Masterlist. Department of Basic Education
- SNAP Survey, Ordinary Schools, 2007-2012. Department of Basic Education

Data from the 2011 Census was extracted at local government ward level using Supercross software. This produced data for 4277 wards, which were then assigned to education districts based on the district within which each ward centroid was located.

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Executive Summary

The Department of Basic Education(DBE) commissioned a specialist Geographical Information Systems (GIS) service provider in 2012 to use a range of complementary datasets to provide graphical and descriptive representations of various variables relating to schools and education districts.

The result is a report which explores, in some detail, a series of chapters on district composition and a number of variables that impact on schools and districts in both single factor and in comparative tables and graphics. The factors which are explored include the profiling of education districts, performance of schools and districts in both Matric and ANAs, poverty indices for districts, infrastructure issues at school level, social issues at learner level and teacher profiles. The result is a comprehensive overview of education districts and their schools. The graphs, maps and tables are intended to assist the reader in understanding the data and relationships, while the analysis in the report and the data implications section puts the data into context. The analysis is particularly aimed at drawing out the policy and practice implications of the data presented in the report.

Much of the data is familiar to education professionals, however the way that it is treated and some of the comparative tables and graphics give new importance to the data, while some of the analysis will be new to most readers. This is particularly true of the sections on years of learner effort to achieve a single Matric pass, the quintile 1 schools which score over 80% in Matric, the number of quintile 1 schools in the system, the way that most indicators get worse the further east one goes in South Africa, and the inferences that can be drawn from the intra-district variations, particularly in higher performing wealthier provinces.

This report, which is deliberately written and presented in an accessible style, comes at an opportune moment as the Ministry of Basic Education focuses on the role of districts in the system and the Policy on the Organisation, Roles and Responsibilities of Education Districts is promulgated. The report provides data to allow this policy to be activated and also indicates some of the challenges provinces will face in implementing it, such as downsizing over-sized districts while ensuring that their districts are properly staffed so they can fulfill the roles assigned them by the policy. The report leads to a number of proposed policy and practice-based recommendations for the Department, as follows:

- Engage with the new *Policy on the Organisation, Roles and Responsibilities of Education Districts* in relation to staffing, overlarge districts etc.
- Develop a publicly available website on districts encouraging a greater use of data
- Review the current Quintile allocations of schools using 2011 Census data
- Accurately analyses circuits information based on map
- Update the NEIMS database systematically to provide a current estimate of infrastructure backlogs
- Consider a task team/commission to investigate the issue of ‘small schools’ and school closures thoroughly
- Develop and implement a district education management information system (DEMIS) and related district level dashboards which include various indicators
- Investigate anomalies in ANA results, particularly where there is divergence between Matric and ANA results
- Ensure that efforts are made to reduce the high orphan and pregnancy rates in KwaZulu-Natal and parts of Mpumalanga and the Eastern Cape
- Intervene in districts where the choice of subjects in Matric is either inappropriate or designed to maximise the pass rate to the detriment of learner life choices
- Address and plan for the issue of ageing teacher in specific districts.

Introduction

In May 2012, the Chief Directorate: Strategic Planning, Research and Coordination at the national Department of Basic Education (DBE) published terms of reference for a 'specialist GIS (Geographical Information Systems) Service Provider'. The Terms of Reference (ToR) required the service provider to assist the department with developing district and school-based profiles and trends including information on the following:

- Interventions related to appropriate information on performance of districts and schools
- Contextual issues such as school-based socio-economic status, Curriculum and Assessment Policy Standards (CAPS), teacher, infrastructure, Learning and Teaching Support Material (LTSM), curriculum, subject offerings and other key appropriate and composite indicators
- Assist in developing a GIS-based tool to assist in the rationalisation of small schools where it is pedagogically appropriate

It was also indicated that detailed, specialised and graphically represented profiles of schools would be required as well as the development of composite indicators and mapping outputs. A key output that was needed was a report on schools and districts by composite index and profile in the country with graphical presentation.

This report is one of the key deliverables in response to the abovementioned ToR. It provides a detailed review of education districts in South Africa covering issues such as district size, demarcation, circuits, distance factors, performance, home languages, physical infrastructure, poverty levels, educators and within-district variation.

The preparation of this report has entailed the analysis, collation and synthesis of a wide range of databases currently residing within DBE, including the following:

- Annual Schools Survey
- SNAP Survey
- Matriculation Results
- NEIMS Infrastructure Survey
- Annual National Assessment data
- Socio-economic profiles of school communities from Statistics SA

The analysis has focused on describing differences between districts and creating and analysing indicators that show the relative performance of districts and their schools. Various contextual issues have been considered, including the geographical positioning of schools, and there has been extensive use of a Geographical Information System (GIS) in the analysis of distances as well as preparation of maps. The purpose of this data mining and interrogation exercise has been to isolate information that is of most value and present it to facilitate decision making and resource allocation. Maps, tables and statistical summaries have been provided to illustrate key data trends.

Some sections of this report are of an exploratory nature and subject to the constraints of data availability and reliability. There was a great deal of data that needed to be investigated, and it was necessary to consult with DBE and provincial Education Management Information System (EMIS) officials on matters relating to data quality and interpretation. In some cases, data quality varied from one province to the next and some data cleaning and interpolation was required.

Three separate reports have been prepared and submitted to DBE. They cover the issues of small schools, learner migration and education data quality. A series of large format posters have also been prepared illustrating issues such as Matric results, Annual National Assessments (ANA) results, and small and failing schools.

In recent years, there has been a concerted effort made in education to shift funding in favour of poor communities. In parallel with this has been a growing concern over the high cost of education and the need to achieve better value for money. The movement of population from rural provinces towards urban metropolis such as Gauteng and the Cape Metro has given rise to overcrowded urban schools and a greater incidence of unsustainable small schools in rural areas. Furthermore, the continued high cost of personnel places severe constraints on available resources for essential infrastructure, learning materials and teaching resources. These are all issues of crucial importance, and it is hoped that this report will provide some input to inform departmental priorities.

How to Read the Maps

Each map page in this document contains the following elements:

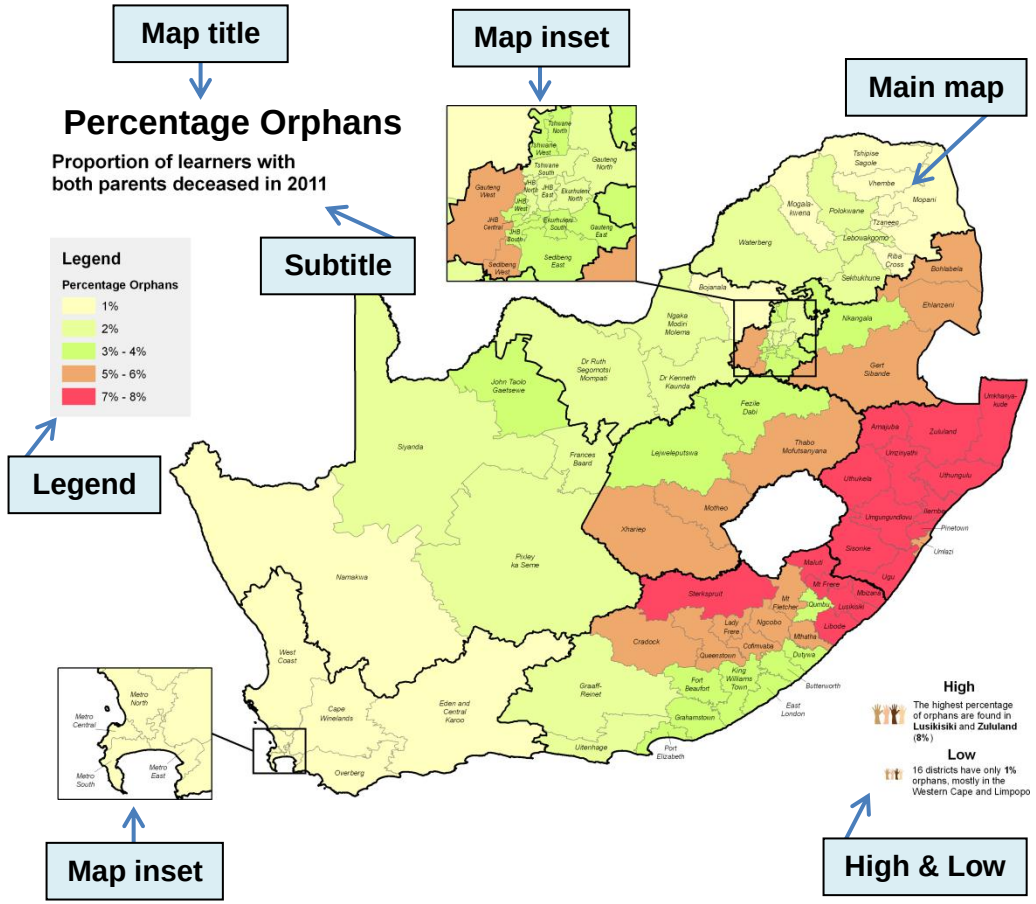
The map: Graduated colour shading is the method generally used to show information for each education district. This method is for numeric data with a range of values such as learner enrolment or Matriculation results. The districts on the map are represented by a colour ramp, which has a beginning and an end colour. The colours in between represent the intervening colours of the spectrum. This method involves classifying the districts into classes, each of which has a distinct colour on the map. Usually there are four or five classes, which are referenced in the legend e.g. 1-5, 6-10, 11-20, 21-30, 31-40.

Darker colours are used in the colour ramp to show districts that are worst off (e.g. have the worst Matric National Senior Certificate pass rate) or have the most of a particular value (e.g. learner enrolment). This method allows one to identify districts with the highest or worst-off values. The maps show the whole of South Africa, with inset maps for Gauteng and the Cape Metropolis.

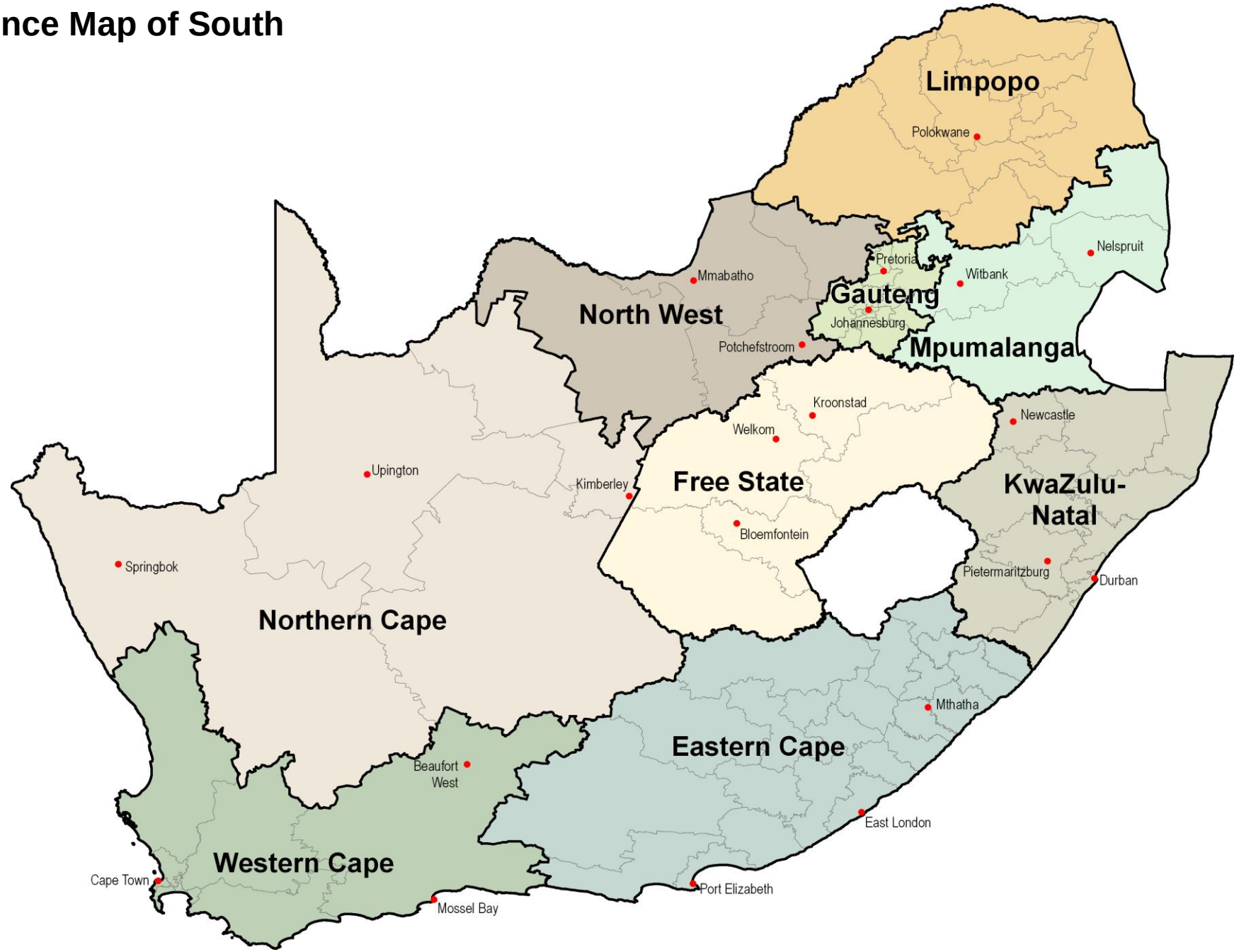
The map title: this appears at the top left-hand side of the map page. On some maps there is a subtitle underneath the title that provides further information.

The legend: This shows the colours and categories used to create the map. The darker colours show the highest numbers. For example, in the *Number of Schools per Education District* map they show districts with the highest number of schools. The colour red is often used to show the worst values. In the *Percentage Orphans* map, red indicates districts with the highest percentage of orphans.

High and low: These symbols are used to show education districts with the highest and lowest values for the attribute that is being mapped. They are symbolised with a large symbol for the 'Highs' and a small symbol for the 'Lows'.



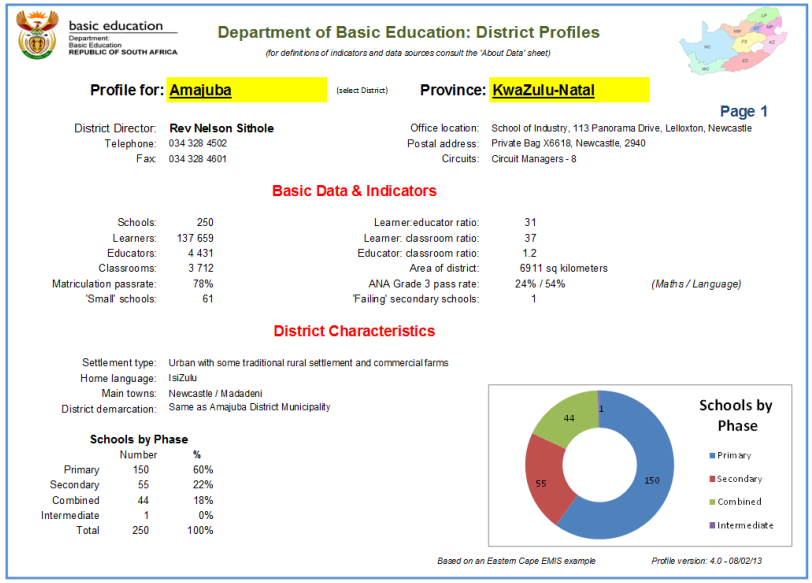
Reference Map of South Africa



Excel Statistical Profile

An Excel-based district profile tool has also been designed that contains all the data in this report, as well as additional information. The district statistical profile combines all the data for a single district into a 10 page report. It is recommended that this tool be referred to as a companion to this report.

The district profile tool incorporates EMIS data and indicators, district characteristics, enrolment trends, ANA data, Matriculation results, infrastructure provision, Census data and detailed district rankings. Users can select the district they wish to view by using the picklist at the top of the screen. Some examples of the profile data for a specific district (Amajuba in KwaZulu-Natal) are shown below and opposite:



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Department of Basic Education: District Profiles

(for definitions of indicators and data sources consult the 'About Data' sheet)

Profile for: Amajuba (select District) **Province:** KwaZulu-Natal

Page 1

District Director: Rev Nelson Sithole
Telephone: 034 328 4502
Fax: 034 328 4601

Office location: School of Industry, 113 Panorama Drive, Lelloxton, Newcastle
Postal address: Private Bag X6618, Newcastle, 2940
Circuits: Circuit Managers - 8

Basic Data & Indicators

Schools:	250	Learner:educator ratio:	31	
Learners:	137 659	Learner: classroom ratio:	37	
Educators:	4 431	Educator: classroom ratio:	1.2	
Classrooms:	3 712	Area of district:	6911 sq kilometers	
Matriculation passrate:	78%	ANA Grade 3 pass rate:	24% / 54%	*(Maths / Language)*
'Small' schools:	61	'Failing' secondary schools:	1	

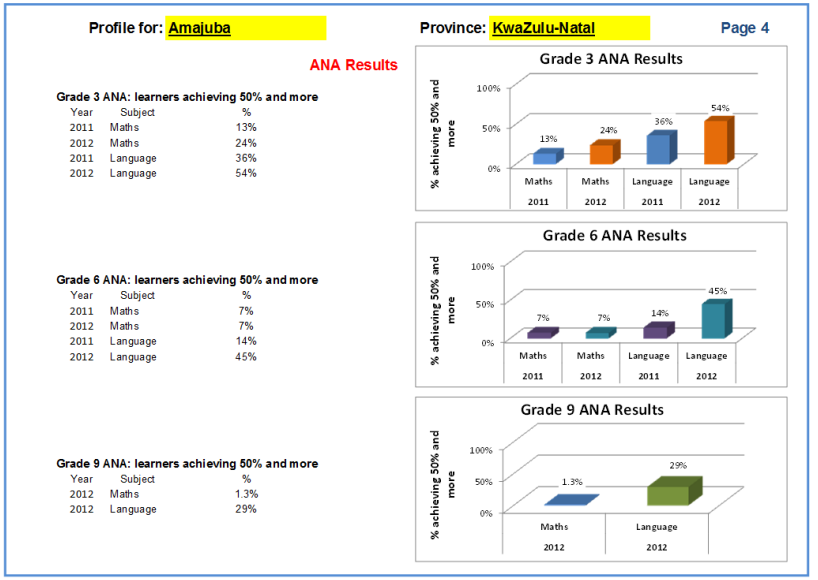
District Characteristics

Settlement type: Urban with some traditional rural settlement and commercial farms
Home language: IsiZulu
Main towns: Newcastle / Madadeni
District demarcation: Same as Amajuba District Municipality

Schools by Phase

	Number	%
Primary	150	60%
Secondary	55	22%
Combined	44	18%
Intermediate	1	0%
Total	250	100%

Based on an Eastern Cape EMIS example *Profile version: 4.0 - 08/02/13*



Profile for: Amajuba **Province:** KwaZulu-Natal Page 4

ANA Results

Grade 3 ANA: learners achieving 50% and more

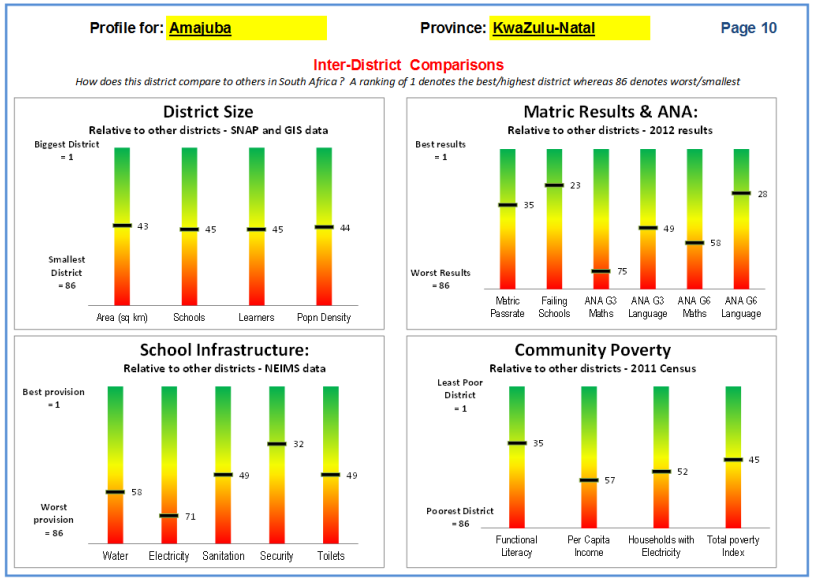
Year	Subject	%
2011	Maths	13%
2012	Maths	24%
2011	Language	36%
2012	Language	54%

Grade 6 ANA: learners achieving 50% and more

Year	Subject	%
2011	Maths	7%
2012	Maths	7%
2011	Language	14%
2012	Language	45%

Grade 9 ANA: learners achieving 50% and more

Year	Subject	%
2012	Maths	1.3%
2012	Language	29%



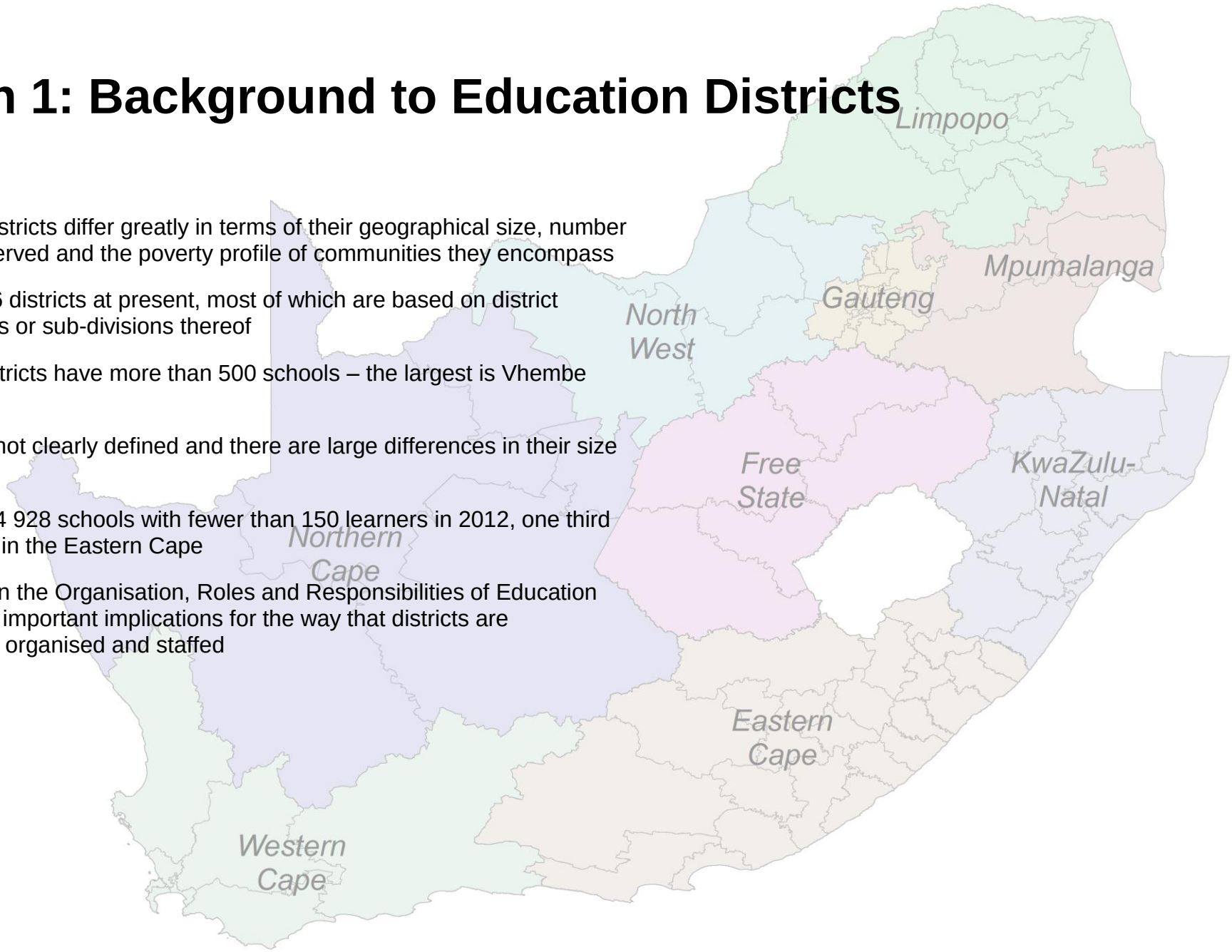
Profile for: Amajuba **Province:** KwaZulu-Natal Page 10

Inter-District Comparisons

How does this district compare to others in South Africa ? A ranking of 1 denotes the best/highest district whereas 86 denotes worst/smallest

Section 1: Background to Education Districts

- Education districts differ greatly in terms of their geographical size, number of schools served and the poverty profile of communities they encompass
- There are 86 districts at present, most of which are based on district municipalities or sub-divisions thereof
- Fourteen districts have more than 500 schools – the largest is Vhembe with 792
- Circuits are not clearly defined and there are large differences in their size and staffing
- There were 4 928 schools with fewer than 150 learners in 2012, one third of which are in the Eastern Cape
- The Policy on the Organisation, Roles and Responsibilities of Education Districts has important implications for the way that districts are demarcated, organised and staffed



1.1 The purpose of Education Districts

Education district offices provide the link between provincial education departments (PEDs) and the schools that they administer. They receive management authority from PEDs and in turn are accountable to PEDs for carrying out key functions.

Districts are usually responsible for dealing directly with schools, both in an administrative and management sense. They are also tasked with providing support to schools and ensuring that they are kept informed of provincial education priorities. From the point of view of schools, districts are often their only source of external support[1]. The Policy on the Organisation, Roles and Responsibilities of Education Districts[2] states that:

> 'Education districts are part of the provincial sphere of government. They have no original powers or functions prescribed by law but operate in terms of national and provincial legislation and provincial delegations. They are not empowered to raise their own revenues'.[3]

Individual provinces are responsible for the demarcation and staffing of education districts in terms of the Public Service Act, 1994[4]. Heads of Departments at Provinces usually determine the powers and responsibilities that district directors have. The policy outlines four main roles that district offices are meant to execute:

1. **Planning**: Collecting and analysing data to inform planning; assisting schools with preparing school improvement plans; integrating development plans into district plans.
2. **Support**: Providing an enabling environment and targeted support for education institutions; assisting school principals and educators to improve the quality of teaching and learning in their institutions; serving as an information node; facilitating Information and Communications Technology (ICT) connectivity; providing an enabling environment and organising provision and support for the professional development of managers, educators and administrative staff members.
3. **Oversight and accountability**: Holding principals of education institutions in the district to account for their performance; accounting to the PED for the performance of education institutions in the district; accounting to the PED in terms of performance agreements that stipulate the roles, functions and responsibilities of district officials in line with relevant policies.
4. **Public engagement**: Informing and consulting with the public in an open and transparent manner; upholding *Batho Pele* principles in all dealings with the public[5].

Districts and circuits[6] are headed by district and circuit managers. The purpose of this decentralised structure is (theoretically) to facilitate a chain of communication, accountability and command from schools, through circuits and districts up to provincial level. It is not always clear what the exact functions of each level are and staffing and resourcing issues plague many districts and circuits. Districts often struggle to implement policies due to a lack of resources and decision-making powers[7].

Education districts reflect the varied geography of South Africa, differing greatly in terms of their geographical size, number and type of schools served and the poverty profile of communities they encompass. They face differing challenges, particularly in areas of the country where educational support needs are high. Districts with many under-performing or remote schools face particular challenges and have to work much harder to ensure a reasonable level of support is provided to schools.

[1] What works in education district development, 2002
[2] September 2012
[3] Page 5
[4] Ibid
[5] Ibid
[6] Education districts are subdivided into circuits
[7] The Education Atlas of South Africa, 2000

The maps in this report, showing differences between districts in terms of matriculation NSC results or poverty, reveal how uneven they are. Not only are they uneven in terms of school performance, they also vary greatly in terms of the quality of service provided by each district to its schools. It is unfortunate that many of the districts faced with the weakest schools are unable to respond to these weaknesses due to poor staffing levels and poor organisation themselves.

1.2 The number and demarcation of Education Districts

There are currently **86** education districts in South Africa[8]. The average number per province is 10. **Table 1** shows the number per province, ordered from the province with the least to the most. North West and Mpumalanga each have only four districts, whereas Gauteng has 15 and the Eastern Cape 23.

The most recent change in the number of education districts took place in Limpopo province, which in 2012 sub-divided their five districts (originally based on district municipalities) into 10.

Province	Number of Districts
North West	4
Mpumalanga	4
Northern Cape	5
Free State	5
Western Cape	8
Limpopo	10
KwaZulu-Natal	12
Gauteng	15
Eastern Cape	23
Total	**86**
Average	**10**

Table 1: Number of education districts per province

There is no standardisation in the way in which education districts have been demarcated by provinces. **Table 2** overleaf provides a broad overview for each province and **Map 1** illustrates the situation geographically.

[8] There are differences in naming conventions used by different provincial education departments. Mpumalanga for example has *Regions* rather than *Districts*, while what the North West terms *Regions* are treated as districts in this analysis.

The Free State and the Northern Cape have used district municipalities as the basis for education district demarcation, so they are purposely limited by the number of district municipalities defined in their respective provinces. These two provinces have perfect alignment between education districts and district municipality boundaries.

Provinces with large metropolitan areas such as Gauteng, Western Cape and KwaZulu-Natal have tended to split their metropolitan areas into two or more districts. KwaZulu-Natal and Western Cape have adopted district municipalities for their rural education districts but for size reasons have split their metropolitan areas. In KwaZulu-Natal, eThekwini Metropolitan Municipality was split into two education districts while all other education districts in the province are aligned with district municipality boundaries. Gauteng has split each of its metropolitan areas into several districts.

Mpumalanga has split one of its three district municipalities into two education districts. Limpopo has recently split each of its five district municipalities into two education districts. This province had some of the largest education districts in South Africa and still has three of the five largest in the country. The former districts were not split evenly in terms of school numbers.

The North West has *named* their education districts after district municipalities but adopted slightly different boundaries to them. When schools are mapped according to education district these boundary overlaps become apparent.

The Eastern Cape has adopted *local municipalities* as the basis for demarcation of education districts. Local municipality boundaries are far more numerous than district municipalities, hence the large number of districts that they have.

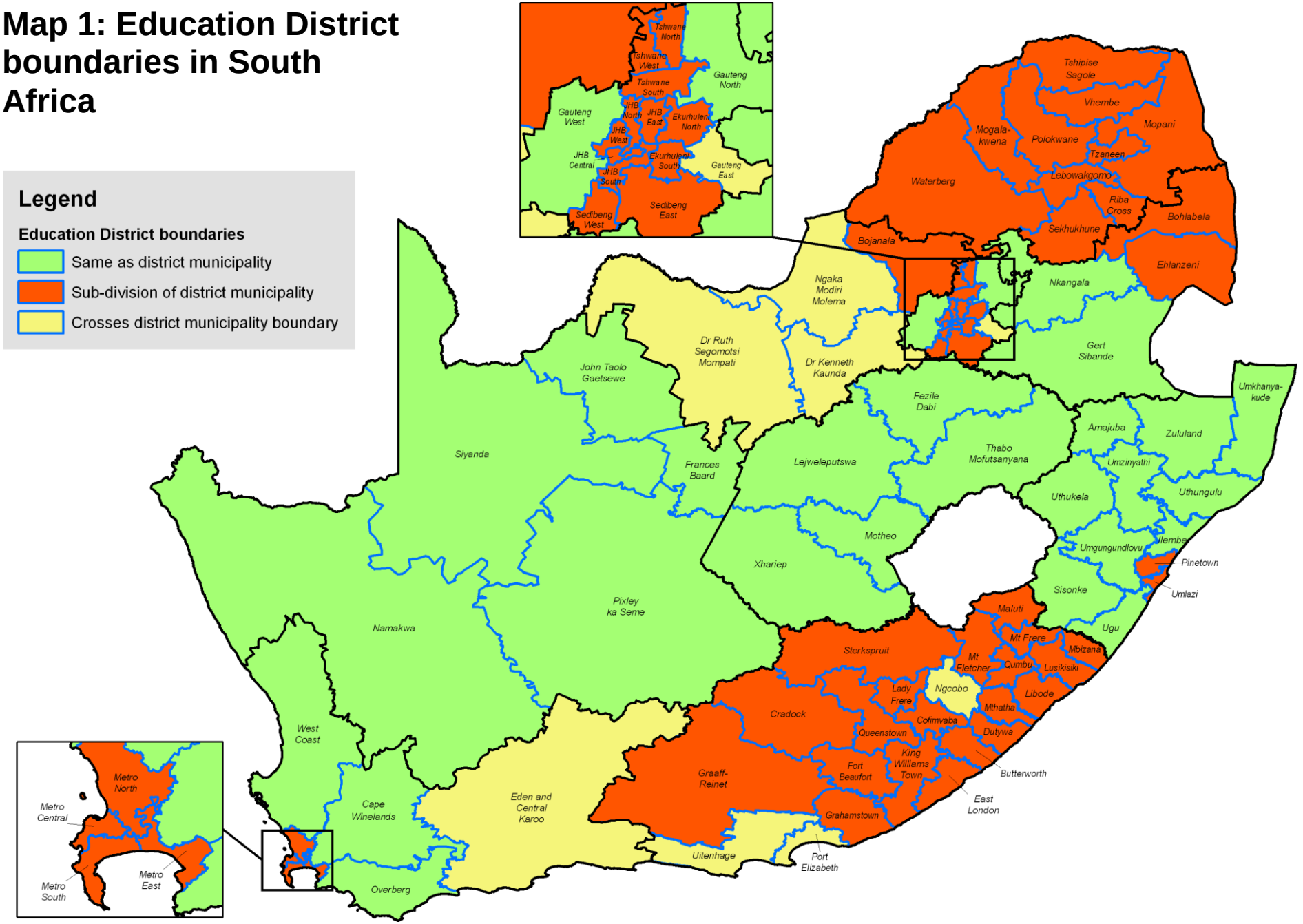
In total, of the 86 education districts in South Africa, 25 are aligned with district and metropolitan municipality boundaries[9]. There are 51 which are sub-divisions of district municipalities and 10 with boundaries that straddle two or more district/metropolitan municipalities. In the North West, three of the four education districts cross district municipality boundaries.

Province	Description of Education District demarcation
Eastern Cape	Based on local municipality boundaries. Eight education districts encompass a single local government municipality while a further nine consist of combinations of two or more adjacent municipalities. The remaining six are cases where, due to special circumstances, municipal boundaries have been split using ward boundaries.
Free State	Based on district municipalities, hence 5 districts. Note that district municipality boundaries in this province changed significantly 2011, particularly between Thabo Mofutsanyane, Xhariep and Mangaung Metro (Motheo).
Gauteng	Based on sub-divisions of existing Metro areas (Johannesburg, Tshwane and Ekurhuleni) and of Sedibeng District Municipality. West Rand District Municipality was kept intact but is named 'Gauteng West'.
KwaZulu-Natal	Based on district municipality boundaries except eThekwini Metro which is split into Pinetown and Umlazi districts.
Limpopo	Originally based on district municipality boundaries, but in 2012 each district was split into two yielding a total of 10 districts.
Mpumalanga	Two education districts are based on district municipality boundaries (Gert Sibande and Nkangala) and the other two are the result a split of the district municipality of Ehlanzeni (Bohlabela and Ehlanzeni).
North West	Roughly based on district municipalities but with some significant differences e.g. the education districts of Dr Ruth Segomatsi Mompati and Dr Kenneth Kaunda both intrude into the district municipality of Ngaka Modiri Molema.
Northern Cape	Based on district municipalities.
Western Cape	Based on district municipalities except Cape Town Metro, which was split into 4 districts.

Table 2: Description of education district demarcation in each province

[9] Note: There have been numerous changes to local government boundaries since 1994. These have affected local, district and metropolitan municipalities, with the most recent changes having occurred just prior to the May 2011 Municipal Elections. The analysis presented above refers to local government boundaries prior to May 2011.

Map 1: Education District boundaries in South Africa



1.3 The size of Education Districts

Table 3 below shows the geographical extent of each education district as well as its size in terms of numbers of schools. The districts have been ranked for each of these factors where 1 represents the largest district in terms of area or schools. The smallest 10 districts are highlighted in red. **Map 2** provides a geographical picture of school numbers per district.

The largest district in South Africa in terms of geographical area is Namakwa in the Northern Cape, which covers nearly 127 000 square kilometres. Fortunately population settlement in this district is mainly clustered around urban areas (85%), although the distances between settlements are considerable. The next largest districts in area terms are Pixley ka Seme and Siyanda, both of which are also in the Northern Cape.

The smallest education districts in area terms are, not surprisingly, found in Gauteng and the Western Cape metropolitan area. These districts are typified by larger schools at greater densities (e.g. 1 school per km^2) than those found in rural districts.

The ranking of districts according to numbers of schools highlights those districts that have the most and least schools. The three biggest districts in terms of school numbers are Vhembe (792 schools), Zululand (767) and Polokwane (692). Three of the five largest districts in South Africa in school numbers are found in Limpopo. This is despite the fact that they split each existing district into two, thus creating 10. There is still a heavy imbalance between mega districts such as Vhembe (792 schools) and Tzaneen, which has only 181.

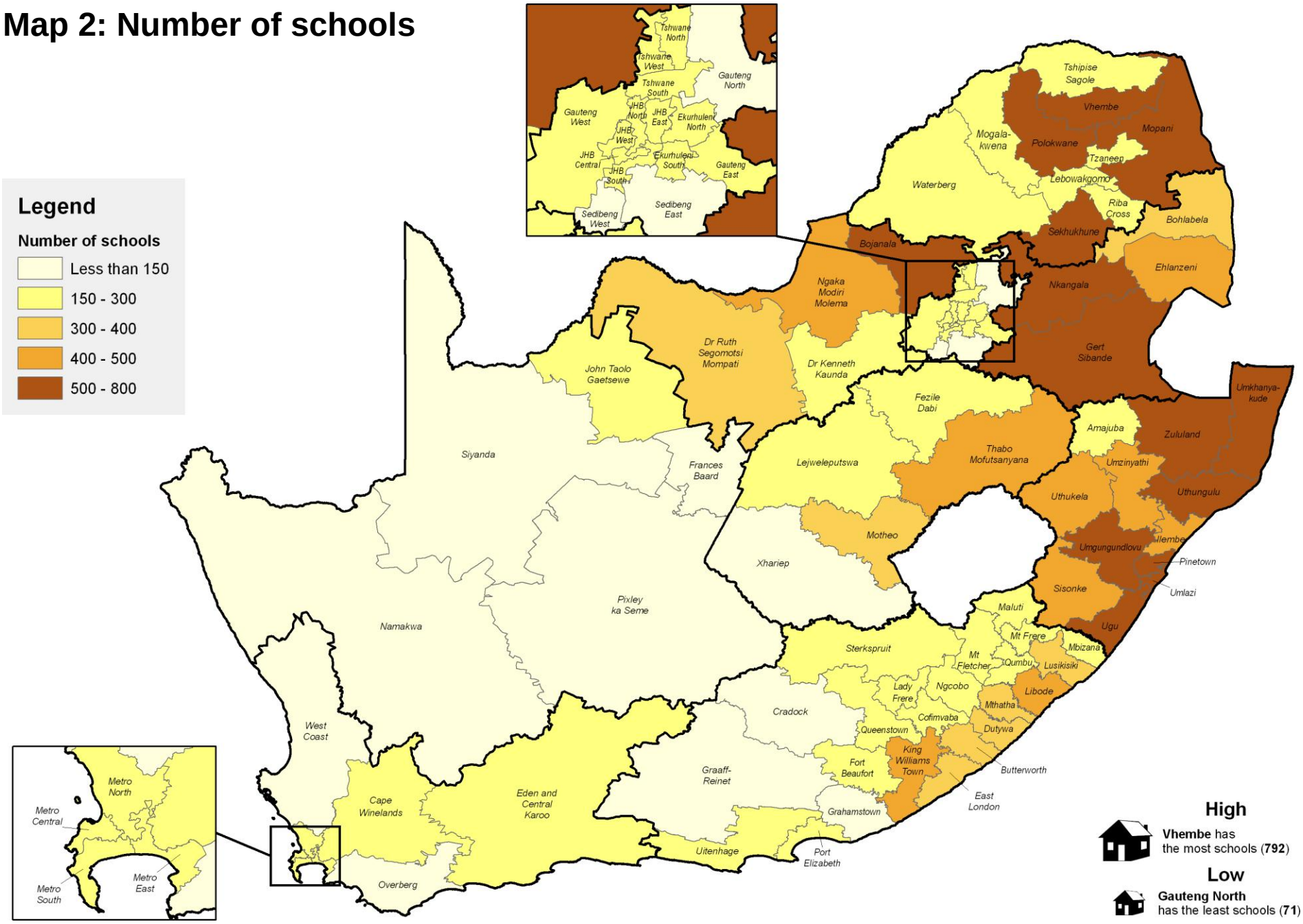
The smallest district in school numbers is Gauteng North, which is in the most urbanised of provinces and has only 71 schools. The districts of Namakwa (Northern Cape) and Xariep (Free State) also contain few schools, but both cover extremely large geographical areas. There are also several districts in the western portion of the Eastern Cape with few schools – Graaff-Reinet (83), Cradock (85) and Grahamstown (81).

Province	Education District	Area in km^2	Area Rank (1 = largest area) smallest 10 highlighted	Schools	Schools Rank (1 = most schools) smallest 10 highlighted
EC	Butterworth	3 323	**58**	400	**24**
EC	Cofimvaba	3 615	**56**	282	**33**
EC	Cradock	17 752	**20**	85	**82**
EC	Dutywa	3 030	**61**	349	**29**
EC	East London	3 606	**57**	316	**31**
EC	Fort Beaufort	6 460	**44**	253	**42**
EC	Graaff-Reinet	39 870	**6**	83	**83**
EC	Grahamstown	6 223	**45**	87	**81**
EC	King Williams Town	7 159	**42**	439	**19**
EC	Lady Frere	3 238	**60**	162	**70**
EC	Libode	3 898	**54**	424	**22**
EC	Lusikisiki	3 913	**53**	355	**28**
EC	Maluti	4 370	**50**	231	**49**
EC	Mbizana	2 412	**68**	217	**55**
EC	Mt Fletcher	5 359	**46**	187	**59**
EC	Mt Frere	2 480	**67**	251	**44**
EC	Mthatha	3 020	**62**	364	**27**
EC	Ngcobo	4 515	**49**	221	**54**
EC	Port Elizabeth	2 648	**66**	263	**36**
EC	Queenstown	7 844	**41**	182	**61**
EC	Qumbu	2 705	**63**	255	**40**
EC	Sterkspruit	20 043	**18**	170	**65**
EC	Uitenhage	11 407	**32**	168	**68**
FS	Fezile Dabi	21 301	**17**	252	**43**
FS	Lejweleputswa	31 930	**9**	276	**35**
FS	Motheo	13 999	**24**	325	**30**

Province	Education District	Area in km²	Area Rank (1 = largest area) smallest 10 highlighted	Schools	Schools Rank (1 = most schools) smallest 10 highlighted
FS	Thabo Mofutsanyana	28 346	12	490	15
FS	Xhariep	34 250	8	75	85
GT	Ekurhuleni North	792	73	222	53
GT	Ekurhuleni South	491	79	198	58
GT	Gauteng East	1 385	70	170	65
GT	Gauteng North	4 170	51	71	86
GT	Gauteng West	4 087	52	167	69
GT	Johannesburg Central	153	86	224	51
GT	Johannesburg East	441	81	224	51
GT	Johannesburg North	339	83	200	57
GT	Johannesburg South	417	82	177	63
GT	Johannesburg West	295	84	158	71
GT	Sedibeng East	2 657	65	90	80
GT	Sedibeng West	776	75	144	74
GT	Tshwane North	688	76	155	73
GT	Tshwane South	840	72	259	37
GT	Tshwane West	646	77	158	71
KZ	Amajuba	6 911	43	250	45
KZ	Ilembe	3 269	59	431	20
KZ	Pinetown	1 504	69	541	9
KZ	Sisonke	11 127	35	451	18
KZ	Ugu	5 047	47	507	14
KZ	Umgungundlovu	8 934	37	541	9
KZ	Umkhanyakude	12 824	29	540	11
KZ	Umlazi	788	74	511	13
KZ	Umzinyathi	8 589	38	485	16
KZ	Uthukela	11 326	34	457	17
KZ	Uthungulu	8 213	40	674	5
KZ	Zululand	14 799	22	767	2
LP	Lebowakgomo	4 683	48	249	46
LP	Mogalakwena	12 770	30	280	34
LP	Mopani	21 782	16	537	12
LP	Polokwane	12 306	31	692	3
LP	Riba Cross	3 896	55	258	38
LP	Sekhukhune	9 531	36	678	4
LP	Tshipise Sagole	13 086	28	225	50
LP	Tzaneen	2 703	64	181	62
LP	Vhembe	8 263	39	792	1
LP	Waterberg	36 734	7	183	60
MP	Bohlabela	13 597	25	387	26
MP	Ehlanzeni	14 014	23	430	21
MP	Gert Sibande	31 841	10	553	7
MP	Nkangala	17 043	21	549	8
NC	Frances Baard	13 518	26	124	76
NC	John Taolo Gaetsewe	27 283	13	170	65
NC	Namakwa	126 836	1	81	84
NC	Pixley ka Seme	102 727	2	99	78
NC	Siyanda	102 524	3	106	77
NW	Bojanala	13 443	27	581	6
NW	Dr Kenneth Kaunda	18 084	19	255	40
NW	Dr Ruth Segomotsi Mompati	49 491	5	391	25
NW	Ngaka Modiri Molema	23 864	14	415	23
WC	Cape Winelands	22 309	15	293	32
WC	Eden and Central Karoo	62 185	4	241	47
WC	Metro Central	251	85	257	39
WC	Metro East	504	78	171	64
WC	Metro North	1 253	71	237	48
WC	Metro South	452	80	207	56
WC	Overberg	11 405	33	97	79
WC	West Coast	31 104	11	139	75
Total		**1 219 706**		**25 792**	

Table 3: Geographical extent and school numbers per district

Map 2: Number of schools



1.4 Circuits in Education Districts

The size and concept of a circuit is perhaps a little more standard than that of an education district in South Africa. They tend to consist of around 30 schools (the average being 28 schools currently). The circuit is 'the closest point of contact between education institutions and the PED. Principals depend on the circuit office for information, administrative services and professional support'[10]. Circuit managers are required to visit and supervise schools, provide support and communication and a link to the district and provincial office.

Often the distances between district offices and schools are considerable. The average distance between a school and district office in South Africa is 42 km[11]. Circuit managers in Limpopo province for example have an upper limit of 2500 kilometres a month on their travel allowance and routinely reach this[12]. Although circuit managers are expected to visit schools regularly, the exact frequency of visits has not been regulated. It is also not clear to what extent the roles and responsibilities of circuit managers have been clearly defined and are standard across provinces.

The Policy on the Organisation, Roles and Responsibilities of Education Districts has provided some suggestions regarding the organisation of circuits:

> 'Each PED, in consultation with District Directors, must organise its circuit offices according to their needs and circumstances in the light of the national district staffing norms, in order to achieve the optimum number of site visits by circuit and district staff to education institutions within the circuit. Circuit offices have a special responsibility to advise and support educational institutions that are performing poorly and are therefore most in need of its services.'[13]

Unlike districts, which in many cases follow prescribed administrative boundaries such as District Municipalities, circuits have no defined boundaries. They usually consist of a geographically proximate group of schools. This may result in a homogeneous circuit such as a group of former Model C schools in an urban area that require relatively little direct support. It could also mean a dispersed group of rural schools, with poor infrastructure and difficult access roads, that are underperforming in many respects. Some provinces have made a deliberate attempt to combine a representative mix of underperforming and high performance schools in order to balance the workload and responsibilities of circuit managers.

Using a Geographical Information System (GIS) and school coordinates (latitude/longitude readings) from the DBE Masterlist it was possible to map the approximate boundaries of circuits within districts, and to symbolise schools according to the circuit to which they belong. In this way it was possible to identify school clusters, outliers and gain a visual picture of how circuits are organised.

A preliminary mapping exercise conducted in KwaZulu-Natal in 2009[14] revealed a high level of disparity in the size and number of schools per circuit. The analysis showed they ranged in size from 20 schools to well over 40. Some consisted of a logical grouping of schools in a contiguous area while others reflected fractured, disjointed arrangements whereby one circuit overlapped another and circuit managers travelled past several

[10] Policy on the Organisation, Roles and Responsibilities of Education Districts, September 2012

[11] 35% of all schools in South Africa are more than 50 kilometres from their district office

[12] The Star, July 31st 2012

[13] Policy on the Organisation, Roles and Responsibilities of Education Districts September 2012

[14] Schools in KwaZulu-Natal: District, Circuit and Ward Demarcation. Demarcation Scenario Report: Version 3, May 2009, EduAction

schools to reach one of their 'own' schools. Several cases of 'Bantustans'[15] were identified reflecting schools that, for historical or other reasons, were geographically separate and isolated from other schools in their circuit. There are also a few examples of schools that were physically outside a specific district, yet were managed by that district.

A 'properly' constituted circuit might be categorised as one where schools are logically grouped together and clearly distinguishable from schools in other circuits. This would not be the case if a specific decision has been made to constitute a circuit from a 'mix' of schools, some well-resourced and others not. Owing to the nature of spatial planning under Apartheid, this would entail circuits that incorporate township schools, former Model C schools and newly constructed schools serving areas of population influx.

The main problem from a planning point of view is 'islands' or pockets of isolated schools. An 'isolated' school would be characterised as a school that is geographically separate from the other schools in the circuit to which it belongs, and located amongst schools belonging to a different circuit. This could be due to a historical arrangement that no longer serves a practical purpose.

The DBE schools Masterlist includes information on circuits in each district, but analysis has shown that this data is not very accurate. Many circuit names are spelt incorrectly, some circuits appear to have only one school in them and some have schools from more than one district in them. It would be worthwhile ensuring this data is corrected so that the size and extent of circuits can be properly analysed. In any event, there is a considerable range in the size of school circuits in South Africa, from less than 15 schools to over 40. The within-province range is high, even amongst provinces such as the Western Cape, where circuits range in size from less than 20 schools to over 50. There appears to be little standardisation in size, rather a variable arrangement that differs from district to district.

Table 4 overleaf provides a broad indication of the number of circuit managers per district and the ratio of schools per circuit manager. The number of circuit managers was derived from a list prepared and circulated by DBE as at 22 August 2011[16]. It's not clear how accurate this list is. Some of the provincial totals do not equal the sum of the individual district figures, and a number of the district totals appear to be incorrect[17]. It does not include the new 10 district structure in Limpopo. The data has been included here for broad reference and to support the argument that more attention needs to be paid to the staffing of districts, and the measurement of actual support given to schools by circuit managers and related personnel. A starting point would be an accurate indication from provinces of how many circuit managers there are and exactly which schools are in each of the circuits that they serve.

Table 4 shows that the province with the lowest ratio of schools to circuit managers is Gauteng, with 15. The DBE staffing list indicates 169 circuit managers (IDSO's[18]), divided into a total of 2618 schools yielding a ratio of 15 to 1. The Free State has a similarly low ratio with 16 schools per circuit manager (SMGD[19]), followed by the Northern Cape with 20. Provinces at the other end of the spectrum are KwaZulu-Natal, where the apparent ratio is 52 (119 circuit managers serving 6 159 schools) and North West (59 circuit managers serving 1 643 schools). It is unlikely that this is the real ratio of circuit managers to schools in these provinces, and an effort should be made to improve the quality of information on staffing as a starting point for an improved information system on district performance.

[15] A term coined by Cassius Lubisi, the then SG of Education in KwaZulu-Natal, in reference to fragmented circuits and isolated pockets of schools.

[16] In this list, circuit managers are referred to as SMGDs (School Management Governance & Development) in the Free State and IDSOs (Institutional Developmental Support Officers) in Gauteng

[17] The figures for KwaZulu-Natal in particular look incorrect – too many districts have 11 circuit managers and two districts, Ilembe and Sisonke have indicated only two managers

[18] Institutional Developmental Support Officer

[19] School Management Governance & Development

Table 4 shows some interesting differences between districts in terms of the ratio of schools to circuit managers. In the Western Cape for example, there are 21 schools per circuit manager in Metro Central District but almost double that (37) in Cape Winelands. In the Northern Cape, there are 16 schools per manager in Frances Baard (a mainly urban district focussed around Kimberley) but 27 in Namakwa, which has the greatest distances between schools and district office of any district in South Africa (an average of 150 km). In the Eastern Cape, there are 22 schools per manager in Grahamstown but 46 in Queenstown.

Province	District	Circuit Managers (SMGD/IDSO)	Schools	School to Manager Ratio (est.)
EC	Butterworth	12	400	33
EC	Cofimvaba	11	282	26
EC	Cradock	3	85	28
EC	Dutywa	15	349	23
EC	East London	12	316	26
EC	Fort Beaufort	9	253	28
EC	Graaff-Reinet	3	83	28
EC	Grahamstown	4	87	22
EC	King Williams Town	18	439	24
EC	Lady Frere	7	162	23
EC	Libode	17	424	25
EC	Lusikisiki	14	355	25
EC	Maluti	7	231	33
EC	Mbizana	9	217	24
EC	Mt Fletcher	7	187	27
EC	Mt Frere	10	251	25
EC	Mthatha	14	364	26
EC	Ngcobo	8	221	28
EC	Port Elizabeth	11	263	24
EC	Queenstown	4	182	46
EC	Qumbu	10	255	26
EC	Sterkspruit	8	170	21
EC	Uitenhage	4	168	42
EC	**Total**	**217**	**5744**	**28**
FS	Fezile Dabi	18	252	14
FS	Lejweleputswa	15	276	18
FS	Motheo	19	325	17
FS	Thabo Mofutsanyana	33	490	15
FS	Xhariep	6	75	13
FS	**Total**	**91**	**1418**	**15**
GT	Ekurhuleni North	13	222	17
GT	Ekurhuleni South	10	198	20
GT	Gauteng East	12	170	14
GT	Gauteng North	8	71	9
GT	Gauteng West	10	167	17
GT	Johannesburg Central	17	224	13
GT	Johannesburg East	10	224	22
GT	Johannesburg North	12	200	17
GT	Johannesburg South	9	177	20
GT	Johannesburg West	11	158	14
GT	Sedibeng East	7	90	13
GT	Sedibeng West	11	144	13
GT	Tshwane North	11	155	14
GT	Tshwane South	17	259	15
GT	Tshwane West	11	158	14
GT	**Total**	**169**	**2617**	**16**
KN	Amajuba	11	253	23
KN	Ilembe	2	431	216
KN	Pinetown	11	541	49
KN	Sisonke	2	451	226
KN	Ugu	11	507	46
KN	Umgungundlovu	11	541	49
KN	Umkhanyakude	11	540	49
KN	Umlazi	16	511	32
KN	Umzinyathi	11	482	44
KN	Uthukela	11	457	42
KN	Uthungulu	11	674	61
KN	Zululand	11	767	70
KN	**Total**	**119**	**6155**	**75**
LP	Capricorn	32	942	29
LP	Greater Sekhukhune	33	936	28
LP	Mopani	24	718	30
LP	Vhembe	27	1017	38
LP	Waterberg	9	463	51

Province	District	Circuit Managers (SMGD/IDSO)	Schools	School to Manager Ratio (est.)
LP	**Total**	**125**	**4076**	**35**
NW	Bojanala	6	581	97
NW	Dr Kenneth Kaunda	11	255	23
NW	Dr Ruth Segomotsi Mompati	6	391	65
NW	Ngaka Modiri Molema	5	415	83
NW	**Total**	**28**	**1642**	**67**
MP	Bohlabela	14	398	28
MP	Ehlanzeni	15	419	28
MP	Gert Sibande	18	553	31
MP	Nkangala	20	549	27
MP	**Total**	**67**	**1919**	**29**
NC	Frances Baard	8	124	16
NC	John Taolo Gaetsewe	7	170	24
NC	Namakwa	3	81	27
NC	Pixley Ka Seme	5	99	20
NC	Siyanda	6	106	18
NC	**Total**	**29**	**580**	**21**
WC	Cape Winelands	8	293	37
WC	Eden and Central Karoo	7	241	34
WC	Metro Central	12	257	21
WC	Metro East	6	171	29
WC	Metro North	7	237	34
WC	Metro South	7	207	30
WC	Overberg	3	97	32
WC	West Coast	5	139	28
WC	**Total**	**55**	**1642**	**31**

Table 4: Circuit Managers per District and schools per Circuit Manager, as per DBE 22 August 2011

1.5 Small schools

According to enrolment data in the 2012 SNAP Survey of schools, there were 4 928 schools with fewer than 150 learners in South Africa. This represents almost one fifth of all schools in the country. Three quarters of these were Primary schools, 13% Combined and 10% Secondary. **Table 5** below shows that the Eastern Cape accounts for one third of all small schools in South Africa, since it has 1 605. The province with the largest proportion of schools that have fewer than 150 learners was the Free State, with 38% that fit this category.

Province	Small Schools	% of all schools in province
Eastern Cape	1 605	28%
Free State	536	38%
Gauteng	202	8%
KwaZulu-Natal	911	15%
Limpopo	614	15%
Mpumalanga	318	17%
North West	290	18%
Northern Cape	145	25%
Western Cape	307	19%
Total	**4 928**	**19%**

Table 5: Number and proportion of small schools in each province

Figure 1 compares the number of small schools in each province in 2007 with 2012. The figure has remained fairly constant for provinces such as the North West, Free State and Northern Cape (the latter two of which have a long history of tackling small school issues), whereas in Gauteng, the Eastern Cape, KwaZulu-Natal and Limpopo the numbers have grown considerably. In the Eastern Cape, there has been an addition of 422 schools to the list of small schools since 2007.

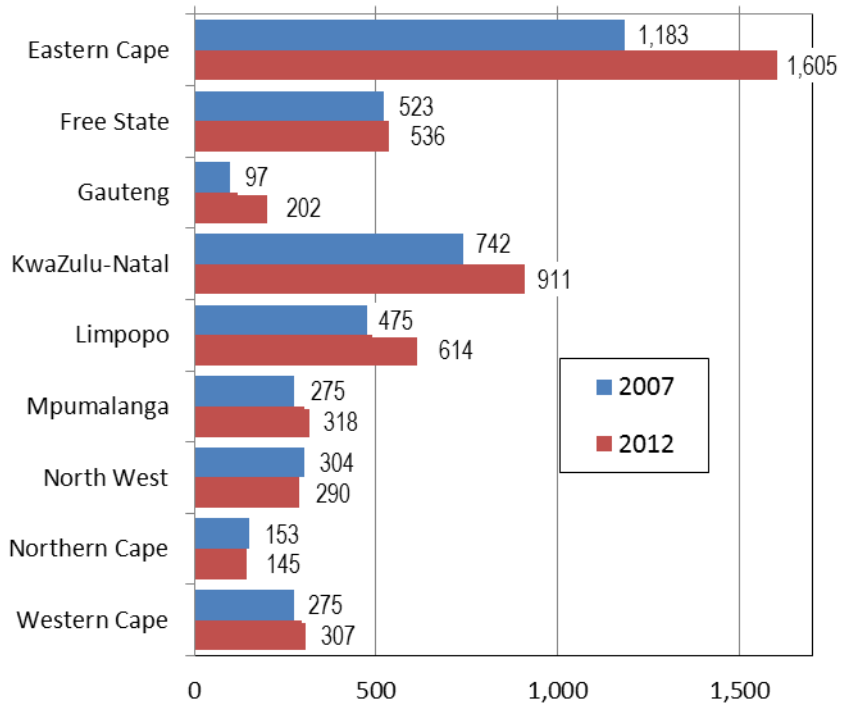


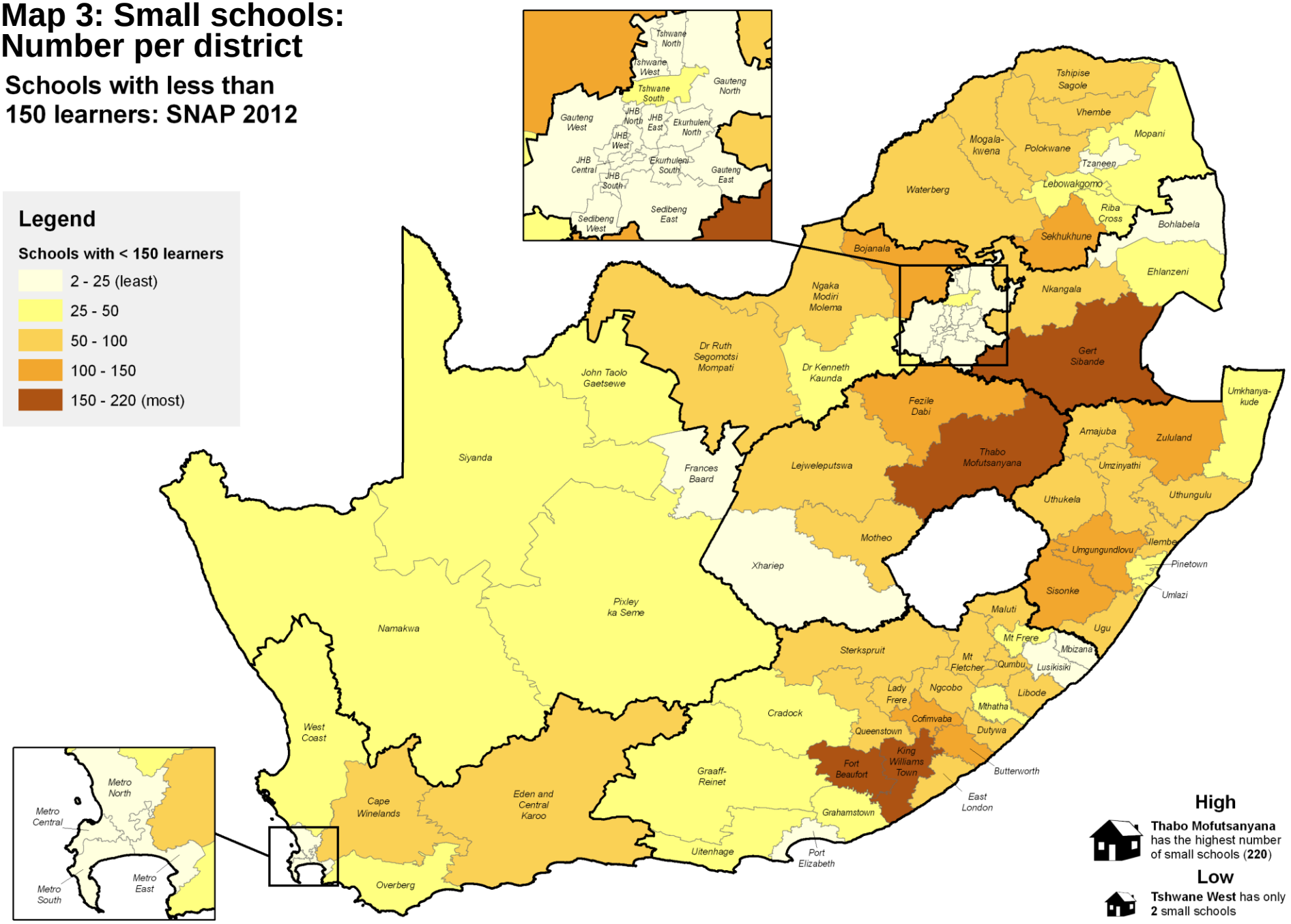
Figure 1: Schools with fewer than 150 learners 2007 and 2012, SNAP data

Map 3 overleaf shows the number of small schools per district in 2012. The district with the highest number was Thabo Mofutsanyana in the Free State, which had 220. Next highest were King Williams Town with 215, Gert Sibande with 189 and Fort Beaufort with 177.

The issue of small schools and their characteristics is dealt with in more detail in a separate report entitled 'Small Schools – a preliminary review'.

Map 3: Small schools: Number per district

Schools with less than 150 learners: SNAP 2012



1.6 Policy on the organisation, roles and responsibilities of Education Districts

The 'Policy on the Organisation, Roles and Responsibilities of Education Districts' sets out a national framework for the organisation of education districts, aiming to foster a 'common approach, approved by the Council of Education Ministers, to the demarcation, organisation, staffing, delegation of authority and resourcing of education districts across all provincial education departments'[20]. It is recognised that up until now, there has been no national pattern regarding the demarcation and staffing of education districts, or the powers and responsibilities of District Directors. The document aims to address this.

Provincial Education Departments have been able to determine their own decentralised management structures and as a result, there are differences between provinces. Some, such as KwaZulu-Natal, have three administrative levels: Districts, Circuit Management Centres (CMCs) and Circuits. Others use different terms for the same structures such as Mpumalanga, which refers to 'Regions' rather than districts.

The policy marks an attempt to develop a national vision for education districts to include standardisation of roles, powers and responsibilities. Norms for Post Provisioning that factor in distance and poverty factors have been proposed with the goal of achieving greater equality between districts in terms of the support they provide to schools. A crucial aspect of the policy is to provide 'a framework within which PEDs can provide district offices with the necessary roles, delegated authority, functions, resources and skills to enable them to perform their core functions, with additional support for districts where the educational needs are greatest'[21].

Although there is agreement that a national policy framework and norms for district offices are essential, it is also recognised that each province faces a unique set of circumstances. It is proposed for example that the size norms (for districts and circuits) should be seen as indicative and need to be 'formulated and applied in an educationally defensible manner depending on the varied conditions among and within provinces'. Rural districts should be given special consideration. The major purpose of the policy is therefore to 'provide the framework to enable PEDs to demarcate, structure and staff their district offices effectively, so that all education institutions receive the services they need to improve education provision and quality'[22].

The policy proposes a two-tiered provincial sub-structure with a standard nomenclature of 'districts' and 'circuits'. Similarly, it is proposed that the nomenclature of District Director and Circuit Manager be used to describe the heads of district and circuit offices.

The document proposes that, where possible, existing municipal boundaries should be used as the basis for aligning education boundaries. This alignment should make educational sense and ensure efficient education service delivery. The demarcation process will of course be impacted by settlement patterns, terrain, distances and road links.

In those provinces where metropolitan municipalities exist (such as eThekwini or Cape Town), local government ward and sub-council boundaries should be used to create education districts. For those municipal districts that are too large to function as education districts (as per the proposed size norms below), local municipal boundaries should be investigated as a means of demarcation.

[20] The information in this section is derived entirely from the 'Policy on the Organisation, Roles and Responsibilities of Education Districts, National Department of Basic Education, Pretoria as at September 2012

[21] Ibid

[22] Ibid

'Some education districts are responsible for too many education institutions and as a result cannot provide effective services to them.'[23]

A key point in the document is that the size of education districts and circuits needs to be regulated in order to ensure effective service delivery. The circuit size norm is expressed in terms of the number of schools the circuit is responsible for. The district size norm is expressed in terms of the number of circuit offices the district is responsible for.

The proposed national norms which take 'all relevant factors, including geographical, staff and financial implications into account' are as follows:

1. An education circuit office must be responsible for no less than 15 and no more than 30 schools; and
2. An education district must comprise no less than 5 and no more than ten education circuits.
3. It follows that no district should have fewer than 75 schools or more than 300 schools.
4. To guard against these being upper limits, the average number of schools in a circuit must not exceed 25 and in a district 250.

How do the national norms affect provinces?

Table 6 shows the number of districts per province, the average number of schools per district and the actual districts that would be required in terms of the upper limit of 300 schools per district. The final column in the table shows the difference between the number of districts currently and the number that would be required in terms of the upper limit guidelines.

The table shows that although KwaZulu-Natal has 12 districts currently, it would need 21 (6 159 schools/300), to comply with the norms, so an additional nine would be required. There is a shortfall in terms of recommended maximum district size in four provinces: KwaZulu-Natal (9), Limpopo (4), Mpumalanga (2) and North West (1). Of 86 education districts in South Africa, 31 have more than 300 schools and 5 have double the recommended maximum.

Province	Number of districts currently	Average size of districts (schools)	*Required* districts in terms of upper limit of 300 schools	Difference between actual and upper limit norm numbers = more districts needed
EC	23	250	**19**	
FS	5	284	**5**	
GT	15	174	**9**	
KZ	12	**513**	**21**	**9**
LP	10	408	**14**	**4**
MP	4	**480**	**6**	**2**
NC	5	116	**2**	
NW	4	411	**5**	**1**
WC	8	205	**5**	

Table 6: Number of districts per province currently versus estimated requirement based on a maximum of 300 schools per district

There are several issues in the Policy that will need long term consideration. These include:

1. Clearly defining the role of education districts and circuits.
2. Developing a clear understanding of the respective roles and responsibilities of provincial offices and districts and how to facilitate effective communication between the two levels.
3. Clarifying the role and workload of circuit managers. This should include what they are currently expected to do, and to what extent this would need to change to comply with proposals raised in the policy.
4. Ensuring that the level of support given by education districts to schools shows progressive improvement and that an approved plan for the enhancement of support levels is developed.

Some provinces are concerned that districts have not been systematic in the way they group and manage schools – that there are inefficiencies,

[23] Ibid

local arrangements and other anomalies which need to be identified and addressed[24]. These inefficiencies can only be identified with proper data, so a starting point would be to ensure that accurate information is collected on the designation of circuits.

In the longer term, the idea of a 'District EMIS' should be considered. This would be similar to the current EMIS for schools, but specifically aimed at districts, regularly collecting and monitoring information from districts on support activities undertaken, numbers of school visits carried out, staff complements, curriculum support, key educational challenges met etc. This, together with the existing range of contextual information on school performance, community characteristics and educational challenges can be used to make more informed decisions on resource allocation and staffing at a district level. The data from the 'District EMIS' should be shared provincially and nationally so that the challenges faced and progress made by each district becomes clear at all levels of management.

> 'Education district offices are the indispensable local hub of service provision to education institutions in a province. Their role is well recognised in education policy documents and departmental programmes, including Schooling 2025, and in the National Development Plan. Much is expected of them. Unfortunately many district offices have disappointing service records. This policy is designed to enable all district offices to perform according to expectations. This will happen only if the policy is implemented purposefully and progressively according to each province's needs and circumstances.'[25]
>
> 'District offices cannot do what is expected of them if they remain responsible for excessive numbers of education institutions, if they are poorly staffed, if their district and circuit personnel are required to travel unreasonable distances to their schools, if transport is insufficient, if they are inadequately accommodated and if they have rudimentary means of communication, especially electronic communication, with schools and head offices. Nor can district offices do what is expected of them in the absence of appropriate delegations, a planning culture and a culture of collaboration between a PED and its district offices, or between a district office, its circuit offices and the education institutions they serve.'[26]
>
> 'The national department will work with PEDs (individually and through HEDCOM) on the implementation of the policy and will monitor their progress. The most effective way to do so is for each PED to report annually to DBE on how they are implementing district development in line with this policy.'[27]

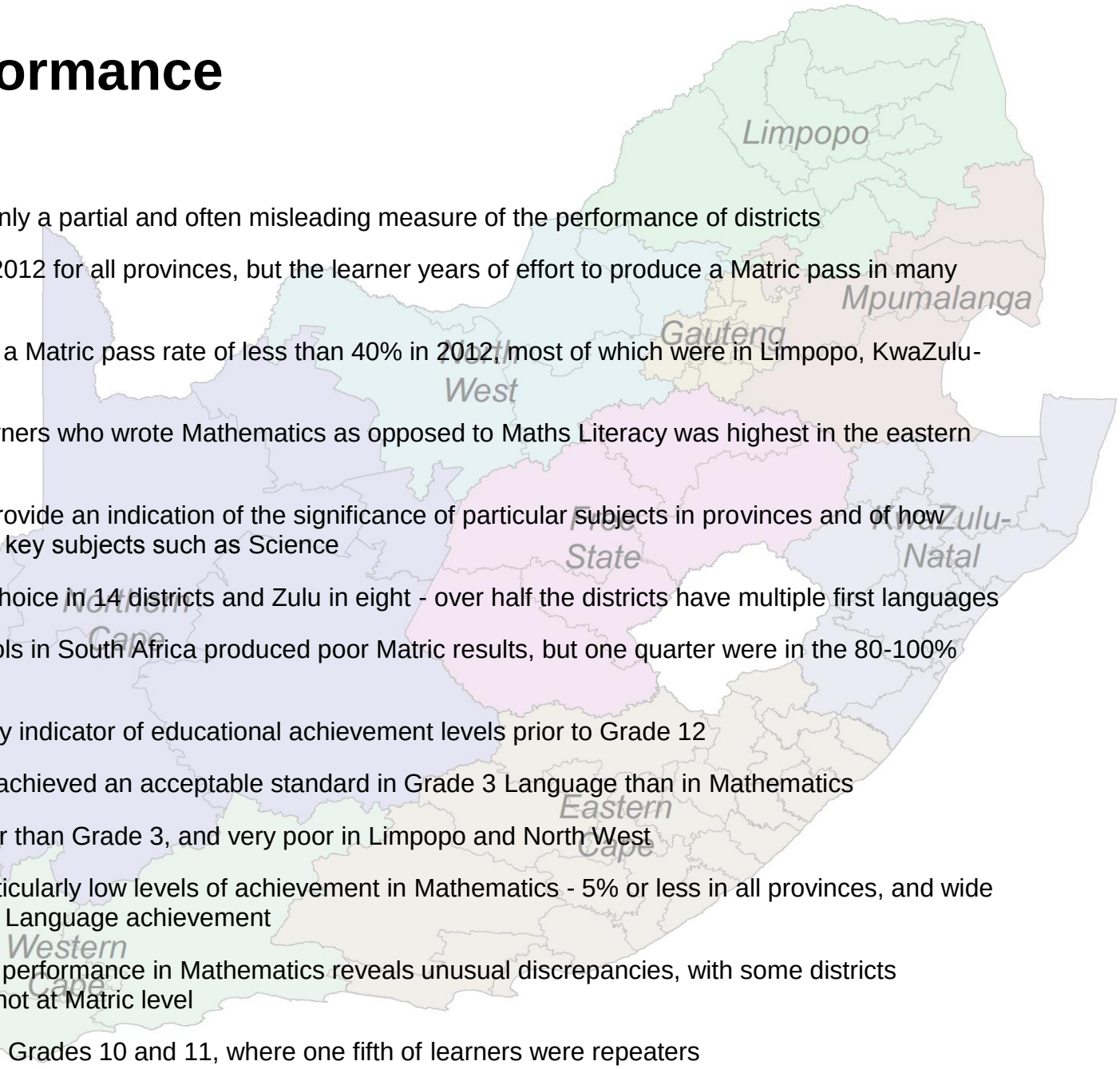
[24] Schools in KwaZulu-Natal: District, Circuit and Ward Demarcation. Demarcation Scenario Report: Version 3, May 2009, EduAction.

[25] Policy on the Organisation, Roles and Responsibilities of Education Districts, National Department of Basic Education, Pretoria as at September 2012

[26] Ibid

[27] Ibid

Section 2: Performance



- The Matriculation pass rate is only a partial and often misleading measure of the performance of districts
- Matric pass rates increased in 2012 for all provinces, but the learner years of effort to produce a Matric pass in many districts is very high
- A total of 608 schools achieved a Matric pass rate of less than 40% in 2012, most of which were in Limpopo, KwaZulu-Natal and the Eastern Cape
- The proportion of Grade 12 learners who wrote Mathematics as opposed to Maths Literacy was highest in the eastern parts of the Eastern Cape
- The subject choices at Matric provide an indication of the significance of particular subjects in provinces and of how 'productive' they are in terms of key subjects such as Science
- Xhosa was the first language choice in 14 districts and Zulu in eight - over half the districts have multiple first languages
- Many Quintile 1 (poorest) schools in South Africa produced poor Matric results, but one quarter were in the 80-100% pass rate category
- The ANA results represent a key indicator of educational achievement levels prior to Grade 12
- A higher proportion of learners achieved an acceptable standard in Grade 3 Language than in Mathematics
- Grade 6 ANA results were lower than Grade 3, and very poor in Limpopo and North West
- The Grade 9 ANA revealed particularly low levels of achievement in Mathematics - 5% or less in all provinces, and wide differences between Maths and Language achievement
- Comparison of ANA and Matric performance in Mathematics reveals unusual discrepancies, with some districts performing well at Grade 3 but not at Matric level
- Repetition rates were highest in Grades 10 and 11, where one fifth of learners were repeaters

2.1 Comments on Matriculation results

The Matriculation examination, known as the National Senior Certificate (NSC), represents the key exit point for learners in Grade 12. If they pass they have the option of continuing with higher education or attempting to enter the job market. If they fail, there is the prospect of repeating Grade 12 and re-sitting the examination, or of dropping out without any formal qualifications.

The Matriculation examination is therefore the definitive measure of how well a province's schools have prepared their learners for the final hurdle. They are also a historical reflection of disadvantage and of differences in resources. Some schools consistently record a 100% pass rate whereas others struggle to exceed 40%. The performance of Secondary schools is a response to a wide range of factors, for example:

- The poverty and literacy levels of the local community served by schools
- How well local Primary schools have prepared their learners before they enter local Secondary schools
- The extent to which local communities support and respect their local Secondary schools
- The experience, dedication and motivation of teaching staff
- The quality of the learning environment: the availability of sufficient classrooms, teaching materials and specialist facilities

These are just a few of the factors that influence the annual Matriculation results. It is also important to emphasise that the Matriculation pass rate does not tell the entire story of how well schools are performing. Often there is an unhealthy fixation with provincial pass rates: have they gone up or down? There is a range of other information one has to consider before drawing meaningful conclusions from the provincial or district pass rates, for example:

- How many learners set for the examination? How does this compare with previous years?
- How many learners wrote the examination?
- How many learners passed in total? How does this compare with previous years – a higher pass rate may be a result of lower numbers entering etc
- What is the ratio of passes to total Grade 12 enrolment? Were large numbers of learners dissuaded from writing the Matriculation examination?
- What is the ratio of passes to total enrolment in schools i.e. what proportion of learners actually made it through from Grade 1 to 12 and finally passed Matric?
- How many learners passed at a level sufficient to enter University?

Matriculation pass rates only tell a partial story of the relative performance of districts. They simply indicate the percentage of pupils who sat the exam and actually passed. They do not, for example, provide an indication of the proportion of all Grade 12s that passed. In other words, it is impossible to tell from the pass rate alone whether large numbers of Grade 12s were dissuaded from writing the exam by schools who perceived that they might fail. Similarly, the pass rate alone does not provide an indication of the overall efficiency of the education system which, in an ideal scenario, would allow for 100% of learners to progress from Grade 1 to Grade 12, write the Matriculation examination and pass.

This is best illustrated by the hypothetical case of a school with a pass rate of 80%. This pass rate may be deemed 'respectable' at face value, but what if it was derived from 16 learners who passed the examination out of 20 who actually entered, from a total Grade 12 enrolment of 30 (10 of whom did not write the Matriculation examination)? And furthermore, what if enrolment 12 years ago in Grade 1 was 120?

Viewed another way, this hypothetical school had a Grade 1 enrolment of 120 twelve years ago, which had dwindled to just 30 by Grade 12, of which only 20 sat the examination and 16 passed. The pass rate for this hypothetical school was 80% (16/20), but in real terms only 13% (16/120) of learners from Grade 1 made it through the system to the desired outcome of a Matriculation pass. The rest had either dropped out, been dissuaded from writing the examination by the school (often to protect the school's pass rate) or failed the examination.

The Matriculation pass rates therefore need to be viewed in a wider context. The actual number of passes should be assessed in relation to total Grade 12 enrolment (to see if large numbers of Grade 12s in certain districts are not sitting the examination – either through choice or persuasion). In addition, the number of passes should also be calculated as a proportion of total enrolment (Grades R to 12) to provide a broader measure of education efficiency in the province and in specific districts.

It must however be noted that compulsory schooling ends at Grade 9 or the Age of 15, such dynamics should also be considered in calculating the ratio of learners who should complete Grade 12.

2.2 The 2012 Matriculation results

Overall, the national pass rate for Matric 2012 improved from the previous year's results. The national average increased by over 3 percentage points, and there were improvements in all provinces.

Gauteng province topped the country with a pass rate of 84% (see **Table 7**) while the Eastern Cape was at the bottom with 62% although it did increase its pass rate from the previous year by 4 percentage points. The Northern Cape had the highest positive increase of 6 percentage points followed by the Free State, Mpumalanga and KwaZulu-Natal with 5 percentage point increases. The improved pass rates were considered an encouraging improvement in performance.

However, despite the increase in average percentages, there were the usual concerns about the quality of pass rates. A Matriculant who passes with a 40% aggregate is not necessarily sufficiently literate and numerate to enter a tertiary institution or acquire a skilled job position. Overall provincial and national pass rates only provide a crude picture. There are many underlying issues that need to be considered in order to determine how successful schools and district were.

Province	2012 Average pass rate	2011 Average pass rate
Eastern Cape	62%	58%
Free State	81%	76%
Gauteng	84%	81%
KwaZulu-Natal	73%	68%
Limpopo	67%	64%
Mpumalanga	70%	65%
Northern Cape	75%	69%
North West	80%	78%
Western Cape	83%	83%
National Average	**74%**	**71%**

Table 7: Provincial pass rates for 2012 and 2011

Figure 2 below shows Matriculation pass rates for the 10 worst districts in 2012. Eight are in the Eastern Cape one is in Limpopo and one in the Northern Cape.

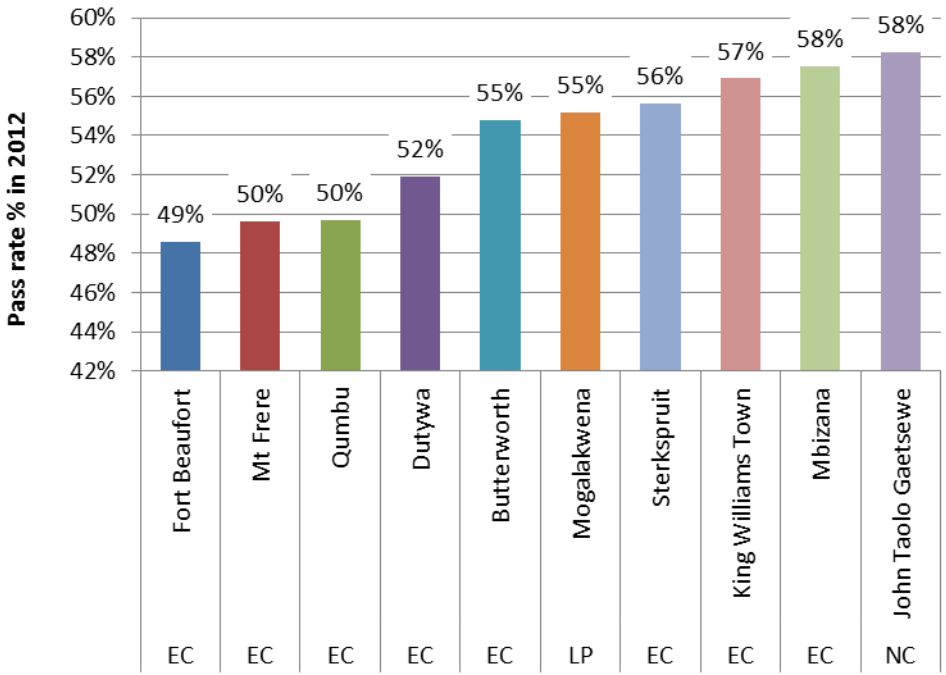


Figure 2: Matriculation pass rates for the 10 lowest districts in 2012

Table 8 overleaf shows the 2012 Matriculation pass rate for each district in South Africa. It also shows the pass rate rank (1 = best pass rate), learners who passed Matric as a percentage of all Grade 12 learners and finally the learner years of effort required to produce a Matriculation Pass.

This latter indicator is calculated by dividing the number of Matriculation passes by the total enrolment for Grades R to 12 in the district. The

resulting ratio is an instantaneous snapshot of learner effort to produce a Matriculation pass. Theoretically, in an education system with no repetition, no dropout and perfect flow-through, the ratio would be 13, since it would take learners 13 years to progress from Grade R to Grade 12 and pass Matric. The fact that it is so much higher is a reflection of the various difficulties experienced by learners along the way.

Table 8 shows that the Matric pass rates by district for 2012 varied from a low of 49% in Fort Beaufort (Eastern Cape) to a high of 89% in Gauteng North. **Map 4** illustrates the situation geographically - the districts shaded in red, many of which are in the Eastern Cape, performed the worst. **Map 5**, which follows immediately, provides a sense of which districts have experienced the greatest improvement in their pass rates since 2008. Many are coming off a low base, but the largest improvements (dark brown) have definitely been amongst rural districts.

When looking at the ratio of passes to Grade 12 enrolment in **Table 8**, the worst performing district was Libode, where only 37% of learners enrolled in Grade 12 passed. Grahamstown in the Eastern Cape had a Matric pass rate of 68%, but this was only 44% of total enrolment in Grade 12. Similarly, Dutywa had a Matric pass rate of 52%, which was only 40% of learners enrolled in Grade 12. It is possible that a number of learners chose not to write or were discouraged from writing the Matric exam. Repetition will also have played a significant role.

Examples of districts where the ratio of passes to total Grade 12 enrolment was very similar to the actual Matric pass rate were Dr Ruth Segomotsi Mompati (both figures were 72%) and Graaff-Reinet (71% and 70%).

The learner years of effort to produce a Matric pass provides a snapshot of the extent to which learners are dropping out before reaching Grade 12, not entering the examination if they reach Grade 12 or failing the examination. The greatest number of learner years effort to produce a pass was in Lusikisiki in the Eastern Cape, where the figure was 85 years. This is an example of a district where there is huge shrinkage in learner numbers over time due to dropout, repetition and failure in the final examination. Inflated enrolment figures for earlier grades will exaggerate the problem as well.

Other districts with similarly high levels of inefficiency were Libode (Eastern Cape), John Taolo Gaetsewe (Northern Cape), Mbizana, Ngcobo and Dutywa (all in Eastern Cape). Districts such as these should be urgently targeted in order to try and improve the retention of learners and their successful transition beyond Grade 12.

As indicated before, a perfect education system and 100% Matriculation pass rate would require 13 years to produce a Matric pass. Districts with the lowest learner years of effort to produce a pass (arguably the greatest efficiency) include Tshwane South and Umlazi (23 years), Metro Central (24 years), Tshwane North and West (26 years) and Lebowakgomo and Ehlanzeni (27 years).

Province	Education District	Matric Pass rate 2012	Rank (1 = best pass rate) worst 10 highlighted	Passed Matric as a % of all Grade 12 learners	Learner years of effort to produce a Matric Pass
EC	Butterworth	55%	82	44%	41
EC	Cofimvaba	73%	45	65%	51
EC	Cradock	73%	44	68%	39
EC	Dutywa	52%	83	40%	63

Province	Education District	Matric Pass rate 2012	Rank (1 = best pass rate) worst 10 highlighted	Passed Matric as a % of all Grade 12 learners	Learner years of effort to produce a Matric Pass
EC	East London	68%	59	61%	33
EC	Fort Beaufort	49%	86	45%	39
EC	Graaff-Reinet	71%	51	70%	50
EC	Grahamstown	68%	60	44%	51

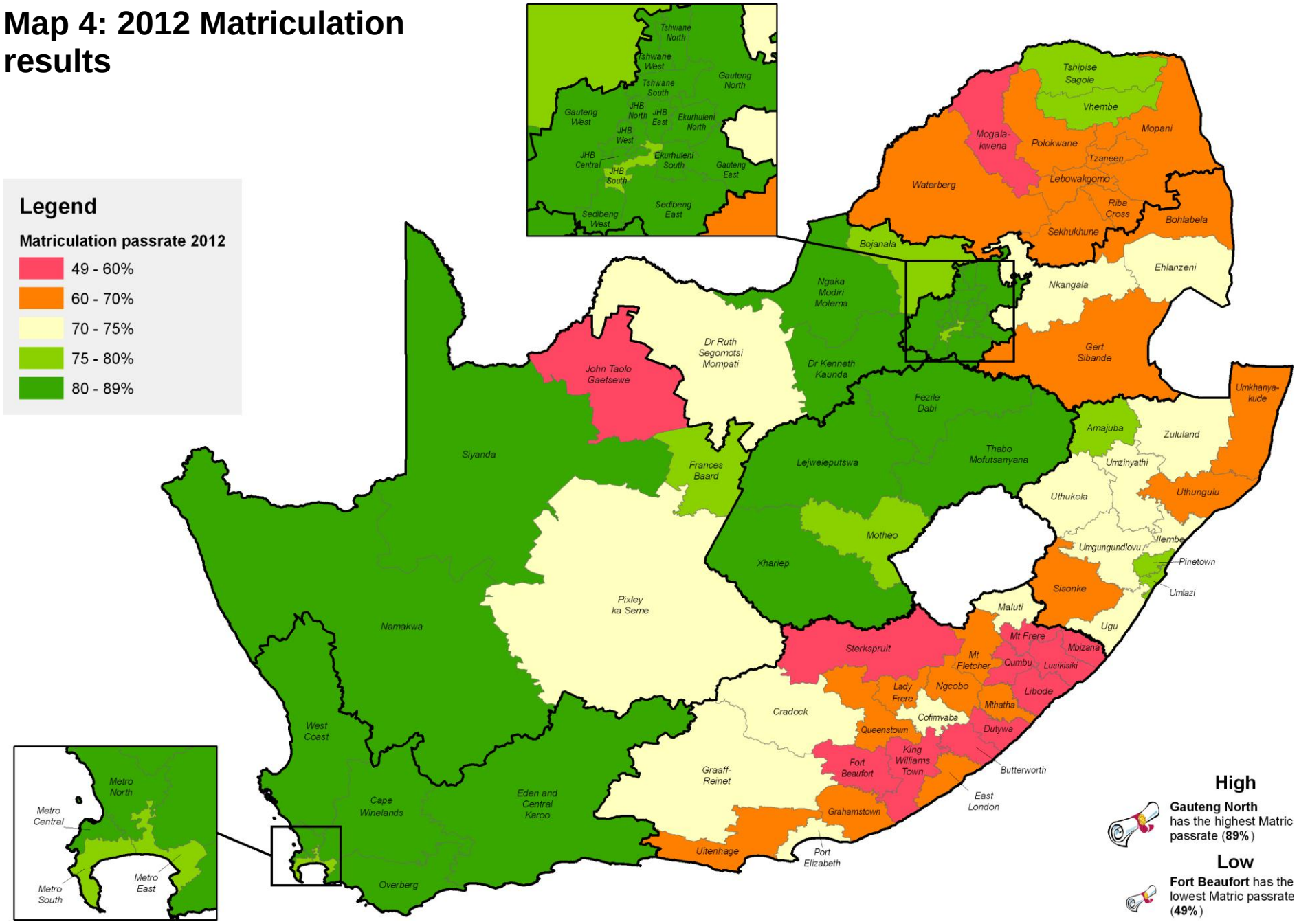
Province	Education District	Matric Pass rate 2012	Rank (1 = best pass rate) worst 10 highlighted	Passed Matric as a % of all Grade 12 learners	Learner years of effort to produce a Matric Pass
EC	King Williams Town	57%	79	51%	35
EC	Lady Frere	63%	69	56%	45
EC	Libode	59%	75	37%	84
EC	Lusikisiki	59%	76	57%	85
EC	Maluti	72%	48	66%	57
EC	Mbizana	58%	78	50%	75
EC	Mt Fletcher	67%	61	65%	50
EC	Mt Frere	50%	85	45%	65
EC	Mthatha	66%	64	58%	41
EC	Ngcobo	61%	73	57%	73
EC	Port Elizabeth	71%	52	67%	36
EC	Queenstown	62%	71	57%	37
EC	Qumbu	50%	84	49%	61
EC	Sterkspruit	56%	80	52%	54
EC	Uitenhage	69%	58	56%	50
FS	Fezile Dabi	81%	28	78%	36
FS	Lejweleputswa	83%	18	79%	35
FS	Motheo	80%	29	76%	31
FS	Thabo Mofutsanyana	81%	26	78%	34
FS	Xhariep	82%	22	80%	47
GT	Ekurhuleni North	88%	3	76%	26
GT	Ekurhuleni South	82%	21	76%	27
GT	Gauteng East	81%	24	74%	33
GT	Gauteng North	89%	1	80%	32
GT	Gauteng West	86%	12	71%	30
GT	Johannesburg Central	81%	25	72%	31
GT	Johannesburg East	86%	9	60%	33
GT	Johannesburg North	84%	16	71%	29
GT	Johannesburg South	80%	32	63%	35
GT	Johannesburg West	85%	14	74%	32
GT	Sedibeng East	86%	8	79%	28
GT	Sedibeng West	81%	27	74%	30
GT	Tshwane North	88%	2	84%	26
GT	Tshwane South	87%	5	70%	23
GT	Tshwane West	86%	13	78%	26
KZ	Amajuba	78%	35	75%	28
KZ	Ilembe	70%	54	66%	35

Province	Education District	Matric Pass rate 2012	Rank (1 = best pass rate) worst 10 highlighted	Passed Matric as a % of all Grade 12 learners	Learner years of effort to produce a Matric Pass
KZ	Pinetown	78%	36	73%	30
KZ	Sisonke	69%	56	62%	41
KZ	Ugu	72%	47	68%	32
KZ	Umgungundlovu	75%	40	62%	28
KZ	Umkhanyakude	65%	66	58%	37
KZ	Umlazi	80%	30	72%	23
KZ	Umzinyathi	72%	50	65%	37
KZ	Uthukela	73%	43	69%	34
KZ	Uthungulu	67%	62	61%	32
KZ	Zululand	72%	46	65%	32
LP	Lebowakgomo	66%	63	64%	27
LP	Mogalakwena	55%	81	51%	39
LP	Mopani	63%	70	58%	34
LP	Polokwane	66%	65	63%	28
LP	Riba Cross	60%	74	57%	49
LP	Sekhukhune	64%	67	59%	40
LP	Tshipise Sagole	79%	33	71%	34
LP	Tzaneen	63%	68	56%	32
LP	Vhembe	76%	38	74%	30
LP	Waterberg	70%	55	64%	46
MP	Bohlabela	61%	72	55%	31
MP	Ehlanzeni	75%	41	71%	27
MP	Gert Sibande	69%	57	65%	36
MP	Nkangala	73%	42	69%	34
NC	Frances Baard	76%	39	73%	35
NC	John Taolo Gaetsewe	58%	77	48%	77
NC	Namakwa	86%	7	83%	32
NC	Pixley ka Seme	71%	53	64%	55
NC	Siyanda	82%	23	75%	36
NW	Bojanala	80%	31	75%	30
NW	Dr Kenneth Kaunda	83%	19	77%	36
NW	Dr Ruth Segomotsi Mompati	72%	49	72%	52
NW	Ngaka Modiri Molema	82%	20	80%	36
WC	Cape Winelands	85%	15	79%	28
WC	Eden and Central Karoo	87%	6	81%	29
WC	Metro Central	83%	17	79%	24
WC	Metro East	77%	37	72%	30

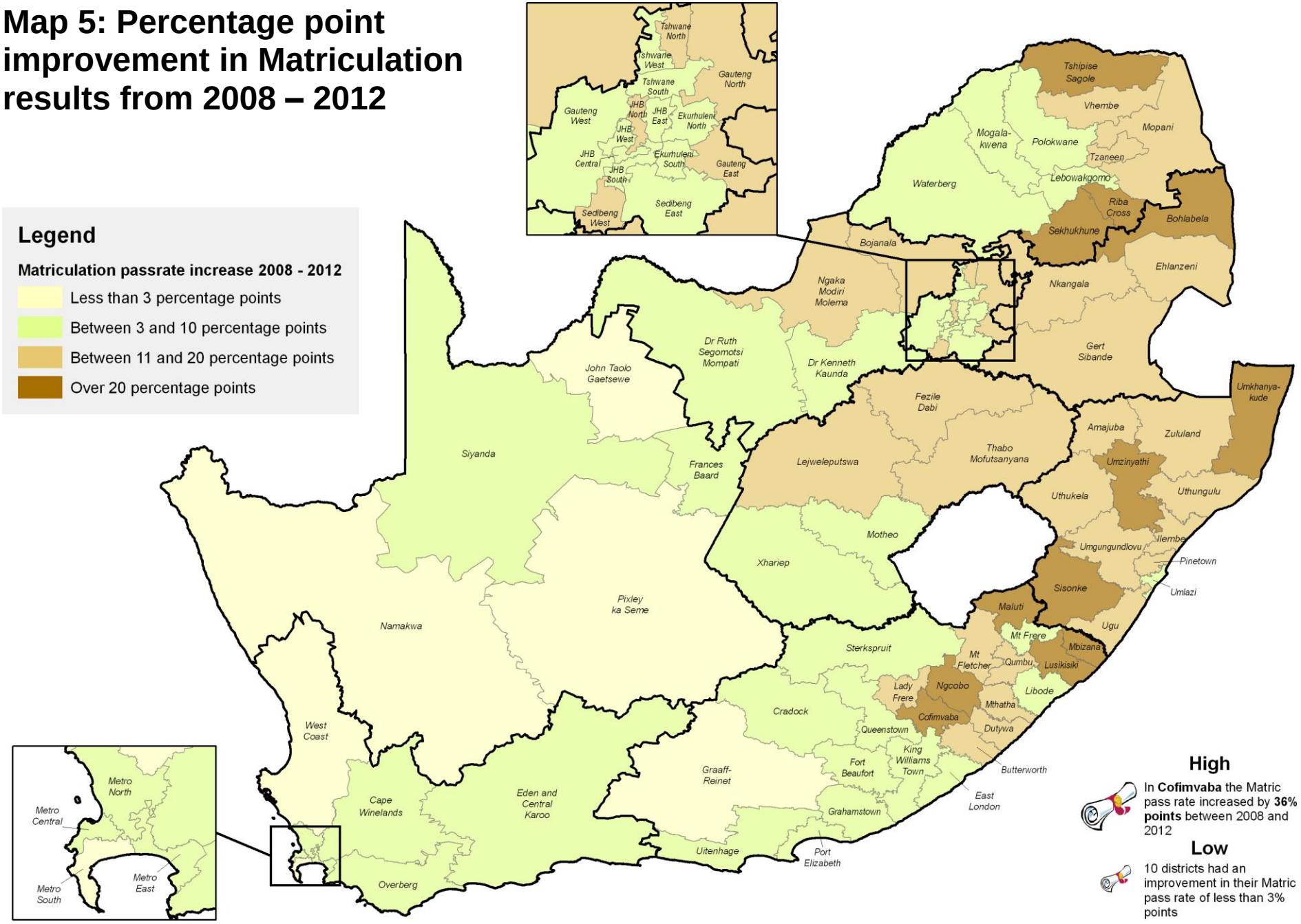
Province	Education District	Matric Pass rate 2012	Rank (1 = best pass rate) worst 10 highlighted	Passed Matric as a % of all Grade 12 learners	Learner years of effort to produce a Matric Pass
WC	Metro North	86%	10	81%	28
WC	Metro South	78%	34	74%	30
WC	Overberg	86%	11	80%	35
WC	West Coast	87%	4	81%	35
Total		70%			

Table 8: Matriculation pass rate in 2012, Matric passes in relation to enrolment and learner years of effort to produce a pass

Map 4: 2012 Matriculation results



Map 5: Percentage point improvement in Matriculation results from 2008 – 2012



2.3 'Underperforming' Schools

Table 9 below shows the number and proportion of schools per province that achieved a Matriculation pass rate of less than 40% per year from 2008 to 2012. These schools generally receive a great deal of negative attention when the Matriculation results are released, often being referred to as 'failing' or 'under-performing' schools. They may be put on a watch list and/or visited by the Provincial Education Member of the Executive Council (MEC) in an attempt to apply pressure to improve matters.

Table 9 shows a considerable reduction in the number of schools achieving less than 40%, from a peak of 1773 in the year 2009 to 608 in 2012. The table shows that three provinces accounted for the bulk of these schools: Eastern Cape, KwaZulu-Natal and Limpopo. Numbers have come down in all provinces, but the greatest improvement in proportional terms was Gauteng, where the number dropped from 39 in 2008 to 4 in 2012, a 90% reduction. Mpumalanga and Free State both had an 80% reduction in poorly performing schools.

Province	Schools that achieved less than 50% in Matric by year				
	2008	2009	2010	2011	2012
Eastern Cape	410	391	268	241	219
Free State	22	25	17	10	4
Gauteng	39	50	20	5	4
KwaZulu-Natal	561	435	208	224	143
Limpopo	472	567	346	222	185
Mpumalanga	180	216	134	80	30
North West	42	44	12	16	12
Northern Cape	13	26	8	8	5
Western Cape	18	19	13	3	6
Total	**1 757**	**1 773**	**1 026**	**809**	**608**

Table 9: Number of schools achieving less than 40% in the Matriculation exams

The reasons why schools produce poor results are complex. Other schools that are objectively equally poor in terms of the quality of education they offer can avoid the under-performing list through various forms of gatekeeping. For this reason it is necessary to look at the number and quality of passes (as well as subject choices) in relation to total enrolment at the school, and the throughput from much earlier grades. What is not clear is the extent to which the difficulty of the exam has remained constant during this period.. Although PED and DBE initiatives and support have been implemented across schools, the exact effect of these is difficult to measure.

Figure 3 below shows the proportion of schools in each province that achieved less than 40% in 2012. The proportions are very low in Free State, Gauteng, Western Cape and North West. Poorly performing schools in these provinces are conspicuous and in better organised provinces likely to receive special attention. Provinces such as the Eastern Cape, Limpopo and KwaZulu-Natal face a different scenario. The numbers are very high and poorly performing schools are scattered far and wide, especially in rural areas and districts categorised as dysfunctional to start with. Almost one quarter of all Secondary schools in the Eastern Cape achieved less than 40%. The challenges of dealing with this number of poorly performing schools are immense. The continuous pressure to improve results will also lead to unfortunate outcomes for many learners who, as perceived weaker candidates, may be prevented from writing the Matriculation exam in the first place.

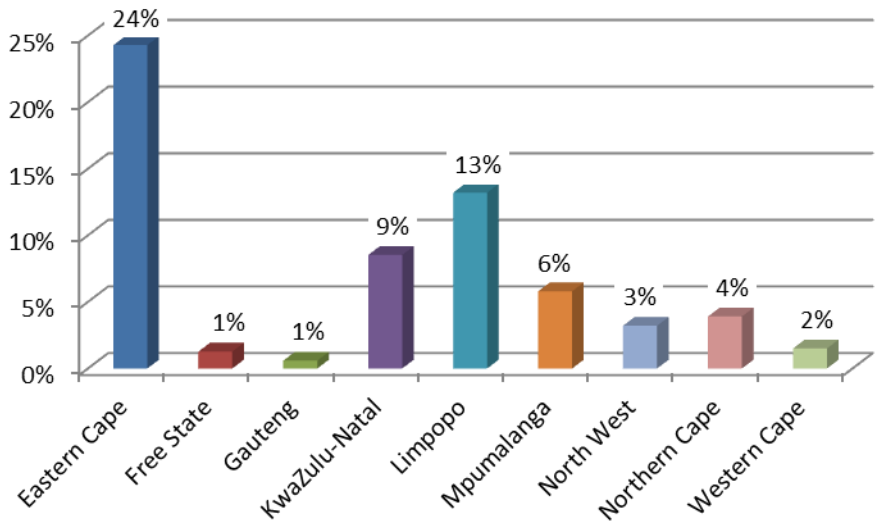


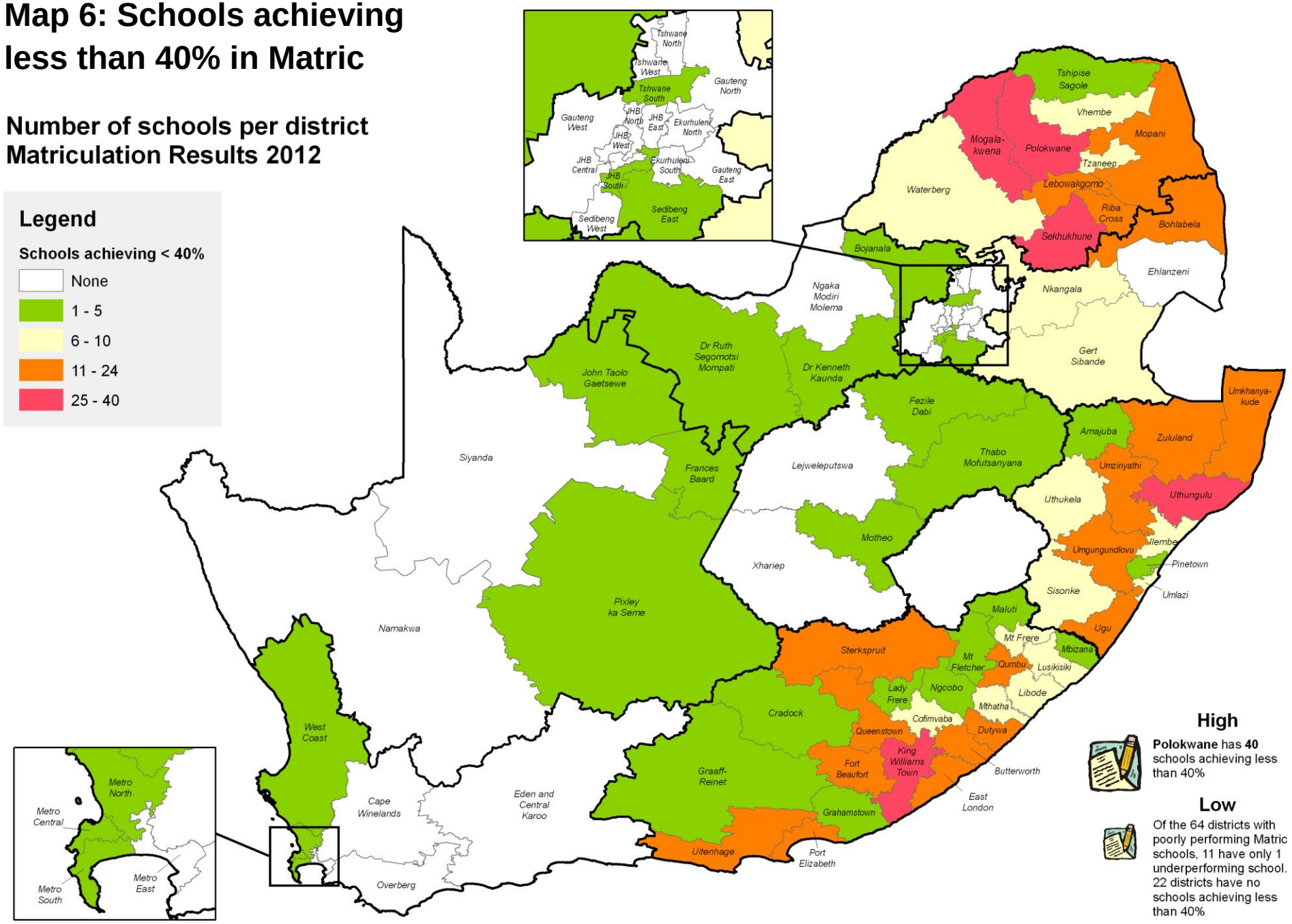
Figure 3: Percentage schools per province achieving less than 40% in the 2012 Matriculation exams

Map 6 overleaf shows the number of schools per district that achieved a Matriculation pass rate of less than 40% in 2012. Districts shaded in red are those with a high number of underperforming schools. Districts not shaded (white) are those with no schools with a pass rate below 40%.

High numbers of poorly performing schools are in districts in Limpopo, KwaZulu-Natal, the Eastern Cape and Mpumalanga. The worst district is Polokwane, which had 40 schools achieving less than 40% in 2012. Sekhukhune, Grahamstown and Mogalakwena also had more than 30 each. The worst in terms of proportion of schools that achieved less than 40% was Mogalakwena since 11% of its schools met this criterion.

Map 6: Schools achieving less than 40% in Matric

Number of schools per district Matriculation Results 2012



2.4 Subject Choices: Mathematics versus Maths Literacy

The subject choices that Matriculants make will have an effect on their future opportunities as well as on the pass rates of their respective education districts and provinces. In order to obtain a National Senior Certificate, learners must pass either Mathematic Literacy or Mathematics. To obtain a Bachelor Degree pass, learners must pass their home language at greater than 40% as well as four subjects from a designated list at greater than 40% and two subjects at a minimum of 30%. It is not, therefore a requirement that learners pass Mathematics in order to achieve a Bachelor Degree pass, unless they wish to pursue a technical subject such as engineering at college or university.

There has been considerable debate over the relative merits of Mathematics versus Maths Literacy. Some commentators have argued that Maths Literacy amounts to a 'dumbing down'[28] of the Mathematics syllabus and is not a worthwhile choice for learners. Others have argued that Maths Literacy has been unfairly stigmatised by people who do not understand what it is about[29]. They note that Maths Literacy is a subject that uses Mathematical concepts, and applies them to everyday situations – it is not an alternative to Standard Grade Mathematics, but an entirely new and independent subject.

In any event, Maths Literacy will not be sufficient for learners wishing to gain acceptance into certain university courses. Learners wanting to study degrees in engineering or Natural Sciences will have to pass Mathematics in order to qualify for university admission. There are also a number of 'non-science' related university subjects that require a Mathematics pass such as Economics, Marketing, Accounting, Information Technology, Law etc. Some learners change to Maths Literacy without realising the major impact it will have on their future study and employment prospects.

Map 7 on **Page 60** shows the proportion of all Matriculants per district that wrote Mathematics (as opposed to Maths Literacy). The dark red colour indicates districts where a high proportion of learners wrote Mathematics. The proportion of learners that write Mathematics is very much at odds with the Matriculation pass rate (shown in **Map 4**).

Education districts in the Eastern Cape have by far the highest proportion of Matriculants who wrote Mathematics as opposed to Maths Literacy. This province was also conspicuous in having the *lowest* overall Matric pass rate of all provinces in 2012. By contrast, the lowest proportion of Matriculants that wrote Mathematics was in the Northern Cape, which often tends to have one of the best Matric pass rates.

Table 10 overleaf shows the proportion of learners writing Mathematical Literacy versus Mathematics as well as the Mathematics pass rate for each district. The districts have been ranked in terms of the proportion writing Mathematics such that 1 represents the district with the highest proportion. They have also been ranked in terms of their Mathematics pass rate. The bottom 10 districts in both cases are highlighted in red.

The districts with the highest proportion of learners that write Mathematics are all in the Eastern Cape. In Mthatha, 79% of all Matriculants wrote Mathematics in 2012, in Dutywa it was 74% and in Cofimvaba it was 73%. Unfortunately, the Mathematics pass rates in these districts are also particularly poor at 42%, 33% and 50% respectively. Districts with a high proportion of learners that write Mathematics tend to have an equally high proportion that fail. Are these learners making the right subject choices? Perhaps they have been actively discouraged from taking Maths Literacy due to teaching deficiencies in this subject?

[28] Jonathan Jansen for example

[29] Robyn Clark: Maths vs. Maths Literacy: the continuing debate. Mail & Guardian, Jan 2012

In comparison with the Eastern Cape, learners in the Northern and Western Cape as well as two Gauteng districts are much more likely to write Maths Literacy, which greatly bolsters their overall Matric pass rates.

It appears that learners in both the Eastern Cape and the Northern/Western Cape may be poorly-advised. Eastern Cape learners in districts with particularly poor Mathematics pass rates should, at least in the short term, be encouraged to write Maths Literacy.In the longer term these districts should of course improve Mathematics instruction, and overall better career-guidance and learner aptitude assessment skills should be developed in order to advise learners appropriately . The large proportions of learners in the Northern and Western Cape who are writing Maths Literacy are probably under-stretched. A greater proportion should consider writing Mathematics, especially since it determines their prospects for tertiary study.

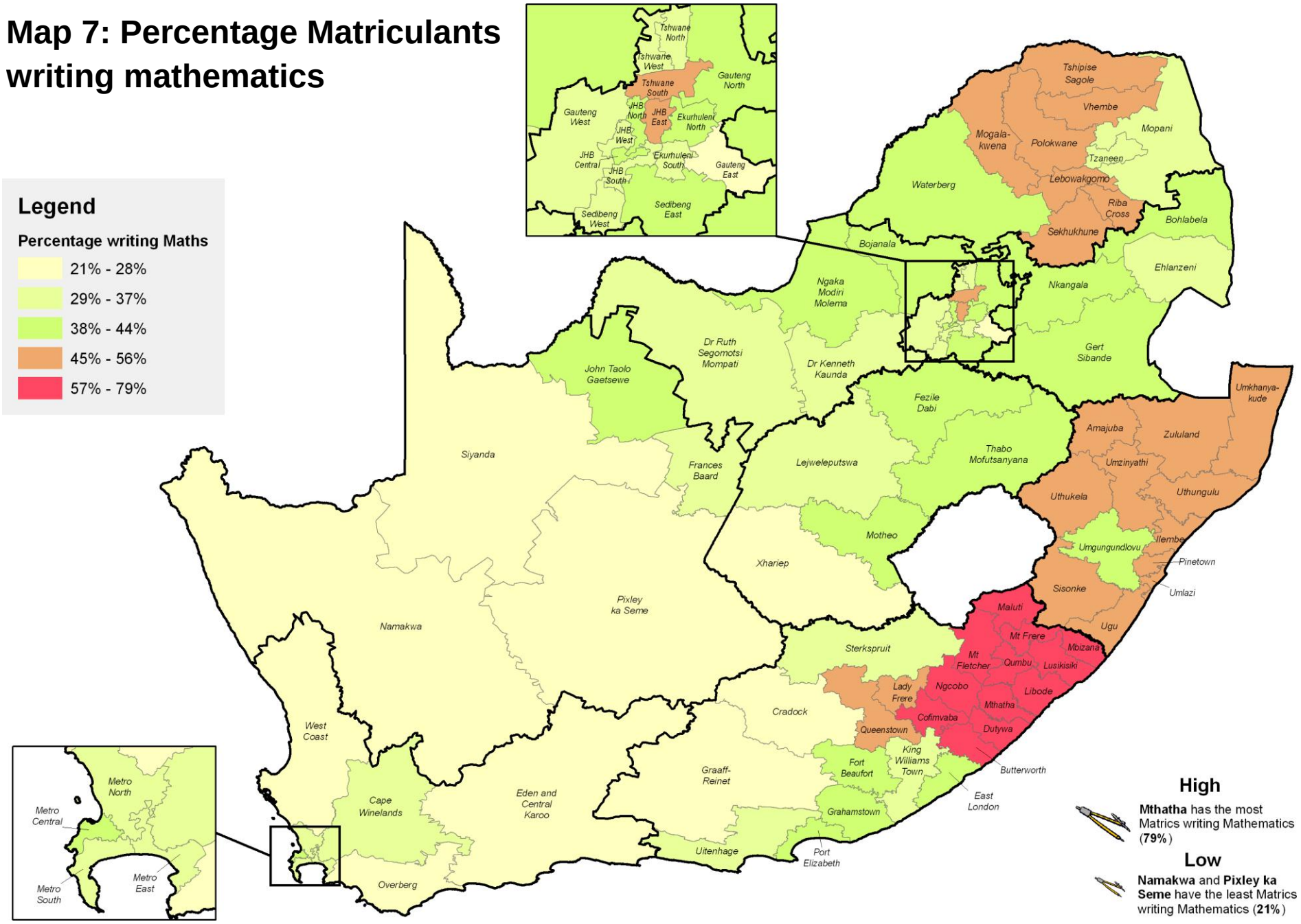
Note that Namakwa has the dubious distinction of having a relatively high Mathematics pass rate (65%) but also the lowest proportion of Matriculants who write Mathematics (21%) of all districts. There is clearly a very different streaming process in play in this district in comparison to Eastern Cape districts.

Province	Education District	Proportion who Wrote Mathematical Literacy	Proportion who Wrote Maths	Proportion writing Maths Rank (1 = highest proportion) lowest 10 highlighted	Pass rate Mathematics	Mathematics Pass Rank (1 = best) lowest 10 highlighted
EC	Butterworth	33%	67%	8	30%	82
EC	Cofimvaba	27%	73%	3	50%	56
EC	Cradock	75%	25%	82	53%	50
EC	Dutywa	26%	74%	2	33%	79
EC	East London	57%	43%	37	51%	53
EC	Fort Beaufort	61%	39%	54	32%	80
EC	Graaff-Reinet	72%	28%	78	54%	45
EC	Grahamstown	61%	39%	52	57%	43
EC	King Williams Town	64%	36%	60	39%	70
EC	Lady Frere	52%	48%	22	38%	73
EC	Libode	34%	66%	10	26%	84
EC	Lusikisiki	38%	62%	11	29%	83
EC	Maluti	32%	68%	6	41%	68
EC	Mbizana	38%	62%	12	38%	71
EC	Mt Fletcher	33%	67%	7	44%	65
EC	Mt Frere	30%	70%	5	23%	86
EC	Mthatha	21%	79%	1	42%	66
EC	Ngcobo	34%	66%	9	31%	81
EC	Port Elizabeth	58%	42%	39	54%	46
EC	Queenstown	55%	45%	33	45%	64
EC	Qumbu	28%	72%	4	25%	85
EC	Sterkspruit	63%	37%	56	33%	78
EC	Uitenhage	67%	33%	68	56%	44
FS	Fezile Dabi	60%	40%	44	65%	23
FS	Lejweleputswa	63%	37%	57	64%	25
FS	Motheo	61%	39%	48	65%	24
FS	Thabo Mofutsanyana	58%	42%	40	66%	21
FS	Xhariep	78%	22%	84	58%	39
GT	Ekurhuleni North	62%	38%	55	78%	6
GT	Ekurhuleni South	69%	31%	76	68%	18
GT	Gauteng East	73%	27%	79	67%	19
GT	Gauteng North	60%	40%	47	72%	15
GT	Gauteng West	68%	32%	73	76%	7
GT	Johannesburg Central	61%	39%	51	60%	34
GT	Johannesburg East	54%	46%	28	72%	13
GT	Johannesburg North	59%	41%	42	73%	12
GT	Johannesburg South	67%	33%	69	61%	31
GT	Johannesburg West	68%	32%	74	73%	10
GT	Sedibeng East	61%	39%	53	71%	17
GT	Sedibeng West	65%	35%	65	66%	20
GT	Tshwane North	64%	36%	61	78%	5
GT	Tshwane South	50%	50%	18	81%	2

Province	Education District	Proportion who Wrote Mathematical Literacy	Proportion who Wrote Maths	Proportion writing Maths Rank (1 = highest proportion) lowest 10 highlighted	Pass rate Mathematics	Mathematics Pass Rank (1 = best) lowest 10 highlighted
GT	Tshwane West	67%	33%	72	73%	11
KZ	Amajuba	54%	46%	29	61%	30
KZ	Ilembe	51%	49%	21	36%	75
KZ	Pinetown	54%	46%	31	53%	48
KZ	Sisonke	53%	47%	24	36%	76
KZ	Ugu	54%	46%	30	45%	63
KZ	Umgungundlovu	57%	43%	36	49%	59
KZ	Umkhanyakude	54%	46%	27	38%	74
KZ	Umlazi	48%	52%	15	57%	42
KZ	Umzinyathi	49%	51%	17	50%	57
KZ	Uthukela	52%	48%	23	47%	61
KZ	Uthungulu	44%	56%	13	42%	67
KZ	Zululand	46%	54%	14	51%	55
LP	Lebowakgomo	54%	46%	26	51%	54
LP	Mogalakwena	50%	50%	19	40%	69
LP	Mopani	66%	34%	67	52%	52
LP	Polokwane	54%	46%	25	53%	51
LP	Riba Cross	55%	45%	34	49%	58
LP	Sekhukhune	51%	49%	20	46%	62
LP	Tshipise Sagole	55%	45%	32	60%	36
LP	Tzaneen	67%	33%	70	54%	47
LP	Vhembe	48%	52%	16	58%	40
LP	Waterberg	60%	40%	45	61%	29
MP	Bohlabela	60%	40%	46	35%	77
MP	Ehlanzeni	64%	36%	62	58%	41
MP	Gert Sibande	59%	41%	43	59%	37
MP	Nkangala	59%	41%	41	59%	38
NC	Frances Baard	64%	36%	63	60%	32
NC	John Taolo Gaetsewe	58%	42%	38	38%	72
NC	Namakwa	79%	21%	86	65%	22
NC	Pixley ka Seme	79%	21%	85	48%	60
NC	Siyanda	72%	28%	77	63%	27
NW	Bojanala	61%	39%	50	60%	35
NW	Dr Kenneth Kaunda	63%	37%	58	64%	26
NW	Dr Ruth Segomotsi Mompati	65%	35%	66	53%	49
NW	Ngaka Modiri Molema	61%	39%	49	60%	33
WC	Cape Winelands	67%	33%	71	79%	4
WC	Eden and Central Karoo	75%	25%	81	82%	1
WC	Metro Central	56%	44%	35	75%	8
WC	Metro East	68%	32%	75	62%	28
WC	Metro North	64%	36%	59	74%	9
WC	Metro South	65%	35%	64	71%	16
WC	Overberg	75%	25%	83	72%	14
WC	West Coast	74%	26%	80	80%	3

Table 10: Proportion of learners writing Mathematical Literacy versus Mathematics and Mathematics pass rate

Map 7: Percentage Matriculants writing mathematics



2.5 Subject Choices: Proportion of learners passing key Matric subjects

Table 11 shows the percentage of all Matriculants who wrote and passed 10 key subjects in Matric in 2012. The percentages are calculated by dividing the number of learners who passed each subject by the total number of learners who wrote Matric in that province. In the Northern Cape for example there was a total of 8 925 learners that wrote Matric in 2012. Of these, 2 864 elected to write Mathematics (32%), but only 1 572 achieved a pass. Hence the proportion of **all** Matriculants in the Northern Cape that achieved a Mathematics pass was 18%. Similarly, in Gauteng there were 89 627 learners who wrote Matric, of which 40 278 wrote Business Studies and 34 246 passed, meaning the proportion of all Matriculants that achieved a Business Studies pass in this province was 38%.

The figures provide a broad indication of provincial subject choices, as well as the significance of certain key subjects in provinces and how 'productive' provinces are in terms of particular subject passes. The Eastern Cape for example has the highest proportion of all learners that wrote mathematics in 2012 (58% – the next highest being KwaZulu-Natal with 50% – see previous section) but such a low pass rate that in the end only 22% of all Matriculants achieve a mathematics pass. Gauteng has one of the lowest proportions of Matriculants that write Maths (38%) but a relatively good pass rate amongst these, so that 27% of all Matriculants achieve a maths pass, the highest proportion of all provinces.

There are several subjects with very high variations between provinces in terms of Matriculants that write and achieve a pass. In some cases this is clearly a case of access to available teaching resources. Computer Applications Technology is a case in point. One fifth of Western Cape Matriculants achieved a pass in this subject compared to only 2% in Limpopo, yet this has more to do with the practicalities of facilities for teaching (i.e. computer laboratories) than learner performance. One or two other interesting figures present themselves. Limpopo for example is the joint top ranked province (together with Free State) in terms of percentage of all Matriculants that achieve a pass in Physical Sciences – outperforming Gauteng and the Western Cape. It also does well in Life Sciences, only being exceeded by the Western Cape. KwaZulu-Natal is the top ranked province in terms of the proportion of Matriculants that achieve a pass in Accounting and Economics.

Province	Accounting	Agricultural Sciences	Business Studies	Computer Applications Technology	Economics	Geography	History	Life Sciences	Mathematics	Physical Sciences
Eastern Cape	17%	18%	26%	6%	18%	27%	17%	39%	22%	20%
Free State	20%	5%	29%	15%	19%	27%	11%	40%	25%	24%
Gauteng	18%	1%	38%	13%	21%	32%	19%	37%	27%	23%
KwaZulu-Natal	21%	11%	35%	4%	22%	31%	16%	36%	24%	21%
Limpopo	14%	22%	17%	2%	20%	37%	11%	40%	24%	24%
Mpumalanga	13%	18%	26%	6%	17%	30%	8%	34%	21%	22%
Northern Cape	17%	6%	28%	13%	13%	34%	25%	38%	18%	15%
North West	13%	13%	27%	9%	17%	40%	15%	39%	23%	21%
Western Cape	16%	1%	30%	19%	13%	29%	25%	41%	25%	18%
South Africa	**17%**	**11%**	**30%**	**8%**	**19%**	**32%**	**16%**	**38%**	**24%**	**22%**

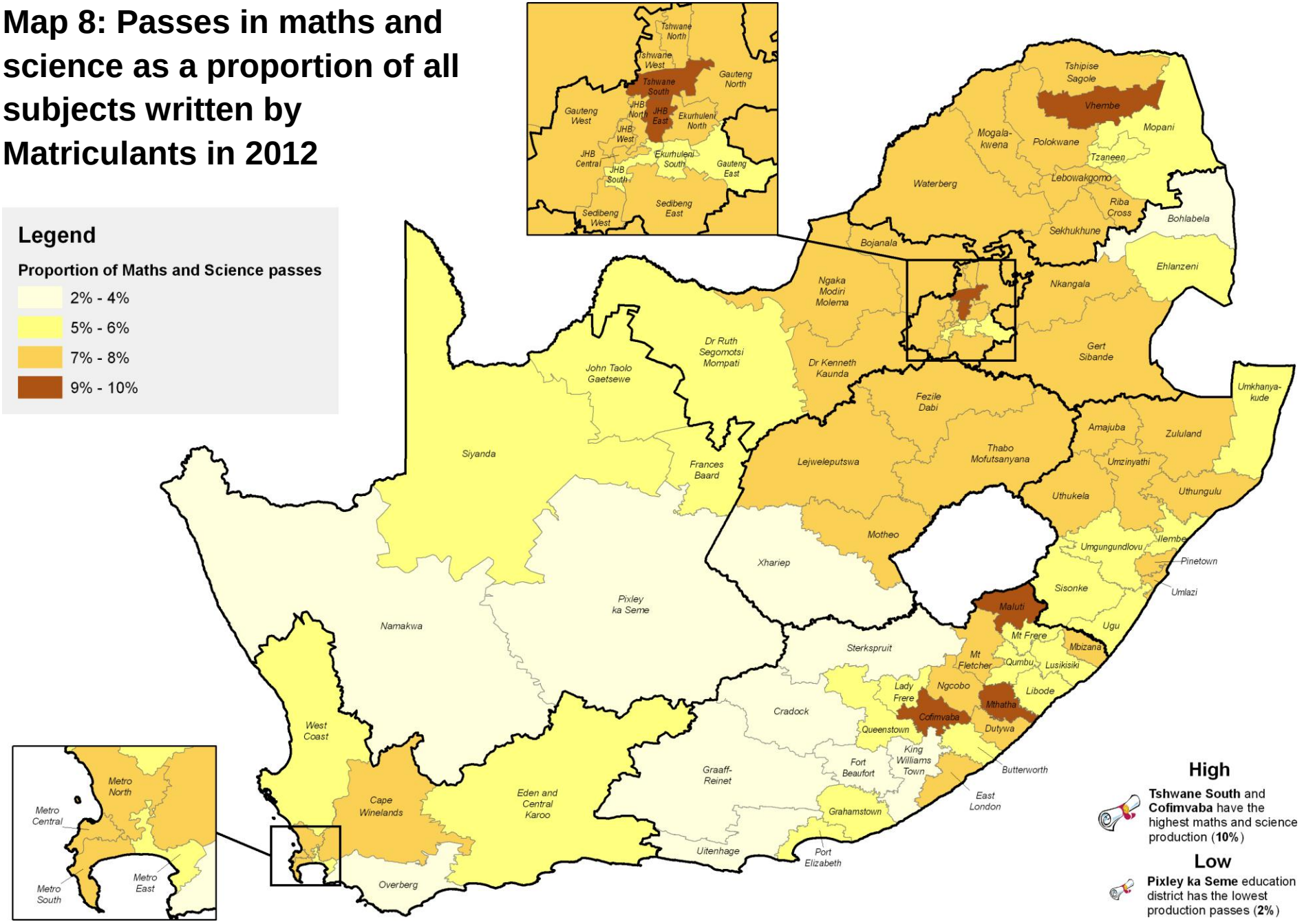
Table 11: Proportion of **all** Matriculants who wrote **and** passed key Matric subjects

Map 8 overleaf provides a spatial picture of the *effectiveness* of districts in producing passes in Mathematics and Science. The percentages are a derived figure indicating the relative 'productivity' of each district. This is measured as the proportion of all Matriculants and subjects taken that result in a Maths or a Science pass. In Cofimvaba district for example there were 1560 learners that wrote Matric. These 1 560 learners wrote a total of 11 090 subjects altogether and managed to

achieve 578 maths and 504 science passes. The Maths/Science productivity measure is therefore (578 + 504) / 11 090 = 9.7% for this district.

Cofimvaba is an interesting case in point because it is the second most 'productive' district for this measure in South Africa, after Tshwane South which has 10%. There are some other interesting anomalies. West Coast District in the Western Cape had a Matric pass rate in 2012 of 87% and was ranked 4th overall, yet it only managed to produce 745 Maths and Science passes altogether, which in relation to all subjects taken by Matriculants was 4%, less than half of Cofimvaba, which was ranked 45th in terms of Matric results. Which district performed better in terms of potential contribution to the economy?

Map 8: Passes in maths and science as a proportion of all subjects written by Matriculants in 2012



2.6 Choice of home language

The comparison of districts in terms of their Matric pass rates provides a general sense of how well they perform relative to one another. It is also useful to examine the subject specific data in order to gain an understanding of home language choices and the extent to which certain languages are favoured by learners in different parts of the country.

Map 9 on **Page 68** shows the various home language choices of Matriculants in 2011. The districts are colour shaded according to the dominant home language choice. Districts shaded in light blue are those where several different languages were chosen. All other colours represent districts where one language was dominant i.e. chosen by more than 75% of learners. The various dominant languages are labelled on the map.

Matriculants in 14 districts wrote Xhosa as First Language (Eastern Cape) and in 8 districts learners wrote IsiZulu.

SiSwati, Tshivenda and Sesotho are the dominant language choices in only one education district each, namely Enhlanzeni, Tshipiso Sagole and Thabo Mafutsanyana. Over half the districts in South Africa (48) did not have a specific single language that was chosen by more than 75% of Matriculants.

Figure 4 below shows the total number of Matriculants that chose each of the 11 official languages. IsiZulu was the largest, chosen by 123 053 learners, followed by English (83 915) and IsiXhosa (70 675).

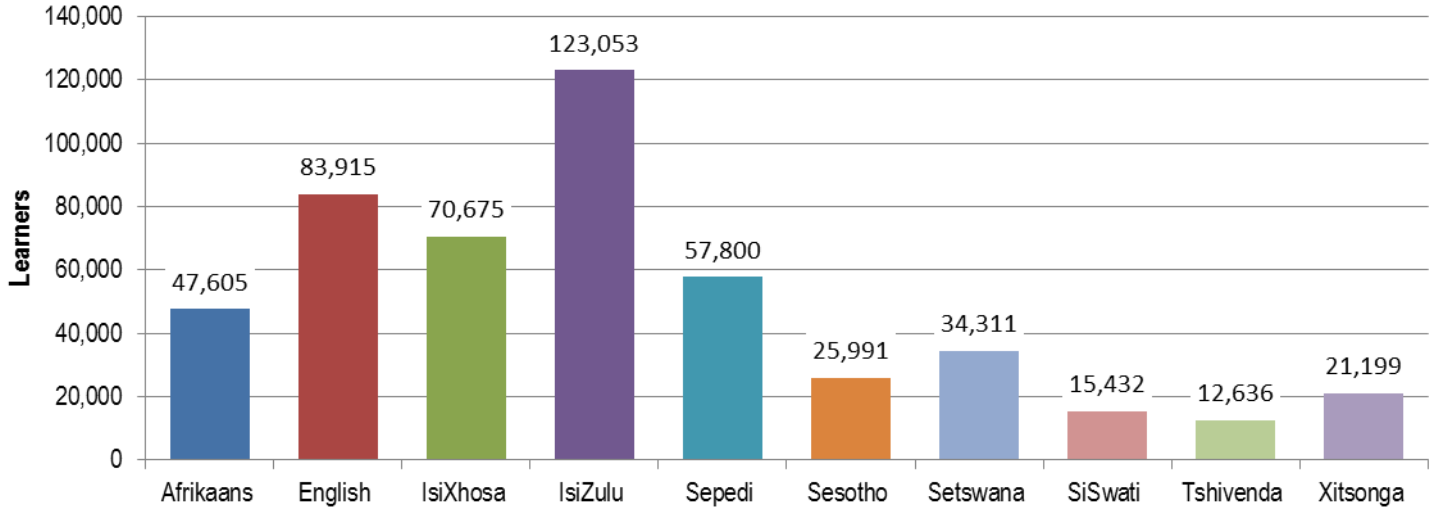


Figure 4: Learners choice of home language in the Matric Exams 2011

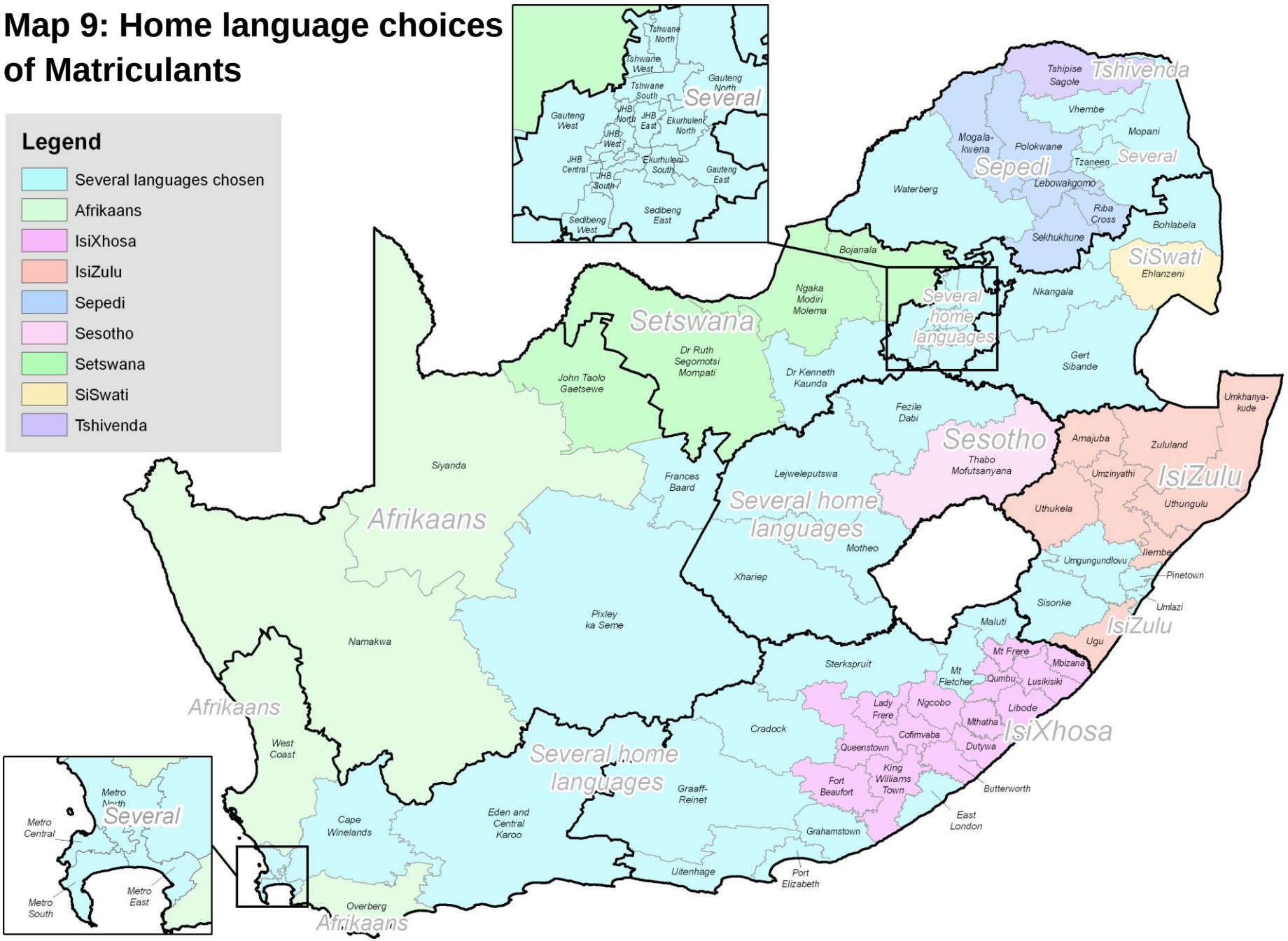
Table 12 overleaf shows the main home languages chosen by Matriculants in each district in 2011. Education districts with a mixture of home languages are labelled with the percentage of Matriculants taking each language.

Province	Education District	Home Language chosen by Matriculants (multiple languages indicated if main language is less than 75%)
EC	Butterworth	*IsiXhosa*
EC	Cofimvaba	*IsiXhosa*
EC	Cradock	*IsiXhosa (57%), Afrikaans (36%)*
EC	Dutywa	*IsiXhosa*
EC	East London	*IsiXhosa (70%), English (27%)*
EC	Fort Beaufort	*IsiXhosa*
EC	Graaff-Reinet	*Afrikaans (67%), IsiXhosa (21%), English (12%)*
EC	Grahamstown	*IsiXhosa (61%), English (32%)*
EC	King Williams Town	*IsiXhosa*
EC	Lady Frere	*IsiXhosa*
EC	Libode	*IsiXhosa*
EC	Lusikisiki	*IsiXhosa*
EC	Maluti	*IsiXhosa (58%), Sesotho (33%)*
EC	Mbizana	*IsiXhosa*
EC	Mt Fletcher	*IsiXhosa (65%), Sesotho (28%)*
EC	Mt Frere	*IsiXhosa*
EC	Mthatha	*IsiXhosa*
EC	Ngcobo	*IsiXhosa*
EC	Port Elizabeth	*IsiXhosa (48%), English (31%), Afrikaans (20%)*
EC	Queenstown	*IsiXhosa*
EC	Qumbu	*IsiXhosa*
EC	Sterkspruit	*IsiXhosa (71%), Sesotho (16%)*
EC	Uitenhage	*IsiXhosa (46%), Afrikaans (41%), English (14%)*
FS	Fezile Dabi	*Sesotho (71%), Afrikaans (15%), English (10%)*
FS	Lejweleputswa	*Sesotho (63%), English (14%), Afrikaans (13%)*
FS	Motheo	*Sesotho (49%), Afrikaans (17%), English (17%)*
FS	Thabo Mofutsanyana	*Sesotho*
FS	Xhariep	*Sesotho (45%), Afrikaans (31%), IsiXhosa (14%)*
GT	Ekurhuleni North	*English (41%), IsiZulu (18%), Sepedi (15%)*
GT	Ekurhuleni South	*English (30%), IsiZulu (26%), Sesotho (14%), Afrikaans (14%)*
GT	Gauteng East	*IsiZulu (43%), English (22%), Afrikaans (15%)*
GT	Gauteng North	*IsiZulu (36%), English (26%), Sepedi (25%)*
GT	Gauteng West	*Setswana (35%), Afrikaans (23%), English (21%)*
GT	Johannesburg Central	*English (37%), IsiZulu (29%), Sesotho (14%)*
GT	Johannesburg East	*English (62%), IsiZulu (15%), Sepedi (12%)*
GT	Johannesburg North	*English (51%), IsiZulu (15%)*
GT	Johannesburg South	*English (53%), IsiZulu (26%), Sesotho (15%)*
GT	Johannesburg West	*English (27%), IsiZulu (23%), Setswana (16%) Afrikaans (11%)*
GT	Sedibeng East	*English (34%), Afrikaans (30%), Sesotho (23%)*
GT	Sedibeng West	*Sesotho (54%), IsiZulu (13%), English (13%) Afrikaans (13%)*
GT	Tshwane North	*Setswana (38%), Afrikaans (24%), Sepedi (15%)*
GT	Tshwane South	*English (40%), Afrikaans (27%), Sepedi (19%)*
GT	Tshwane West	*Setswana (45%), English (22%), Afrikaans (16%)*
KZ	Amajuba	*IsiZulu*
KZ	Ilembe	*IsiZulu*
KZ	Pinetown	*IsiZulu (66%), English (34%)*
KZ	Sisonke	*IsiZulu (53%), IsiXhosa (41%)*
KZ	Ugu	*IsiZulu*
KZ	Umgungundlovu	*IsiZulu (71%), English (28%)*
KZ	Umkhanyakude	*IsiZulu*
KZ	Umlazi	*IsiZulu (50%), English (48%)*
KZ	Umzinyathi	*IsiZulu*
KZ	Uthukela	*IsiZulu*
KZ	Uthungulu	*IsiZulu*
KZ	Zululand	*IsiZulu*
LP	Lebowakgomo	*Sepedi*
LP	Mogalakwena	*Sepedi*
LP	Mopani	*Sepedi (54%), Xitsonga (44%)*
LP	Polokwane	*Sepedi*
LP	Riba Cross	*Sepedi*
LP	Sekhukhune	*Sepedi*
LP	Tshipise Sagole	*Tshivenda*
LP	Tzaneen	*Sepedi (53%), Xitsonga (41%)*
LP	Vhembe	*Tshivenda (66%), Xitsonga (32%)*
LP	Waterberg	*Sepedi (52%), Setswana (22%), Afrikaans (17%)*
MP	Bohlabela	*Xitsonga (62%), Sepedi (29%)*
MP	Ehlanzeni	*SiSwati*
MP	Gert Sibande	*IsiZulu (49%), SiSwati (29%), English (12%)*
MP	Nkangala	*IsiNdebele (30%), IsiZulu (24%), Sepedi (19%) English (10%)*
NC	Frances Baard	*Setswana (45%), Afrikaans (30%), English (21%)*
NC	John Taolo Gaetsewe	*Setswana*
NC	Namakwa	*Afrikaans*
NC	Pixley ka Seme	*Afrikaans (73%), IsiXhosa (22%)*
NC	Siyanda	*Afrikaans*
NW	Bojanala	*Setswana*
NW	Dr Kenneth Kaunda	*Setswana (42%), Afrikaans (22%), English (20%)*

Province	Education District	Home Language chosen by Matriculants (multiple languages indicated if main language is less than 75%)
NW	Dr Ruth Segomotsi Mompati	*Setswana*
NW	Ngaka Modiri Molema	*Setswana*
WC	Cape Winelands	*Afrikaans (71%), English (15%), IsiXhosa (14%)*
WC	Eden and Central Karoo	*Afrikaans (71%), IsiXhosa (18%), English (11%)*
WC	Metro Central	*English (70%), IsiXhosa (21%)*
WC	Metro East	*IsiXhosa (50%), Afrikaans (30%), English (19%)*
WC	Metro North	*English (42%), Afrikaans (35%), IsiXhosa (23%)*
WC	Metro South	*English (60%), IsiXhosa (28%), Afrikaans (12%)*
WC	Overberg	*Afrikaans*
WC	West Coast	*Afrikaans*

Table 12: Home languages choices by Matriculants in 2011

Map 9: Home language choices of Matriculants



2.7 Schools in Quintile 1 that do well in Matric

An important question relating to the Matriculation Exams is whether the performance of schools is determined by the nature of the communities they serve. In other words, do schools in poor areas generally perform worse than schools in relatively wealthy areas? If this were the case, then it could be argued that community poverty is the determining factor in the performance of schools. One way of testing this is to examine the correlation between Matriculation results and school quintiles. The quintiles assigned to schools are a direct reflection of the poverty of the community in which schools are located. Quintile 1 schools are located in the poorest communities and Quintile 5 schools are in the least poor communities[30].

Table 13 shows how schools in each Quintile are distributed amongst the various Matric pass rate categories, ranging from less than 40% up to 100%. Many Quintile 1 (poorest) schools in South Africa produced poor results – 14% achieved a pass rate of less than 40% (233 schools). It is encouraging to note however that 45 Quintile 1 schools achieved a pass rate of 100% and a further 386 were in the 80 to 99% category. These are schools that, despite serving learners from poor communities were able to excel and who provide perhaps the best indication of how schools should be managed in disadvantaged communities.

Four fifths of Quintile 5 schools were concentrated in the 80 to 99% and 100% pass rate category (552 schools). There were only 8 that produced a pass rate of less than 40%, but another 28 in the 40 to 60% category.

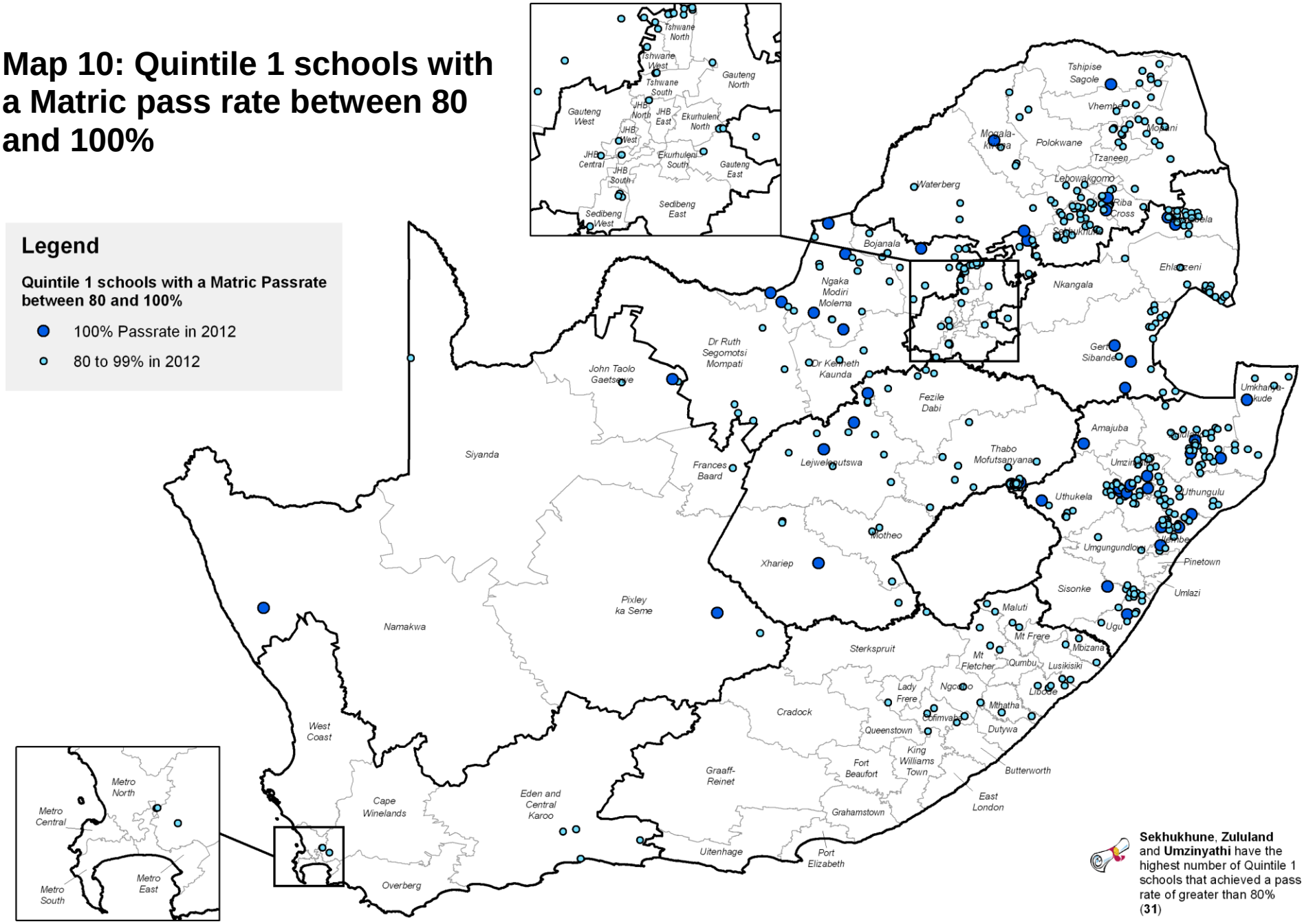
Map 10 overleaf shows the location of Quintile 1 schools with a Matric pass rate between 80 and 100% in 2012. The map confirms that there were pockets of excellence throughout South Africa and not just in the established urban areas. Parts of rural Limpopo, KwaZulu-Natal, North West and the Eastern Cape are notable for the presence of Quintile 1 schools achieving 100%. Although there are many schools in poor communities that do badly, there are also a number that do well.

Quintile	Schools by 2012 Matriculation Pass rate Category					
	Less than 40%	40 to 60%	60 to 80%	80 to 99%	100%	Total
1 (Poorest)	233	416	557	386	45	1 637
2	185	361	607	452	41	1 646
3	157	306	547	392	40	1 442
4	12	58	215	245	22	552
5 (Least Poor)	8	28	99	438	114	687
Total	**595**	**1 169**	**2 025**	**1 913**	**262**	**5 964**

Table 13: Comparison of School Quintiles with Matriculation Pass rates

[30] There appears to have been significant 'Quintile creep' i.e. more schools and learners in Quintiles 1 and 2, than was originally proposed by the National Norms and Standard for School Funding. The national quintiles were each intended to comprise 20% of learners. The percentage learners by Quintile in SNAP 2012 indicates a much higher proportion of learners in Quintiles 1 and 2 than the norms intend – instead of together consisting of 40% of learners they comprise 51%. Quintile 3 has increased from 20% to 25%. By contrast, the proportion of learners in Quintile 4 and 5 has dropped to 12% and 13% respectively.

Map 10: Quintile 1 schools with a Matric pass rate between 80 and 100%



2.8 The Annual National Assessment (ANA)

The 2012 Annual National Assessment (ANA) was written by learners in Grades 1 to 6 and Grade 9. This followed the 2011 ANA which, for the first time, was a systematic assessment of Grades 3 and 6 in all public schools in South Africa. The data represents a key resource for assessing educational achievement levels prior to the exit point at Grade 12, which typically has drawn all the attention in terms of provincial comparisons of school performance. The ANA tests are therefore an important policy initiative, one that is critical to improving the quality of education in South Africa. Potentially, they provide the means to diagnose learning problems at a point when it may be possible to correct them.

There are two key areas that are assessed, namely literacy and numeracy, since these are recognised as the cornerstones of learning. The assessment took place in September 2012 and marking was done by teachers in schools as opposed to the Matriculation exams, which are marked externally by examiners. Marking guides were provided to schools for this purpose. Teachers were therefore able to gain an immediate sense of the level of achievement of each learner according to a system-wide defined national standard. The tests also provided information that could be communicated to parents regarding their children's performance.

One of the key questions regarding the ANA results is the extent to which the 2011 and 2012 results are comparable. Can they realistically be used to compare district and school performance between the two years? Some commentators have argued that meaningful comparisons are not possible unless the tests were standardised to ensure equal difficulty across years[31]. It is not clear from the assessment report to what extent this took place[32]. If the tests were not deliberately standardised, then it is unlikely that the results between years can be compared with validity.

Another issue is the number of schools participating in the survey. There was almost universal coverage of schools in 2012, but much less complete coverage in the previous year. A total of 9 522 schools participated in the 2011 ANA compared to 24 394 in 2012. The participation in ANA 2011 was particularly low in the Eastern Cape, North West and Gauteng.

[31] 3rd Dec 2012: Mail and Guardian Interview with Servaas van der Berg and Nicholas Spaull from the Department of Economics at Stellenbosch University

[32] Report on the Annual National Assessment, 2012. Grade 1 to 6 and 9, Department of Basic Education

2.9 Grade 3 ANA

Table 14 opposite shows that the number of Grade 3 learners who participated in ANA 2012 was about double the number in ANA 2011. Many more learners participated in every province, particularly in the Eastern Cape where 100 000 more learners were assessed in 2012 than for the previous year. This is an indication that the 2011 ANA data for the Eastern Cape should be treated with some caution. The only province which decreased its number of ANA participants was the Western Cape.

Figure 5 and **Figure 6** show that the percentage of learners achieving 50% or more for the ANA tests was higher in 2012 than in 2011, for both Mathematics and Language. A higher proportion of learners achieved an acceptable standard in Language than in Mathematics. The lowest provincial pass for Language in 2012 was 46% in the North West, and the lowest for Mathematics was the North West again at 23%, followed by Limpopo with 24%.

The Western Cape and Gauteng were the leaders in terms of proportion of Grade 3s achieving an acceptable pass mark for mathematics and language. Close to half (48%) of Grade 3s in these two provinces achieved an acceptable performance. The next best province was Free State at 42%. The Western Cape's performance in Grade 3 language was substantially better than Gauteng's. It achieved 67% compared to Gauteng's 62%, which was also overtaken by Free State (65%). This may be related to the greater diversity of languages in use in Gauteng (see **Map 9**).

The lowest proportion of learners who achieved Grade 3 passes in ANA 2012 was in Limpopo, Mpumalanga and the North West. The Eastern Cape was in the unusual position of being in the middle of provinces in terms of learner performance.

Overall, the proportion of Grade 3 learners achieving acceptable ANA performance far exceeded the results for Grades 6 and Grade 9, for both numeracy and literacy.

	Mathematics		Language	
Province	**2011**	**2012**	**2011**	**2012**
Eastern Cape	20535	120302	20212	127906
Free State	40162	44711	40009	44471
Gauteng	73489	126958	73619	123788
KwaZulu-Natal	86133	167919	86102	171782
Limpopo	22641	98784	22407	93145
Mpumalanga	21300	55582	21227	62346
Northern Cape	19390	20496	19359	20752
North West	16133	54788	16158	53707
Western Cape	80184	73288	80244	77666
National Total	**379967**	**762828**	**379337**	**775563**

Table 14: Total number of Grade 3 learners participating in ANA by province, per year

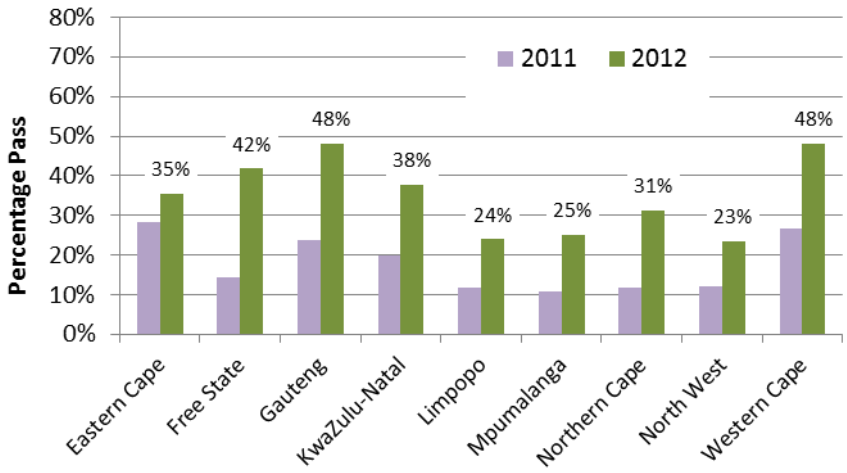


Figure 5: Grade 3 maths ANA results for 2011 and 2012

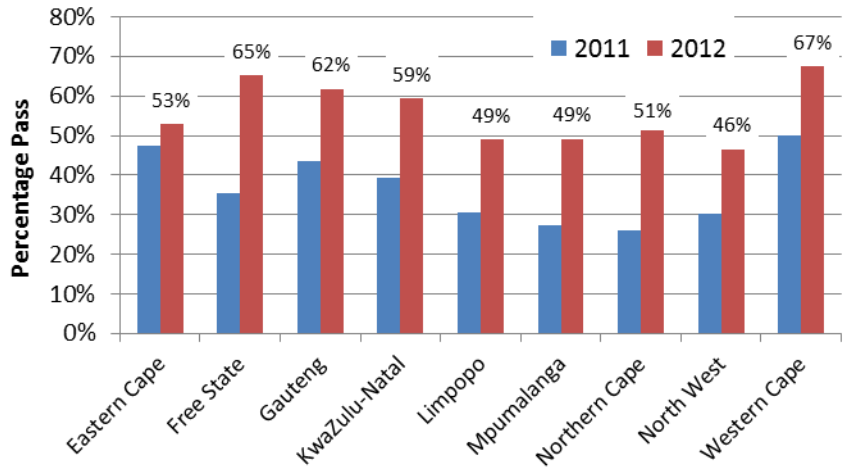


Figure 6: Grade 3 language ANA results for 2011 and 2012

Map 11 on **Page 76** shows the percentage of learners in the 2012 Grade 3 language ANA that achieved 50% or more by district. Ekurhuleni South in Gauteng had the highest proportion with 73%, followed by Overberg and Namakwa who both achieved 72%. The districts that achieved the lowest pass rates were Dr Ruth Segomotsi Mompati in North West and John Taolo Gaetsewe in Northern Cape, both with 38%. Metropolitan districts in KwaZulu-Natal, the Eastern Cape, Gauteng and Western Cape tended to have higher pass rates than elsewhere in the country.

The 2012 Grade 3 Maths ANA results by district are shown in **Map 12**. The worst performing districts are displayed in red. Lady Frere, John Taolo Gaetsewe and Sekhukhune all had extremely low proportions of acceptable passes at just 16%. Limpopo province had the most badly performing districts overall, none of which achieved over 33% in the Grade 3 maths ANA. The districts that performed the best were (surprisingly) East London (59%), followed by Ekurhuleni South (58%).

Table 15 overleaf shows the percentage of learners achieving an acceptable level by district in the 2012 ANA for Grades 3, 6 and 9. It reveals the considerable performance gap between Language and Mathematics, particularly for Grades 6 and 9. It also shows the shockingly bad achievement levels for Grade 9 Mathematics – many districts had less than 1% of learners achieving acceptable performance levels.

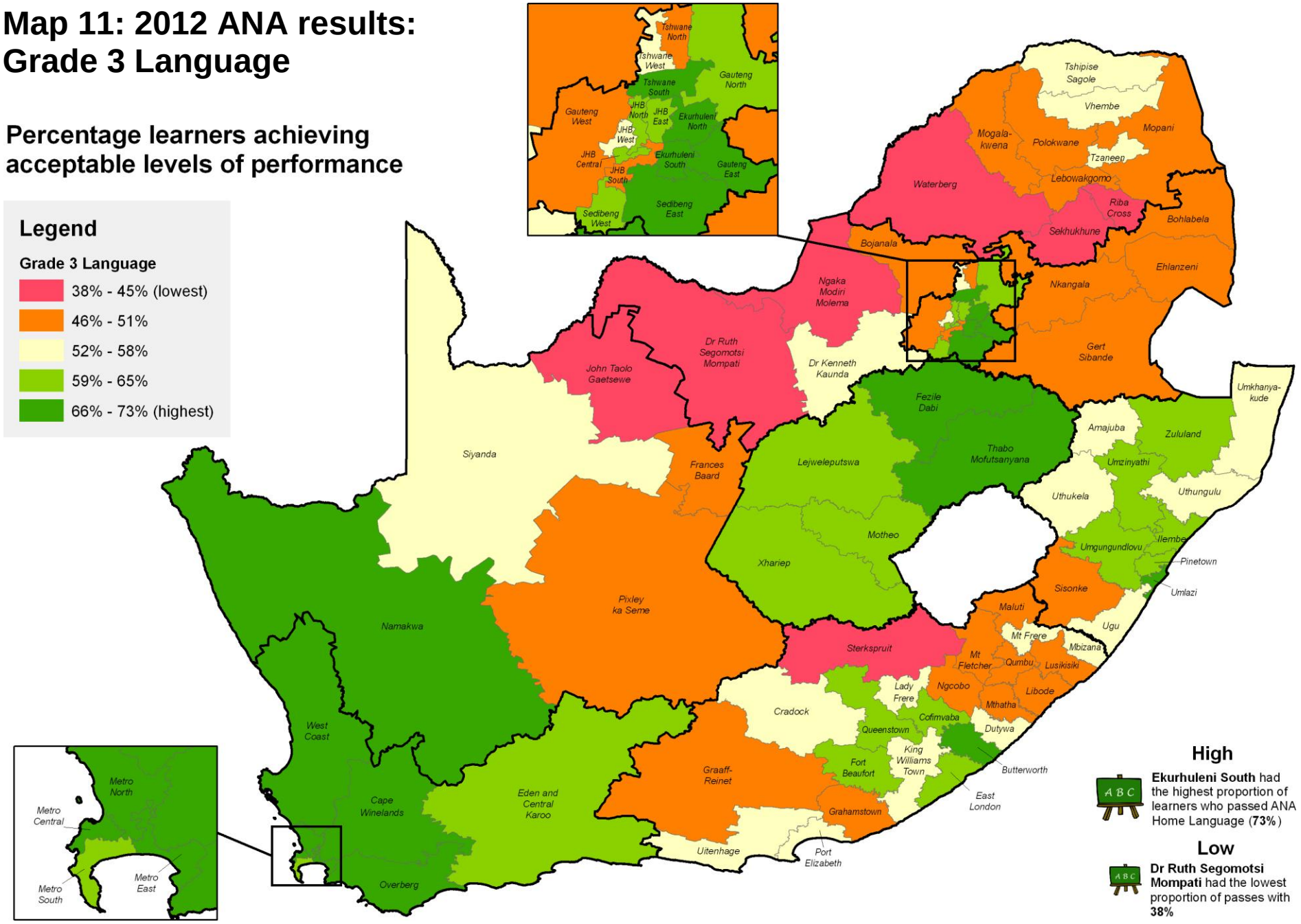
		Percentage learners achieving an acceptable level in the 2012 ANA (above 50%)					
		Grade 3		Grade 6		Grade 9	
Province	Education District	Maths	Language	Maths	Language	Maths	Language
EC	Butterworth	52%	66%	12%	12%	5%	46%
EC	Cofimvaba	40%	63%	7%	11%	3%	18%
EC	Cradock	37%	52%	6%	31%	1%	30%
EC	Dutywa	37%	54%	9%	7%	3%	16%
EC	East London	59%	65%	16%	50%	4%	49%
EC	Fort Beaufort	45%	61%	11%	50%	1%	11%
EC	Graaff-Reinet	26%	49%	9%	30%	2%	35%
EC	Grahamstown	31%	50%	11%	30%	2%	67%
EC	King Williams Town	32%	52%	7%	20%	1%	39%
EC	Lady Frere	16%	54%	8%	16%	2%	27%
EC	Libode	33%	48%	6%	8%	3%	17%
EC	Lusikisiki	29%	50%	6%	15%	1%	23%
EC	Maluti	28%	45%	3%	21%	1%	32%
EC	Mbizana	35%	54%	9%	10%	2%	14%
EC	Mt Fletcher	26%	47%	2%	21%	1%	29%
EC	Mt Frere	36%	55%	9%	28%	4%	25%
EC	Mthatha	34%	49%	6%	25%	3%	38%
EC	Ngcobo	28%	51%	5%	12%	2%	28%
EC	Port Elizabeth	42%	58%	13%	46%	5%	46%
EC	Queenstown	44%	59%	7%	48%	2%	62%
EC	Qumbu	34%	48%	12%	22%	3%	3%
EC	Sterkspruit	23%	41%	5%	18%	3%	44%
EC	Uitenhage	39%	57%	11%	33%	2%	36%
FS	Fezile Dabi	43%	66%	15%	57%	3%	53%
FS	Lejweleputswa	42%	63%	12%	55%	2%	44%
FS	Motheo	43%	64%	12%	60%	6%	53%
FS	Thabo Mofutsanyana	40%	68%	10%	61%	2%	45%
FS	Xhariep	44%	64%	6%	32%	1%	29%
GT	Ekurhuleni North	56%	69%	19%	64%	4%	66%
GT	Ekurhuleni South	58%	73%	26%	55%	5%	51%
GT	Gauteng East	54%	68%	18%	47%	2%	53%
GT	Gauteng North	42%	59%	11%	40%	2%	51%
GT	Gauteng West	41%	50%	17%	55%	3%	64%
GT	Johannesburg Central	51%	64%	10%	50%	0%	37%
GT	Johannesburg East	45%	61%	19%	58%	5%	57%
GT	Johannesburg North	50%	60%	19%	55%	6%	54%
GT	Johannesburg South	39%	49%	14%	49%	2%	43%

		Percentage learners achieving an acceptable level in the 2012 ANA (above 50%)					
		Grade 3		Grade 6		Grade 9	
Province	Education District	Maths	Language	Maths	Language	Maths	Language
GT	Johannesburg West	43%	58%	16%	54%	2%	51%
GT	Sedibeng East	57%	69%	21%	68%	6%	65%
GT	Sedibeng West	47%	65%	13%	41%	1%	40%
GT	Tshwane North	38%	51%	15%	53%	3%	70%
GT	Tshwane South	49%	67%	19%	52%	11%	63%
GT	Tshwane West	38%	53%	12%	37%	1%	44%
KZ	Amajuba	24%	53%	7%	45%	1%	29%
KZ	Ilembe	45%	63%	14%	35%	2%	20%
KZ	Pinetown	41%	63%	14%	41%	3%	40%
KZ	Sisonke	32%	48%	8%	11%	1%	22%
KZ	Ugu	31%	55%	8%	29%	1%	17%
KZ	Umgungundlovu	42%	61%	16%	37%	2%	32%
KZ	Umkhanyakude	25%	54%	5%	9%	0%	12%
KZ	Umlazi	51%	68%	20%	53%	5%	38%
KZ	Umzinyathi	45%	62%	16%	23%	3%	17%
KZ	Uthukela	32%	57%	8%	39%	1%	41%
KZ	Uthungulu	34%	57%	11%	20%	1%	19%
KZ	Zululand	38%	61%	11%	14%	1%	22%
LP	Lebowakgomo	23%	50%	5%	20%	0%	28%
LP	Mogalakwena	22%	46%	3%	15%	0%	22%
LP	Mopani	27%	49%	4%	16%	0%	16%
LP	Polokwane	24%	51%	6%	25%	1%	31%
LP	Riba Cross	16%	43%	2%	11%	0%	7%
LP	Sekhukhune	16%	45%	3%	9%	0%	20%
LP	Tshipise Sagole	26%	53%	5%	7%	0%	3%
LP	Tzaneen	33%	54%	5%	17%	1%	24%
LP	Vhembe	29%	53%	6%	11%	1%	12%
LP	Waterberg	24%	43%	6%	44%	2%	28%
MP	Bohlabela	25%	46%	2%	9%	0%	13%
MP	Ehlanzeni	27%	51%	6%	35%	1%	42%
MP	Gert Sibande	27%	48%	7%	20%	1%	31%
MP	Nkangala	20%	50%	6%	34%	2%	42%
NC	Frances Baard	33%	51%	9%	35%	2%	40%
NC	John Taolo Gaetsewe	16%	38%	2%	16%	0%	18%
NC	Namakwa	44%	72%	14%	33%	2%	33%
NC	Pixley ka Seme	27%	48%	6%	23%	2%	40%
NC	Siyanda	40%	58%	11%	33%	3%	36%

		Percentage learners achieving an acceptable level in the 2012 ANA (above 50%)					
		Grade 3		Grade 6		Grade 9	
Province	Education District	Maths	Language	Maths	Language	Maths	Language
NW	Bojanala	27%	51%	8%	26%	1%	34%
NW	Dr Kenneth Kaunda	30%	53%	9%	25%	3%	41%
NW	Dr Ruth Segomotsi Mompati	17%	38%	5%	11%	0%	18%
NW	Ngaka Modiri Molema	18%	41%	7%	19%	1%	27%
WC	Cape Winelands	44%	68%	15%	42%	7%	46%
WC	Eden and Central Karoo	39%	63%	15%	35%	4%	44%
WC	Metro Central	52%	67%	28%	60%	6%	48%
WC	Metro East	49%	68%	17%	53%	3%	49%
WC	Metro North	51%	71%	22%	56%	5%	54%
WC	Metro South	52%	65%	23%	58%	4%	45%
WC	Overberg	50%	72%	20%	50%	4%	46%
WC	West Coast	45%	67%	17%	46%	4%	43%

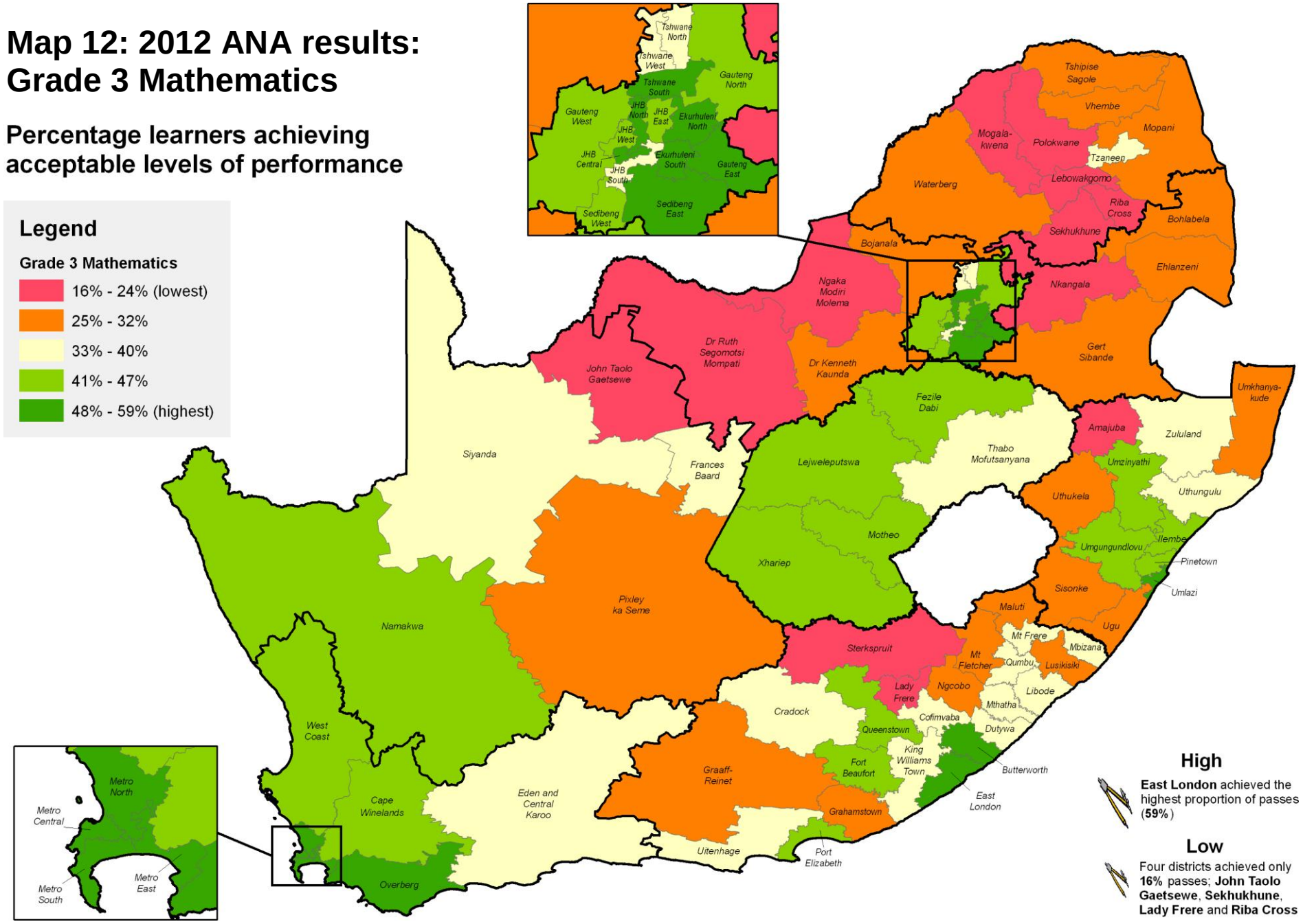
Table 15: Percentage learners achieving an acceptable level (above 50%) in the 2012 ANA for Grades 3, 6 and 9

Map 11: 2012 ANA results: Grade 3 Language



Map 12: 2012 ANA results: Grade 3 Mathematics

Percentage learners achieving acceptable levels of performance



2.10 Grade 6 ANA

Figure 7 opposite shows that all provinces had higher percentage passes for their Grade 6 language ANA examinations in 2012 compared to 2011. The Free State has the highest percentage of learners achieving an acceptable level of performance in 2012, followed by Gauteng and the Western Cape.

The percentage passes for Mathematics in Grade 6 (**Figure 8**) were conspicuously lower, with the highest achievement levels being just 20% in the Western Cape. Most provinces experienced a decrease in 2012 compared with the 2011 results, except the Free State and North West provinces, which had a miniscule increase. The worst Grade 6 Mathematics performance in 2012 was in Limpopo (5%).

Table 16 overleaf shows that the total number of learners participating in the Grade 6 Maths ANA more than doubled from 2011 to 2012. The number of learners that participated in the 2011 maths ANA was exceptionally low in the Eastern Cape and Limpopo compared to 2012. The opposite is evident with the language exam, where there were fewer participants in 2012 than in 2011. This is due to the fact that in 2012 there were two language papers written: Home Language and First Additional Language. In Grades 4-6 and 9 learners were required to write one of these two papers, and not both. The learner numbers shown in **Table 16** represent only those who participated in the Home Language examination.

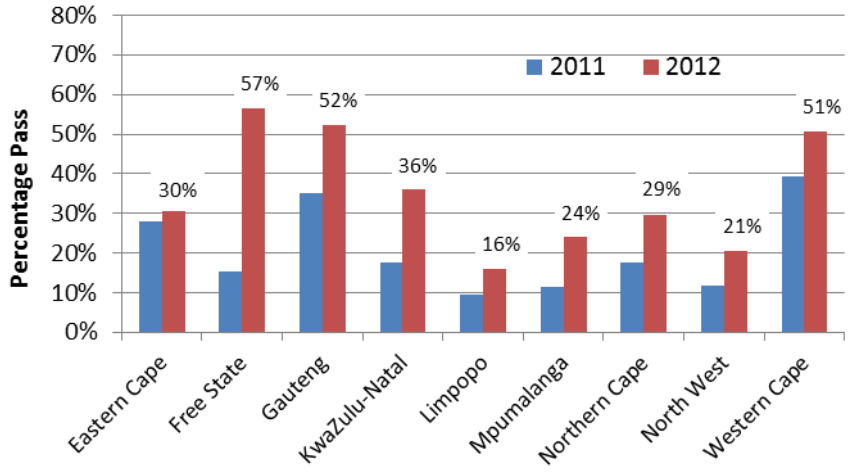


Figure 7: Grade 6 language ANA results for 2011 and 2012

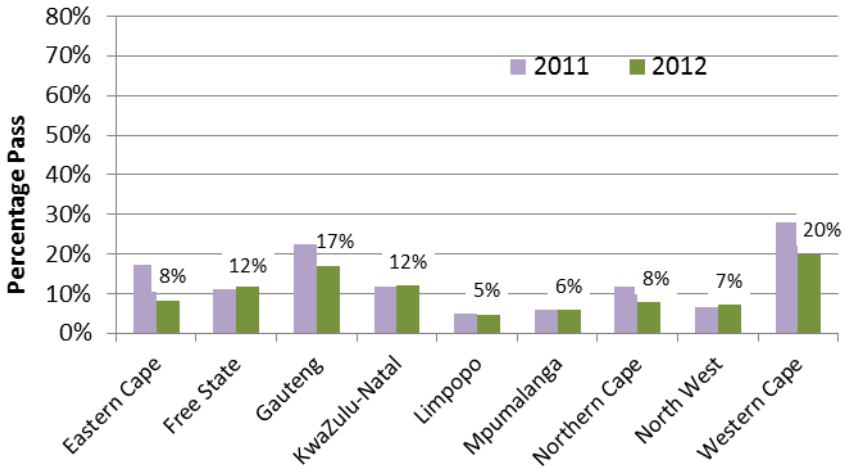


Figure 8: Grade 6 maths ANA results for 2011 and 2012

	Mathematics		Language	
Province	**2011**	**2012**	**2011**	**2012**
Eastern Cape	18656	127004	18417	21604
Free State	40662	43945	40698	8244
Gauteng	66049	115904	65659	67650
KwaZulu-Natal	81531	157128	81314	47241
Limpopo	24875	109967	24654	18404
Mpumalanga	20061	68119	20645	20520
Northern Cape	17211	19991	17284	12166
North West	15563	50432	15583	23485
Western Cape	74194	71791	74202	59529
National Total	**358802**	**764281**	**358456**	**278843**

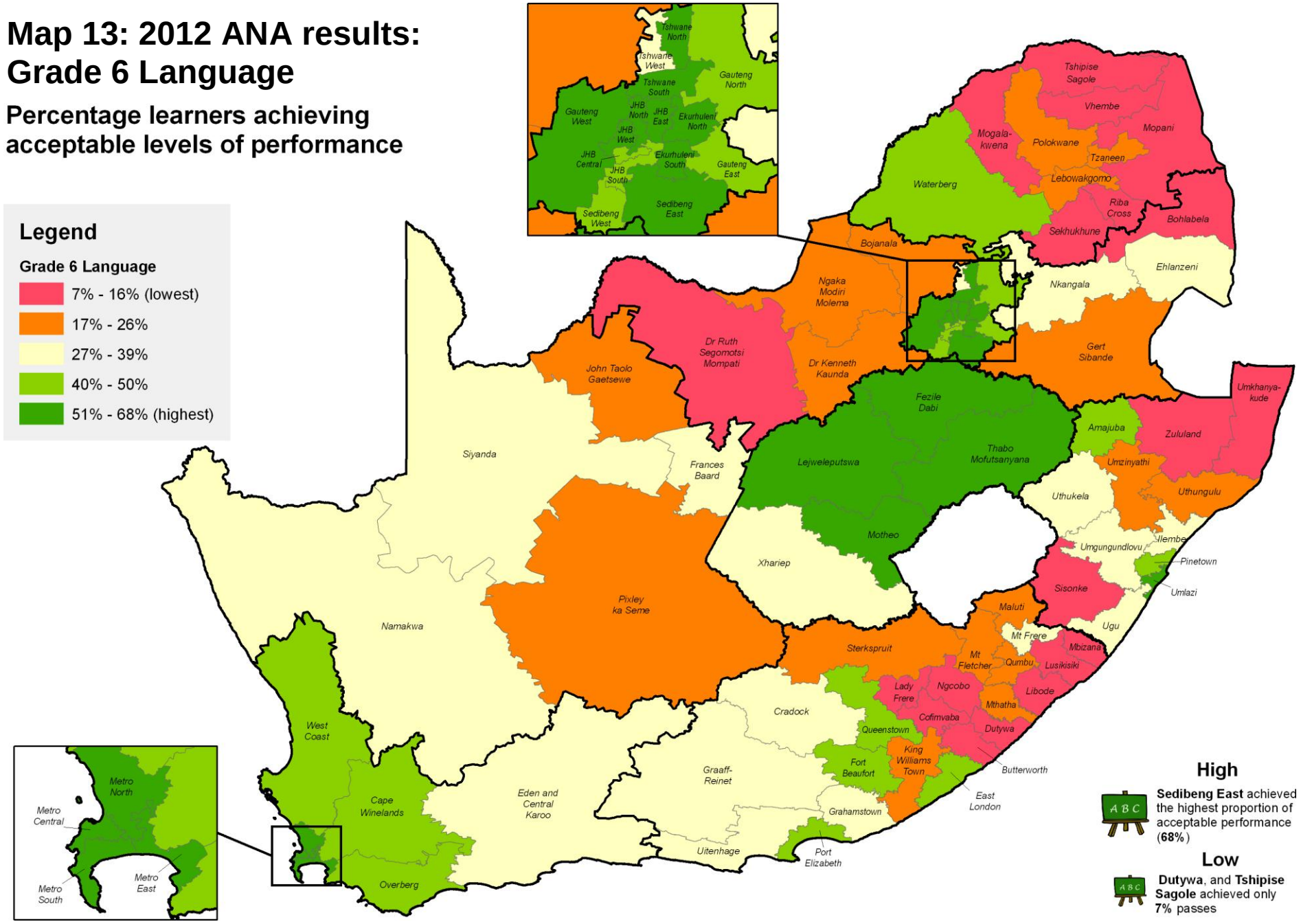
Table 16: Total number of Grade 6 learners participating in ANA by province, per year

Map 13 shows the proportion of learners obtaining 50% and more in their 2012 Grade 6 language (home language) ANA. The best performing districts were Sedibeng East (68%) and Ekurhuleni North (64%) of Gauteng Province. The education districts with the lowest percentage passes were mainly in the provinces of Limpopo and the Eastern Cape. Tshipise Sagole and Dutywa had the lowest proportion of passes at only 7%. This signifies a large language gap between the best and worst performing districts. In districts in Gauteng, Western Cape and the Free State, but not anywhere else, the majority of learners passed their language examination.

Map 14 reveals the very low proportion of learners achieving passes in the 2012 Grade 6 maths ANA. John Taolo Gaetsewe, Riba Cross and Mt Fletcher all had only 2% of learners achieving acceptable performance levels. These districts cover the provinces of Northern Cape, Limpopo and the Eastern Cape, revealing the spread of poor maths results throughout the country. Large clusters of poor performing districts are evident in Limpopo and the Eastern Cape. Metro Central of Western Cape had the highest percentage of passes with 28%, then Ekurhuleni South of Gauteng with 26%. These two provinces, as well as a small portion of KwaZulu-Natal, were the best performing in terms of Grade 6 maths ANA results.

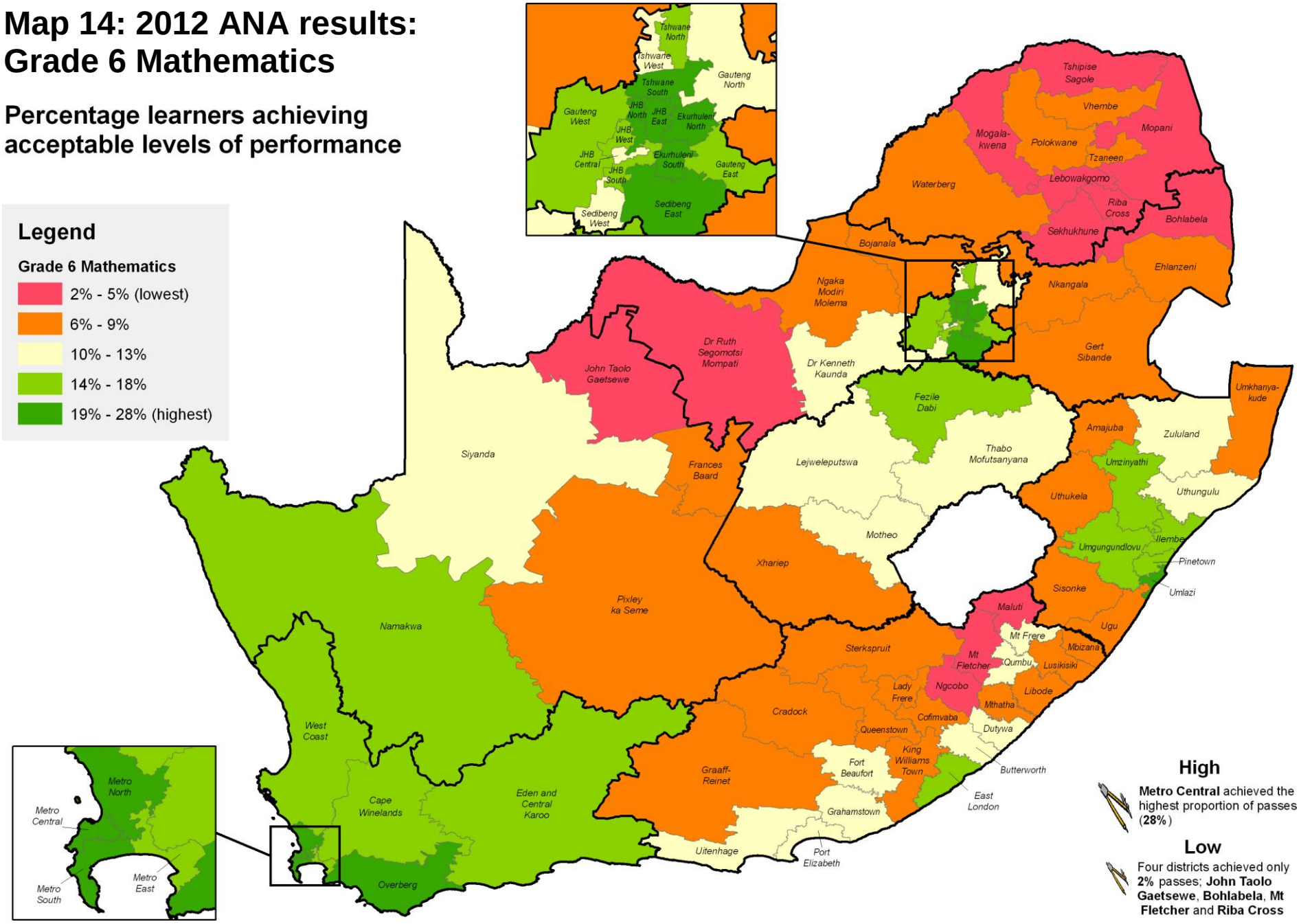
Map 13: 2012 ANA results: Grade 6 Language

Percentage learners achieving acceptable levels of performance



Map 14: 2012 ANA results: Grade 6 Mathematics

Percentage learners achieving acceptable levels of performance



2.11 Grade 9 ANA

In 2011, there were was no Grade 9 Annual National Assessment, so this commentary focuses solely on the 2012 results. **Figure 9** shows that the proportion of Grade 9s who achieved an acceptable level of performance for Maths was, to say the least, dismal throughout the country. The Western Cape had the highest percentage of passes with just 5%. Limpopo province barely registers on the graph as its pass rate was only 0.5%. Mpumalanga and the North West also performed particularly badly.

Compared with the Maths results, the Grade 9 Language ANA was a lot more encouraging. Gauteng province had the highest percentage of passes (54%), while Limpopo province had the lowest with 19% of its learners achieving an acceptable level of performance. KwaZulu-Natal and North West both had low percentage pass rates.

The number of learners who participated in the Grade 9 ANA examinations is shown in **Table 17** overleaf. The learner numbers shown for the language exam represent those who participated in the Home Language examination.

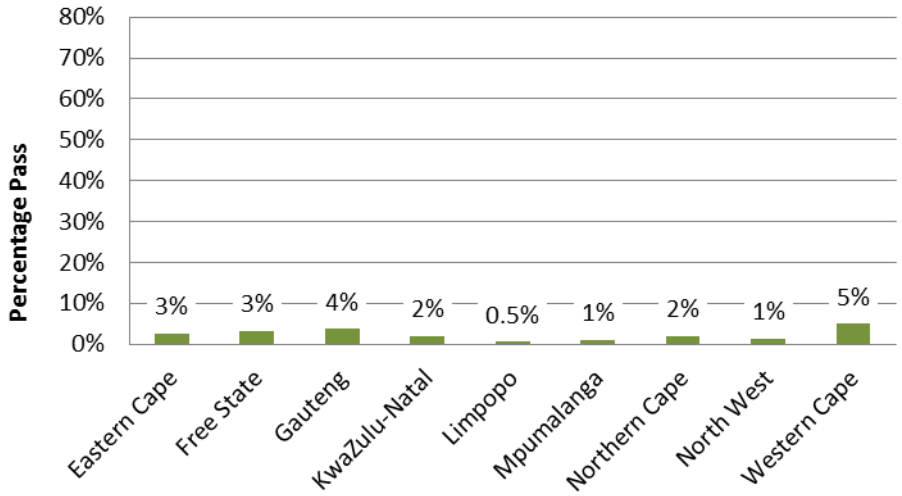


Figure 9: Grade 9 maths ANA results for 2012

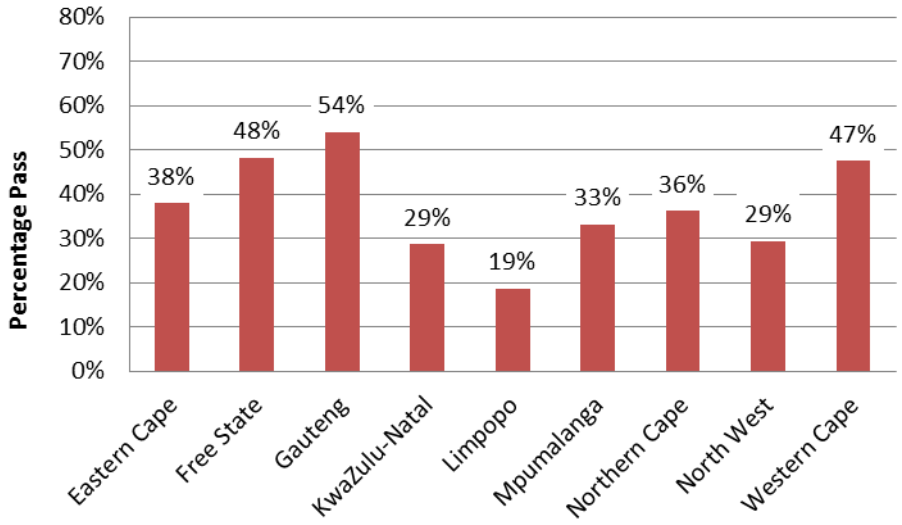


Figure 10: Grade 9 language ANA results for 2012

Province	Mathematics	Language
Eastern Cape	119587	21476
Free State	57253	10745
Gauteng	133727	58137
KwaZulu-Natal	185052	52561
Limpopo	162742	26498
Mpumalanga	70083	18858
Northern Cape	18809	12739
North West	50316	20672
Western Cape	75414	60944
National Total	**872983**	**282630**

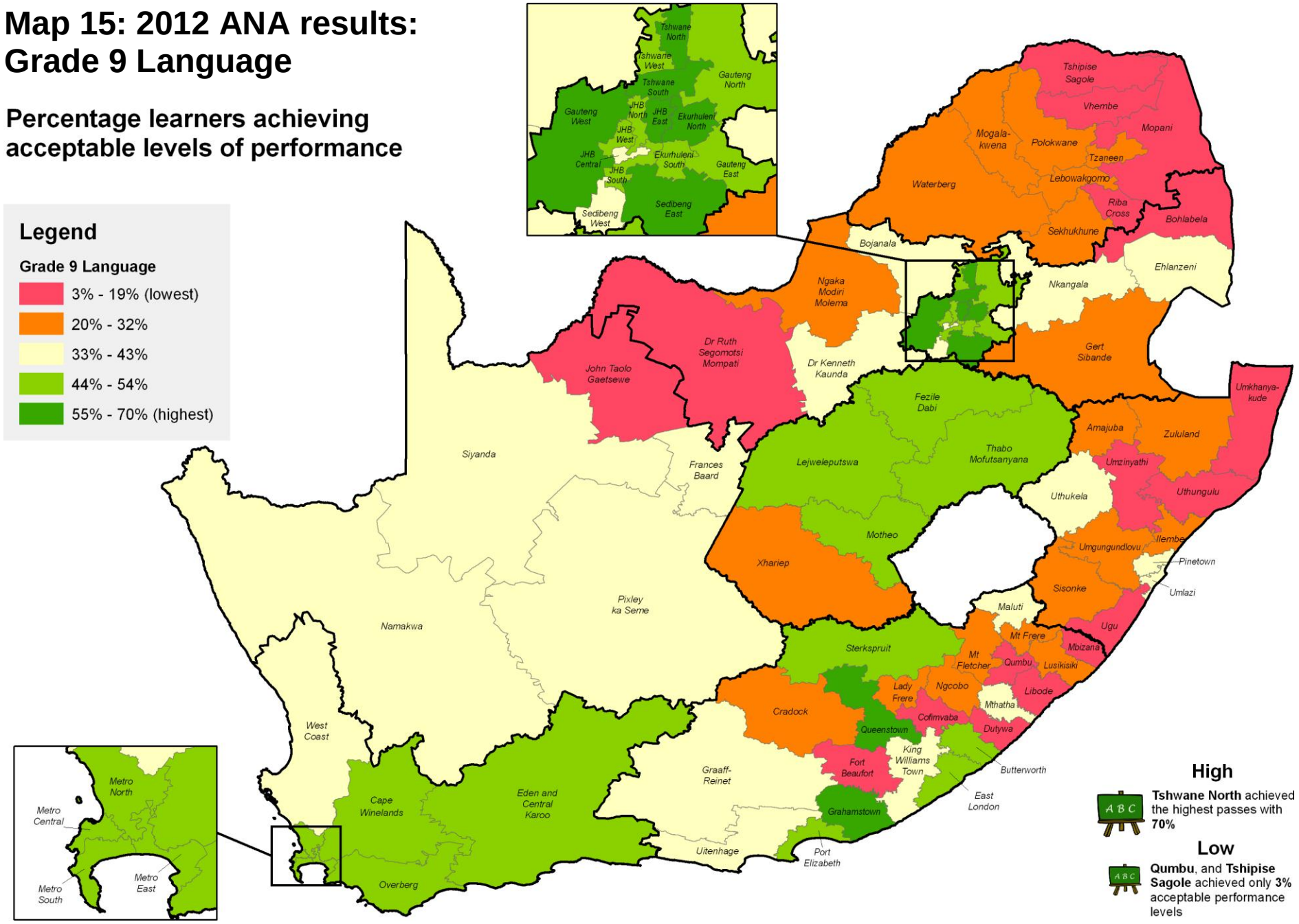
Table 17: Total number of Grade 9 learners participating in ANA 2012 per province

Map 15 shows the percentage learners achieving 50% or more for the 2012 home language ANA by education district. There is a wide distribution of passes, ranging from 3% to 70%. Tshwane North had the highest proportion of learners who passed (70%), followed by Grahamstown (67%) in the Eastern Cape. Tshipise Sagole and Qumbu both only had 3% pass rates in their districts. The majority of the eastern portion of the country had poor language passes, while the central and western area achieved average to higher than average results, with Gauteng clearly dominating.

The very poor Maths performance for Grade 9 ANA is visible throughout the education districts of South Africa in **Map 16**. Eleven districts had passes very close to 0% (e.g. 4 passes out of 3 046 learners). These were John Taolo Gaetsewe, Riba Cross, Bohlabela, Mopani, Lebowakgomo, Umkhanyakude, Sekhukhune, Mogalakwena, Dr Ruth Segomotsi Mompati, Johannesburg Central and Tshipise Sagole. The education district with the highest proportion of passes was Tshwane South in Gauteng with 11%, followed by Cape Winelands with 7%. This paints a very bleak picture of Mathematics performance at high school level in South Africa.

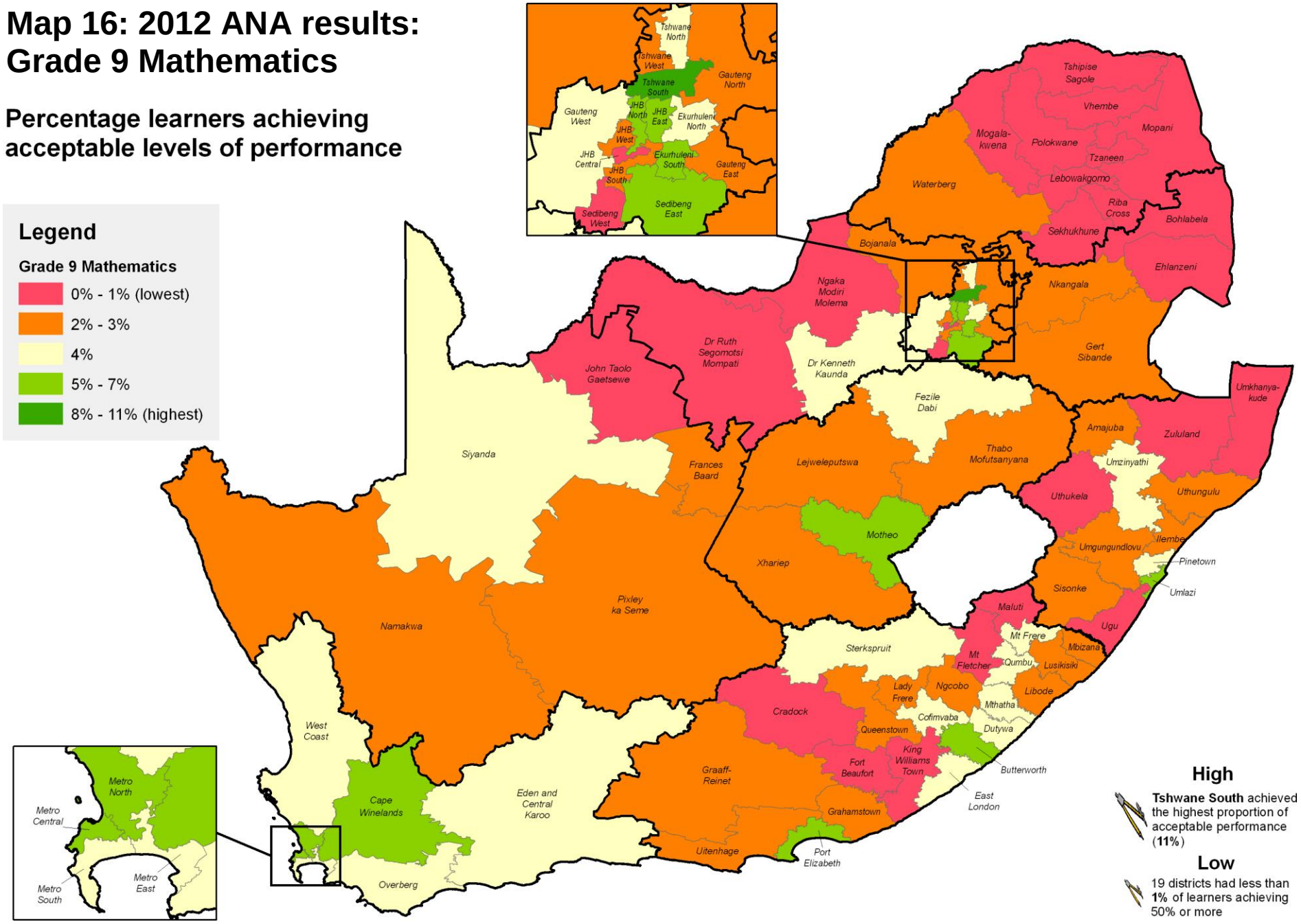
Map 15: 2012 ANA results: Grade 9 Language

Percentage learners achieving acceptable levels of performance



Map 16: 2012 ANA results: Grade 9 Mathematics

Percentage learners achieving acceptable levels of performance



2.12 Overall ANA performance

The previous ANA sections have focussed on performance in specific grades. In this section we look at the overall performance of provinces and districts for all grades that were assessed in the ANA. **Table 18** shows the total number of ANA papers that were written in each province in the 2012 assessment. This is the sum of all papers written from Grades 1 through to 6 and Grade 9, for Maths and Home Language (Grades 1 to 3) plus First Additional Language for Grades 4, 5, 6 and 9. The number of these papers that achieved a mark of above 50% is also shown together with the percentage that this represents.

The percentage of ANA papers achieving above 50% is a broad indication of how well learners in each province fared overall in the 2012 assessment. Some caveats over data quality apply, such as schools that did not submit data or where data was not captured (e.g. Umgungundlovu District which has almost no Grade 1 and Grade 2 assessment data). There are also some districts where it appears that a number of schools were either not assessed, did not submit their assessments or submitted information which was not captured. The other key caveat is the extent to which the guidelines for marking the papers were consistently adhered to, and whether they were applied across the board. The percentages shown are an average for all grades and, as earlier analysis has shown, reflect much better performance for early grades than for Grade 9 in particular.

The province that fared best overall in ANA (all grades and all papers) was the Western Cape. Of all ANA papers written by learners in this province, 51% were at an 'adequate' or 'higher' achievement level (test papers where the mark was greater than 50%).

Gauteng was second with 49%. Then there was a significant performance gap before Free State and KwaZulu-Natal came in third with 40%. The worst performing province was Limpopo, where only 28% of all papers written were at an acceptable achievement level, and second worst was North West with 31%. The Eastern Cape, which often fares the worst at Matric level (e.g. in 2008, 2011 and 2012), was fifth overall with 37% of papers at an 'adequate' or 'higher' achievement level. It is not clear why this district fares so much better (relatively speaking) in ANA than it does at Matric level.

Province	Total number of ANA papers written (all grades)	Number achieving above 50%	Percent achieving above 50%
Eastern Cape	1 884 114	703 203	37%
Free State	656 770	263 857	40%
Gauteng	1 802 850	880 900	49%
KwaZulu-Natal	2 375 687	941 578	40%
Limpopo	1 445 694	403 516	28%
Mpumalanga	975 286	328 572	34%
Northern Cape	292 195	104 981	36%
North West	780 887	244 207	31%
Western Cape	1 112 050	571 502	51%
South Africa	**11 325 533**	**4 442 316**	**39%**

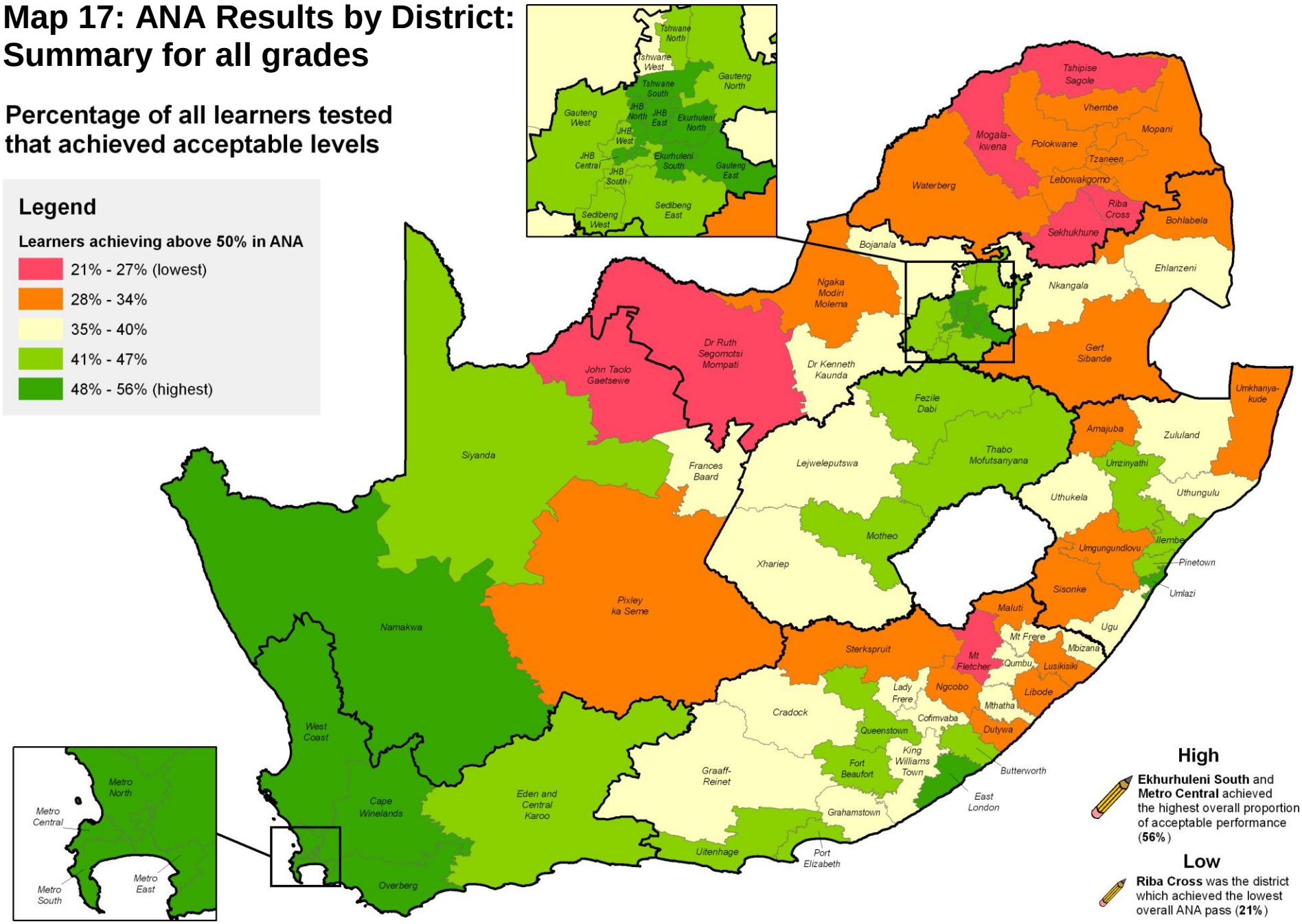
Table 18: ANA Results for 2012 – total for all grades and percentage achieving above 50%

The map overleaf compares districts in terms of the percentage of ANA papers that were of an acceptable level. The best district overall was Metro Central in the Western Cape with an average of 56%, meaning that over half the ANA papers written in this district were of an acceptable standard. The next two were Ekurhuleni South (56%) and Ekurhuleni North (55%) in Gauteng, then Metro North (54%) and Metro South (51%) in the Western Cape. The worst district overall was Riba Cross in Limpopo, with an average of only 21% of ANA papers being of an acceptable level. Several other Limpopo districts were amongst the poorest performing, namely Sekhukhune (24%), Tshipise Sagole (26%) and Mogalakwena (26%). John

Taolo Gaetsewe District in the Northern Cape was second worst overall with only 23% of ANA papers being of an acceptable level.

There are a number of anomalies such as East London, which was 12th overall in terms of proportion of acceptable ANA results, but 59th in terms of its Matric results. Butterworth was another case in point. There is a very large difference between its performance in ANA, ranked 18th overall (47% of learners achieving an acceptable level), and its Matric results which placed it 82nd out of all districts (55% Matric pass). It is not clear how or why districts change relative rankings between ANA and Matric to this extent.

Map 17: ANA Results by District: Summary for all grades



2.13 Comparison of ANA and Matriculation performance in Mathematics

It is useful to compare the results in ANA with Matriculation results in order to assess the extent to which there is consistency in performance. In **Table 19** below, the 2012 Grade 3 Maths ANA results have been compared with Matriculation results for Maths in the same year. All districts have been assigned a rank for both Grade 3 and Matric Maths in terms of their performance relative to other districts, where 1 = best performing and 86 = worst.

There are some major anomalies, such as Butterworth in the Eastern Cape, which was ranked 7th in terms of its Grade 3 maths ANA results (52%) but only 82nd in terms of its Matric Maths results. Another example was East London, which was the best performing district in the Grade 3 Maths ANA (outperforming all the Gauteng and Western Cape districts) but had slipped to 52nd by Matric. These large differences are difficult to explain without further thorough interrogation of the data – it's difficult to find a plausible explanation for why there should be such a major difference in performance.

Two anomalies in the ANA data are evident:

1. Districts where there was a major gap between Grade 3 maths and Matric Maths performance **AND** where the most grade 3 learners wrote the test e.g. Butterworth or Fort Beaufort. This could indicate that soft marking occurred or answers were provided to learners.
2. Districts where there was a major gap between Grade 3 Maths and Matric Maths performance **BUT** only a small proportion of grade 3 learners actually wrote the Maths ANA. An example is East London, where only 1/3 of Grade 3 learners (3184) wrote the Maths ANA. Double this number wrote the Language ANA. Did some marks go missing? In any event it paints the district in an unrealistically good light in terms of ANA.

Education districts are urged to ensure that all learners write ANA and to ensure that all marks are processed, otherwise district comparisons are meaningless. Checks should take place to ensure that the number of ANA papers written is consistent with the number of learners in each grade in the district – major shortfalls should be investigated.

Some districts have performed at more or less the same level in Grade 3 and Matric maths. Two examples are Johannesburg North in Gauteng and Metro Central in the Western Cape. The performance rankings of both districts were identical for Grade 3 and for Matric maths.

Province	Education District	2012 Grade 3 ANA Mathematics		2012 Matriculation Exam Mathematics		Difference in Rank between Grade 3 Maths and Matric
		Percent achieved above 50%	Rank (1 = Best, 86 = Worst)	Matric Pass rate	Rank (1 = Best, 86 = Worst)	
EC	Butterworth	52%	7	30%	82	-75
EC	Cofimvaba	40%	37	50%	56	-19
EC	Cradock	37%	45	53%	50	-5
EC	Dutywa	37%	44	33%	79	-35
EC	East London	59%	1	51%	53	-52
EC	Fort Beaufort	45%	21	32%	80	-59
EC	Graaff-Reinet	26%	69	54%	45	24
EC	Grahamstown	31%	58	57%	43	15
EC	King Williams Town	32%	54	39%	70	-16
EC	Lady Frere	16%	84	38%	73	11
EC	Libode	33%	51	26%	84	-33
EC	Lusikisiki	29%	60	29%	83	-23
EC	Maluti	28%	63	41%	68	-5
EC	Mbizana	35%	47	38%	71	-24

Province	Education District	2012 Grade 3 ANA Mathematics		2012 Matriculation Exam Mathematics		Difference in Rank between Grade 3 Maths and Matric
		Percent achieved above 50%	Rank (1 = Best, 86 = Worst)	Matric Pass rate	Rank (1 = Best, 86 = Worst)	
EC	Mt Fletcher	26%	71	44%	65	6
EC	Mt Frere	36%	46	23%	86	-40
EC	Mthatha	34%	48	42%	66	-18
EC	Ngcobo	28%	62	31%	81	-19
EC	Port Elizabeth	42%	32	54%	46	-14
EC	Queenstown	44%	22	45%	64	-42
EC	Qumbu	34%	50	25%	85	-35
EC	Sterkspruit	23%	77	33%	78	-1
EC	Uitenhage	39%	38	56%	44	-6
FS	Fezile Dabi	43%	26	65%	23	3
FS	Lejweleputswa	42%	30	64%	25	5
FS	Motheo	43%	27	65%	24	3
FS	Thabo Mofutsanyana	40%	35	66%	21	14
FS	Xhariep	44%	25	58%	39	-14
GT	Ekurhuleni North	56%	4	78%	6	-2
GT	Ekurhuleni South	58%	2	68%	18	-16
GT	Gauteng East	54%	5	67%	19	-14
GT	Gauteng North	42%	31	72%	15	16
GT	Gauteng West	41%	34	76%	7	27
GT	Johannesburg Central	51%	10	60%	34	-24
GT	Johannesburg East	45%	20	72%	13	7
GT	Johannesburg North	50%	12	73%	12	0
GT	Johannesburg South	39%	40	61%	31	9
GT	Johannesburg West	43%	28	73%	10	18
GT	Sedibeng East	57%	3	71%	17	-14
GT	Sedibeng West	47%	16	66%	20	-4
GT	Tshwane North	38%	43	78%	5	38
GT	Tshwane South	49%	15	81%	2	13
GT	Tshwane West	38%	42	73%	11	31
KZ	Amajuba	24%	75	61%	30	45
KZ	Ilembe	45%	19	36%	75	-56
KZ	Pinetown	41%	33	53%	48	-15
KZ	Sisonke	32%	56	36%	76	-20
KZ	Ugu	31%	57	45%	63	-6
KZ	Umgungundlovu	42%	29	49%	59	-30
KZ	Umkhanyakude	25%	72	38%	74	-2
KZ	Umlazi	51%	9	57%	42	-33
KZ	Umzinyathi	45%	17	50%	57	-40
KZ	Uthukela	32%	55	47%	61	-6
KZ	Uthungulu	34%	49	42%	67	-18
KZ	Zululand	38%	41	51%	55	-14
LP	Lebowakgomo	23%	78	51%	54	24
LP	Mogalakwena	22%	79	40%	69	10
LP	Mopani	27%	67	52%	52	15
LP	Polokwane	24%	76	53%	51	25
LP	Riba Cross	16%	83	49%	58	25
LP	Sekhukhune	16%	85	46%	62	23
LP	Tshipise Sagole	26%	70	60%	36	34
LP	Tzaneen	33%	53	54%	47	6
LP	Vhembe	29%	61	58%	40	21
LP	Waterberg	24%	74	61%	29	45
MP	Bohlabela	25%	73	35%	77	-4
MP	Ehlanzeni	27%	66	58%	41	25
MP	Gert Sibande	27%	68	59%	37	31
MP	Nkangala	20%	80	59%	38	42
NC	Frances Baard	33%	52	60%	32	20
NC	John Taolo Gaetsewe	16%	86	38%	72	14
NC	Namakwa	44%	23	65%	22	1
NC	Pixley ka Seme	27%	65	48%	60	5
NC	Siyanda	40%	36	63%	27	9
NW	Bojanala	27%	64	60%	35	29
NW	Dr Kenneth Kaunda	30%	59	64%	26	33
NW	Dr Ruth Segomotsi Mompati	17%	82	53%	49	33
NW	Ngaka Modiri Molema	18%	81	60%	33	48
WC	Cape Winelands	44%	24	79%	4	20
WC	Eden and Central Karoo	39%	39	82%	1	38
WC	Metro Central	52%	8	75%	8	0
WC	Metro East	49%	14	62%	28	-14
WC	Metro North	51%	11	74%	9	2
WC	Metro South	52%	6	71%	16	-10

Province	Education District	2012 Grade 3 ANA Mathematics		2012 Matriculation Exam Mathematics		Difference in Rank between Grade 3 Maths and Matric
		Percent achieved above 50%	Rank (1 = Best, 86 = Worst)	Matric Pass rate	Rank (1 = Best, 86 = Worst)	
WC	Overberg	50%	**13**	72%	**14**	**-1**
WC	West Coast	45%	**18**	80%	**3**	**15**

Table 19: Comparison of maths results in 2012: Grade 3 ANA versus Matriculation. Districts with ranking decreases of over 50 are highlighted in red

2.14 Repetition rates

Repetition, along with promotion and dropout are key indicators of the internal efficiency of an education system i.e. how well the system is performing. It is important for education planners to be able to assess where the blockages and apparent inefficiencies in the system are. The length of time it takes an average learner to progress from Grade 1 to 12 is a key measure of performance, though not necessarily indicative of the quality of education received.

The repetition rate measures the extent to which learners repeat grades and is calculated by dividing the number of learners who are repeating a specific grade by the enrolment for that grade in the previous year. High repetition rates give rise to a number of problems, most notable of which is increased class sizes. A repetition rate of 20% for a class of 48 learners means that there are 8 extra learners who are repeating the grade. With repeated repetition the problem of over-aged learners compounds difficulties[33].

In the 2011 Annual Survey of Ordinary Schools, schools were required to indicate the number of learners repeating each grade in that year disaggregated by gender. This information is used to calculate repetition rates for schools and by grade for districts. The accuracy of the data is subject to the extent to which schools are open about repetition – some may feel it reflects badly on the school and therefore underestimate the true numbers.

The 2011 repetition data for South Africa as a whole (see **Table 20)** indicates that the average repetition for all grades was 10%, or 1.2 million learners across all grades. There were definite peaks amongst grades with the highest repetition being in Grade 1 (14%), Grade 9 (15%), Grade 10 (23%) and Grade 11 (22%). There is an obvious bottleneck in Grade 1 as some learners struggle with the demands of school, and many of them are deemed unsuitable to progress to Grade 2. A more significant bottleneck occurs in Grades 10 and 11, where one fifth of all learners in the system were forced to repeat. There is a clearly a tendency for learners to 'cycle' in these grades before attempting the final grade. Linked to this is the phenomenon known as 'gate keeping' whereby schools, in order to achieve a higher pass rate in Grade 12, discourage weaker learners from proceeding to the next grade. By Grade 12 in 2011 the Repetition Rate had dropped to 7%.

Grade	Learners	Repeaters	Repetition Rate
Grade 1	1 121 781	155 182	14%
Grade 2	989 657	86 204	9%
Grade 3	968 240	71 949	7%
Grade 4	998 277	80 110	8%
Grade 5	973 947	59 487	6%
Grade 6	971 413	49 617	5%
Grade 7	969 848	37 699	4%
Grade 8	989 768	73 822	7%
Grade 9	997 799	148 266	15%
Grade 10	1 030 522	242 105	23%
Grade 11	831 503	185 191	22%
Grade 12	574 192	39 808	7%
Total	**12 138 789**	**1 265 938**	**10%**

Table 20: Repetition rates by grade, South Africa, Annual Survey 2011

The repetition rates by district reveal significant regional disparities, and reflect provincial and district practices regarding repetition, and possibly the extent to which repetition is reported accurately. The district with the highest overall repetition rate was Xariep in the Free State which had a rate of 17%. It is by no means the worst performing district in South Africa in terms of Matric results, having a pass rate of 82% (ranked 22nd overall). Its Grade 3 and Grade 6 ANA results place it in the upper third of districts in terms of performance, yet its repetition rates are the highest in the country.

[33] Review of Education Indicators 1995-2004, Eastern Cape Department of Education

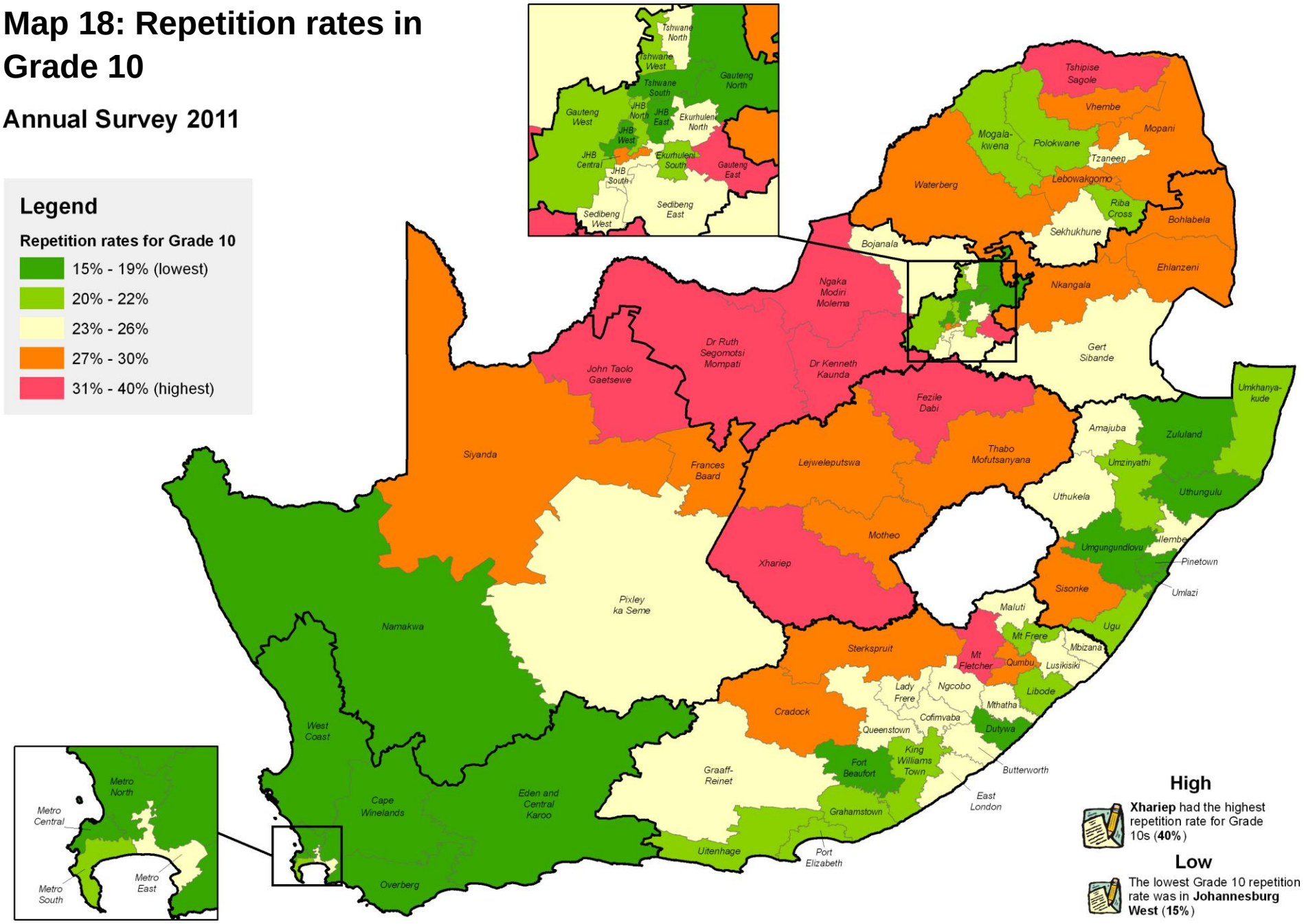
Other districts with high overall repetition rates are Dr Kenneth Kaunda and Dr Ruth Segomotsi Mompati, both of which are in the North West.

In terms of grade-specific repetition, the district with the highest Grade 1 repetition rate was Dr Kenneth Kaunda, with 28% in 2011. The second highest rate was also in the North West, in Dr Ruth Segomotsi Mompati District (28%), and the third highest was in West Coast District in the Western Cape.

Map 18 overleaf shows repetition rates by district for Grade 10, the most significant bottleneck in the education system. In Xariep District in the Free State, 987 out of a total of 2 492 learners in Grade 10 were repeaters, representing a repetition rate of 40%. This adds a major weighting factor to class sizes in the district. Tshipise Sagole in Limpopo Province also had exceptionally high repetition (36%) as well as Fezile Dabi (33%) in the Free State. The lowest repetition rates in Grade 10 were in Johannesburg West, which at 15% were less than half that of Xariep. Metro North in the Cape Metro area had the second lowest repetition at 16%.

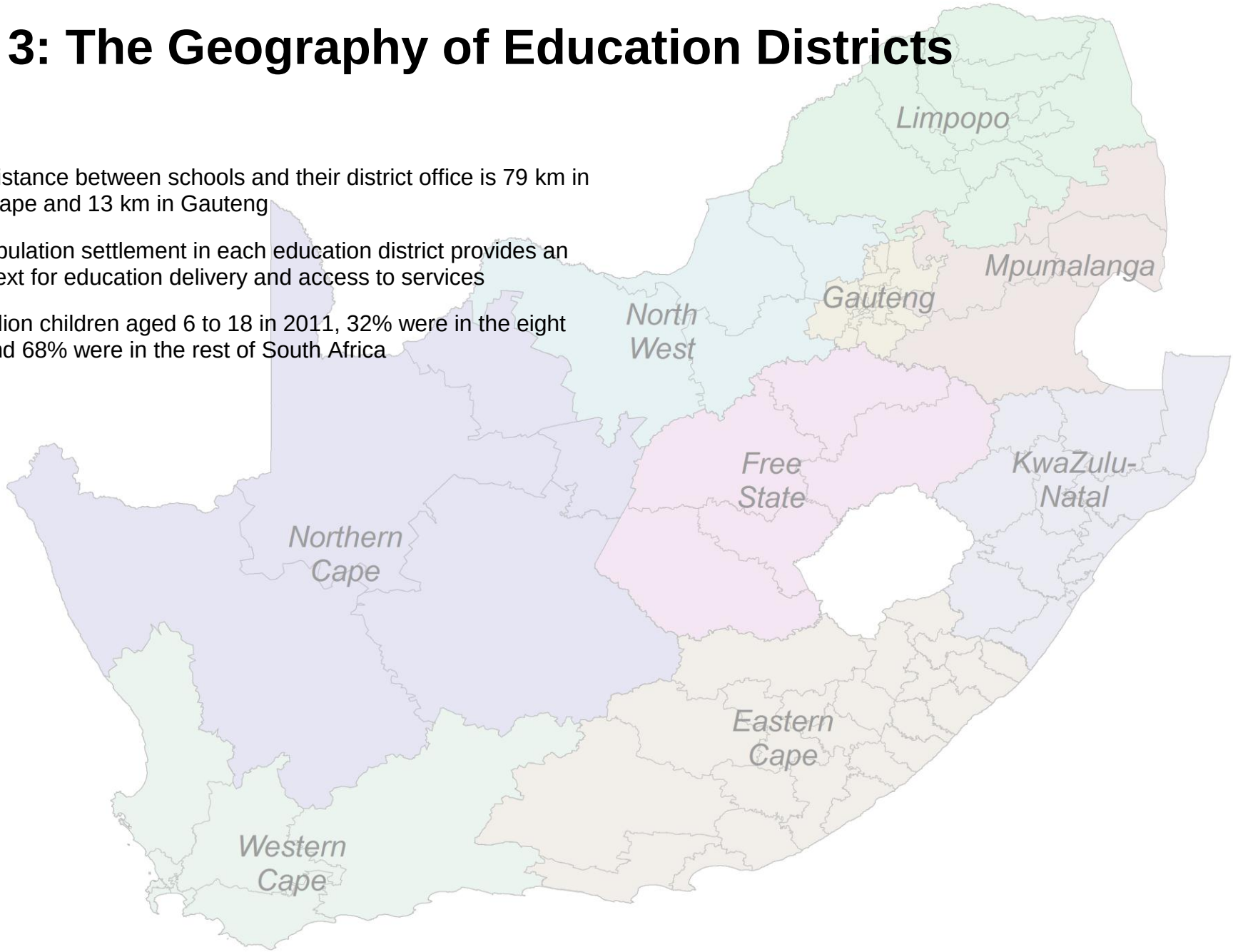
Map 18: Repetition rates in Grade 10

Annual Survey 2011



Section 3: The Geography of Education Districts

- The average distance between schools and their district office is 79 km in the Northern Cape and 13 km in Gauteng
- The type of population settlement in each education district provides an important context for education delivery and access to services
- Of the 12.3 million children aged 6 to 18 in 2011, 32% were in the eight metro areas and 68% were in the rest of South Africa



3.1 District offices and distance factors

Several earlier maps and tables in this report have highlighted the varied nature of education districts in South Africa. One of the key aspects in which they differ from one another is in terms of their geographic size (area) and the contrast between urban districts, with schools closely clustered in towns/cities, and rural districts where schools are widely dispersed. Districts serving rural areas face challenges in terms of the distances that district personnel have to travel to reach schools. In some cases it can take an entire day to reach a single school. The condition of access roads to schools in rural areas is often very poor and not conducive to the use of ordinary vehicles.

The 'Policy on the Organisation, Roles and Responsibilities of Education Districts'[34] indicates the significance of distances between district offices and schools, as well as rural characteristics and road links in determining the appropriate size and staffing of districts. The policy suggests[35] that distance factors should apply a positive weighting of up to 10% when determining appropriate staffing of districts:

> 'Staffing District Offices – Factors ….two salient factors have been selected in order to keep the model simple and functional without compromising the equity principle:
>
> 1. ***Distance.*** *The distances that district officials need to travel to schools. This factor takes into account the geographical features and population density of different provinces. This factor will contribute a maximum of 10% additional posts.*
> 2. ***Poverty.*** *Schools serving extremely poor communities require additional support from their district offices to promote quality education. The poverty factor, related to the proportion of no-fee schools, will contribute a maximum of 5% additional posts in a district office.'*

Distance Factor

Range (km)	*Staff Weighting*
121 and above	*1.10*
91-120	*1.08*
61-90	*1.05*
31-60	*1.02*
0-30	*1*

Poverty Factor

Range	*Staff Weighting*
70% or more no-fee schools	*1.05*
Fewer than 70% no-fee schools	*1*

A preliminary analysis of the distance between schools and their respective district offices has been carried out for this report. The location of each district office was plotted based on its physical address and a Geographical Information System (GIS) was then used to calculate the distance from each school to its education district office. The measurements are based on straight-line distances between schools and district offices and are therefore only indicative. In due course, factors such as actual road distances and physical barriers such as mountains or rivers can be considered.

Figure 11 overleaf shows the average distance between schools and their district offices in each province. The largest average distance is 79 km in the Northern Cape, followed by 63 km in the North West and 60 km in Free State. The lowest average distance between schools and district offices is Gauteng, where it is 13 km. **Table 21** lists the average distances for each district and, together with **Map 19**, provides a clear indication of the challenges faced in a number of districts that have many remote, rural schools.

[34] Department of Basic Education, September 2012
[35] See Page 30 of the Policy

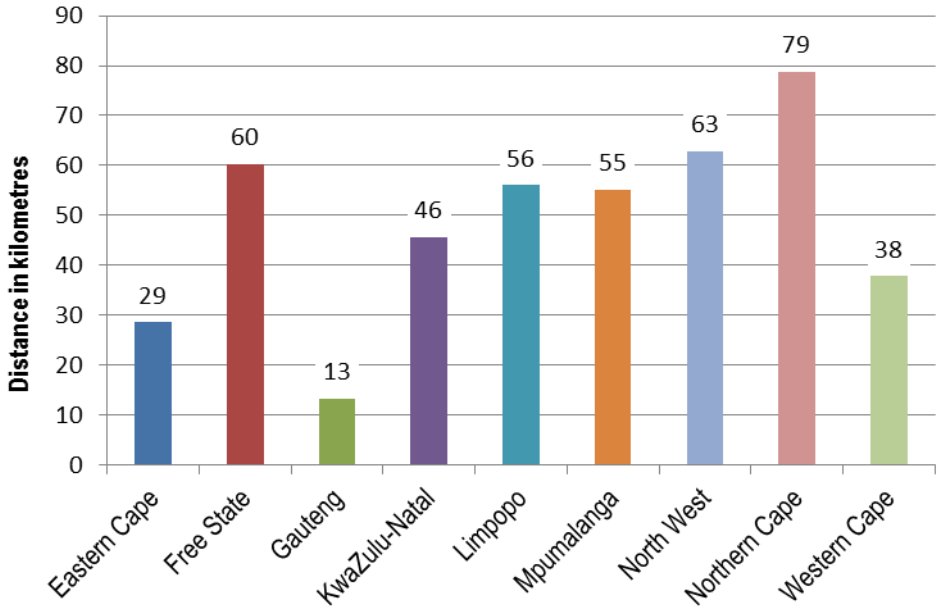


Figure 11: Average distance to Schools from District Offices

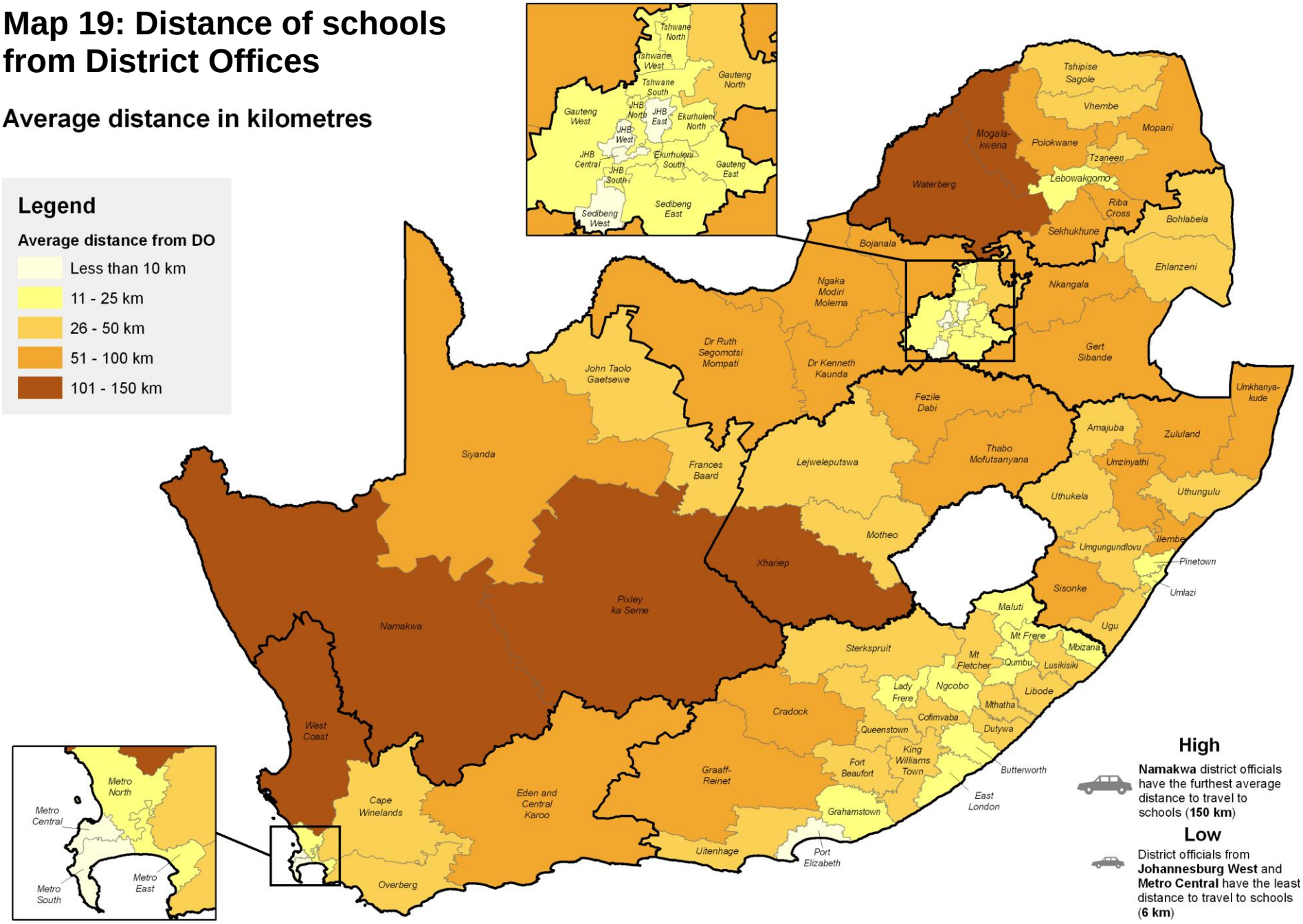
Province	Education District	Average Distance from DO km	Distance from District Office (number of schools):		
			Less than 10 km	Between 10 and 50 km	Greater than 50 km
EC	Butterworth	22	57	322	0
EC	Cofimvaba	26	27	234	10
EC	Cradock	58	15	16	54
EC	Dutywa	33	29	242	69
EC	East London	17	118	180	3
EC	Fort Beaufort	27	36	189	17
EC	Graaff-Reinet	88	15	7	60
EC	Grahamstown	22	31	50	0
EC	King Williams Town	29	77	278	73
EC	Lady Frere	22	25	136	0
EC	Libode	41	22	253	142
EC	Lusikisiki	34	37	227	84
EC	Maluti	24	27	197	0
EC	Mbizana	19	38	169	0
EC	Mt Fletcher	31	23	119	43
EC	Mt Frere	25	43	187	13
EC	Mthatha	27	52	262	12
EC	Ngcobo	24	35	182	2
EC	Port Elizabeth	9	176	60	6
EC	Queenstown	29	37	112	19
EC	Qumbu	21	34	210	1
EC	Sterkspruit	39	34	86	47
EC	Uitenhage	43	66	41	56
FS	Fezile Dabi	76	22	52	178
FS	Lejweleputswa	45	62	109	101
FS	Motheo	45	107	52	162
FS	Thabo Mofutsanyana	62	123	74	290
FS	Xhariep	118	0	3	72
GT	Ekurhuleni North	14	64	156	0
GT	Ekurhuleni South	11	83	115	0
GT	Gauteng East	11	73	97	0
GT	Gauteng North	33	9	57	5
GT	Gauteng West	21	59	82	26
GT	Johannesburg Central	7	193	29	0
GT	Johannesburg East	10	135	87	0
GT	Johannesburg North	12	71	124	0
GT	Johannesburg South	17	77	99	0
GT	Johannesburg West	6	139	19	0
GT	Sedibeng East	18	38	48	3
GT	Sedibeng West	7	99	45	0
GT	Tshwane North	22	41	114	0
GT	Tshwane South	12	79	178	0
GT	Tshwane West	13	80	78	0
KZ	Amajuba	26	27	202	20
KZ	Ilembe	67	0	117	314
KZ	Pinetown	17	109	427	0
KZ	Sisonke	64	13	118	309
KZ	Ugu	39	32	318	141
KZ	Umgungundlovu	28	135	286	117
KZ	Umkhanyakude	61	11	161	358
KZ	Umlazi	11	277	232	0
KZ	Umzinyathi	64	21	153	309

Province	Education District	Average Distance from DO km	Distance from District Office (number of schools):		
			Less than 10 km	Between 10 and 50 km	Greater than 50 km
KZ	Uthukela	41	29	272	155
KZ	Uthungulu	48	35	371	266
KZ	Zululand	67	23	193	541
LP	Lebowakgomo	23	41	189	17
LP	Mogalakwena	109	0	0	266
LP	Mopani	57	34	198	284
LP	Polokwane	55	40	302	319
LP	Riba Cross	75	0	22	220
LP	Sekhukhune	68	0	162	480
LP	Tshipise Sagole	44	0	149	70
LP	Tzaneen	28	10	158	5
LP	Vhembe	30	125	512	110
LP	Waterberg	104	11	39	126
MP	Bohlabela	32	39	292	32
MP	Ehlanzeni	40	46	223	138
MP	Gert Sibande	78	20	70	449
MP	Nkangala	60	1	165	365
NC	Frances Baard	42	56	20	47
NC	John Taolo Gaetsewe	43	24	79	63
NC	Namakwa	150	9	10	61
NC	Pixley ka Seme	119	12	4	83
NC	Siyanda	86	21	20	57
NW	Bojanala	62	50	133	378
NW	Dr Kenneth Kaunda	57	40	71	138
NW	Dr Ruth Segomotsi Mompati	81	16	27	342
NW	Ngaka Modiri Molema	51	67	145	189
WC	Cape Winelands	44	31	158	104
WC	Eden and Central Karoo	71	31	78	132
WC	Metro Central	6	238	19	0
WC	Metro East	12	82	88	0
WC	Metro North	10	148	88	0
WC	Metro South	9	107	100	0
WC	Overberg	48	6	59	31
WC	West Coast	138	0	21	118

Table 21: Average distance from District Offices to schools and the number of schools by distance category

Map 19: Distance of schools from District Offices

Average distance in kilometres



3.2 The settlement characteristics of Education Districts

The 2011 Census includes a classification of enumeration areas (EAs) according to settlement type. EAs are the building blocks of the census, each consisting of roughly 150 households, which were classified prior to the commencement of the census.

This classification defines the characteristics of the residential population in each EA in terms of whether it is urban or rural. Urban areas are further defined according to the extent of planned versus unplanned (informal) settlement. Rural areas include 'traditional residential' (formerly 'tribal settlements' in the 2001 Census) and commercial farms.

The census defines an informal settlement as 'an unplanned settlement on land which has not been surveyed or proclaimed as residential, consisting mainly of informal dwellings (shacks)'[36]. An informal dwelling is defined as: 'a makeshift structure not erected according to approved architectural plans'[37].

In total, there were 10 enumeration area types defined in the 2011 Census. The respective population of each is shown in **Figure 12** opposite. By far the most common is 'Formal Residential', which accounts for over half the population of South Africa (56%), followed by 'Traditional Residential', which accounts for 31%, then 'Informal Residential' (6%) and 'Farms' (4%).

These four main settlement types are illustrated by a series of aerial photographs in **Figure 13** on **Page 101**.

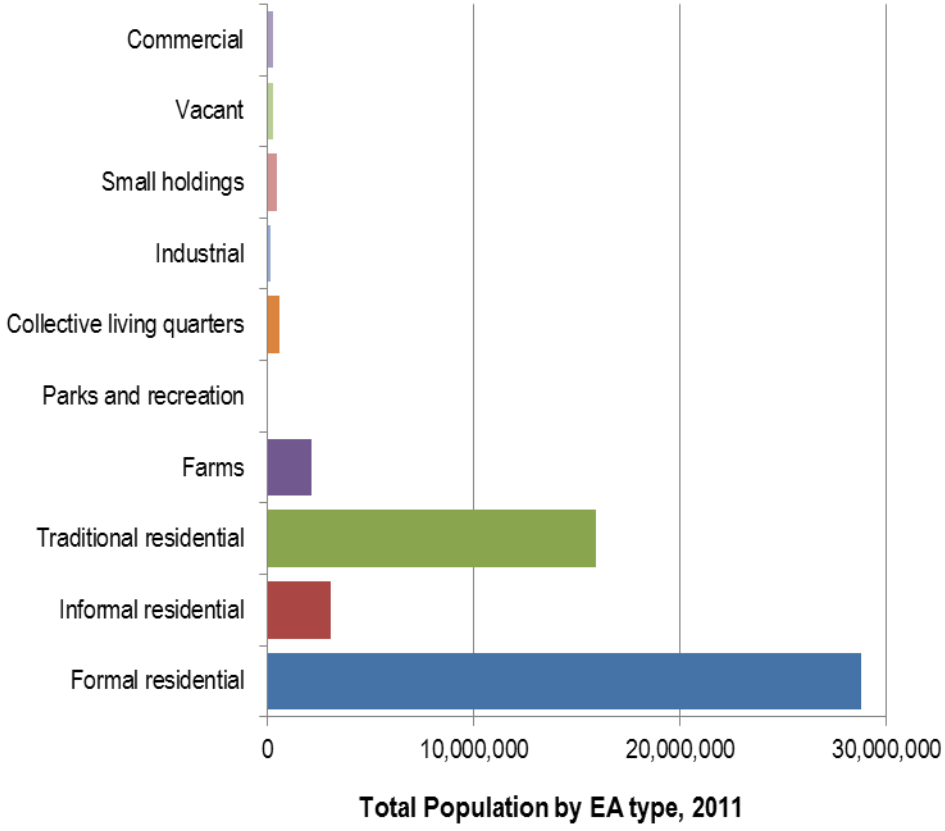


Figure 12: Population by Enumeration Area Type, 2011 Census

[36] Housing Development Agency, 2012. Limpopo: Informal settlements status, Research Report
[37] Ibid

Formal Residential

Traditional Residential (rural)

Informal Residential

Farms

Figure 13: Main Settlement Types, 2011 Census

Table 22 below indicates the main settlement type in each education district (based on the enumeration area classification referred to above), as well as the major towns that are present. This data provides an important context for education delivery since it helps define whether schools are clustered in and around urban areas or widely dispersed across rural areas. It also helps identify districts that incorporate large informal settlements.

Of the 86 education districts in South Africa, 18 have a settlement type defined as '*Traditional rural settlement with some urban areas*', meaning these districts are predominantly rural (e.g. Sisonke district) but have some urban areas dotted around such as Kokstad. A further 17 are '*Urban with some informal settlements*', which is a typical big-city urban environment, characterised by inward migration from rural areas, and including areas of informal housing (shacks). Another 14 districts are defined as '*Urban with some commercial farming areas*'. These are large districts where settlement is clustered around specific towns, but also on commercial farms. Nine districts are defined as '*Traditional rural settlement'*. These districts are commonly found in former homelands and are almost entirely rural e.g. the area formerly known as Transkei. The remaining districts are combinations of the above settlement types.

Province	Education District	Settlement Type	Major Town/s
EC	Butterworth	*Traditional rural settlement with some urban areas*	Butterworth / Nqamakwe
EC	Cofimvaba	*Traditional rural settlement with some informal settlements*	Qamata / Cofimvaba
EC	Cradock	*Urban with some traditional rural and commercial farming areas*	Middleburg / Cradock
EC	Dutywa	*Traditional rural settlement*	(Willowvale) / Idutywa
EC	East London	*Urban with informal settlements and traditional rural settlement*	Mdantsane / East London
EC	Fort Beaufort	*Traditional rural settlement and urban areas*	Middledrift / Fort Beaufort
EC	Graaff-Reinet	*Urban with some commercial farming areas*	Graaff-Reinet / Somerset East
EC	Grahamstown	*Urban with some commercial farming areas*	Grahamstown and surrounds
EC	King Williams Town	*Traditional rural settlement and urban areas*	King Williams Town / Zwelitsha
EC	Lady Frere	*Traditional rural settlement with some urban areas*	Lady Frere / Nonesi
EC	Libode	*Traditional rural settlement*	Libode / Port St Johns
EC	Lusikisiki	*Traditional rural settlement*	Lusikisiki / Tabankulu
EC	Maluti	*Traditional rural settlement with some urban areas*	Matatiele
EC	Mbizana	*Traditional rural settlement*	Bizana
EC	Mt Fletcher	*Traditional rural settlement with some urban areas*	Mount Fletcher
EC	Mt Frere	*Traditional rural settlement*	Mt Frere / Lubaleka
EC	Mthatha	*Traditional rural settlement with some urban areas*	Mthatha
EC	Ngcobo	*Traditional rural settlement with some urban areas*	Cala / Engcobo
EC	Port Elizabeth	*Urban with some informal settlements*	Port Elizabeth / Ibhayi / Motherwell
EC	Queenstown	*Urban with some traditional rural settlement*	Queenstown / Ezibeleni
EC	Qumbu	*Traditional rural settlement*	Qumbu
EC	Sterkspruit	*Traditional rural settlement and urban areas*	Sterkspruit
EC	Uitenhage	*Urban with some commercial farming areas*	Uitenhage / Kwanobuhle
FS	Fezile Dabi	*Urban with some commercial farming areas*	Kroonstad / Sasolburg
FS	Lejweleputswa	*Urban with some commercial farming areas*	Welkom / Thabong
FS	Motheo	*Urban with some informal settlements*	Bloemfontein / Mangaung
FS	Thabo Mofutsanyana	*Urban with some traditional rural settlement and commercial farming areas*	Phuthadijhaba / Bethlehem
FS	Xhariep	*Urban with some commercial farming areas*	Bethulile / Springfontein
GT	Ekurhuleni North	*Urban with some informal settlements*	Tembisa / Kempton Park
GT	Ekurhuleni South	*Urban with some informal settlements*	Katlehong / Boksburg / Vosloorus
GT	Gauteng East	*Urban with some informal settlements*	Tsakane / Daveytown/ Etwatwa

Province	Education District	Settlement Type	Major Town/s
GT	Gauteng North	*Urban with informal settlements and traditional rural settlement*	Bronkhorstspruit and surrounding
GT	Gauteng West	*Urban with some informal settlements*	Kagiso / Krugersdorp
GT	Johannesburg Central	*Urban*	Soweto / Johannesburg
GT	Johannesburg East	*Urban with some informal settlements*	Sandton / Parktown / Alexandra
GT	Johannesburg North	*Urban with some informal settlements*	Randburg / Diepkloof
GT	Johannesburg South	*Urban with some informal settlements*	Johannesburg Metro / Orange Farm
GT	Johannesburg West	*Urban with some informal settlements*	Roodepoort / Meadowlands
GT	Sedibeng East	*Urban with some smallholdings*	Vereeniging
GT	Sedibeng West	*Urban with some informal settlements*	Sebokeng / Evaton
GT	Tshwane North	*Urban with some traditional rural settlement*	Soshanguve
GT	Tshwane South	*Urban with some informal settlements*	Pretoria / Mamelodi
GT	Tshwane West	*Urban with some informal settlements*	Mabopane / Ga-Rankuwa
KZ	Amajuba	*Urban with some traditional rural settlement and commercial farms*	Newcastle / Madadeni
KZ	Ilembe	*Traditional rural with urban and informal settlements*	Stanger / KwaDukuza
KZ	Pinetown	*Urban with informal settlements and traditional rural settlement*	Phoenix / Kwa-Mashu / Inanda
KZ	Sisonke	*Traditional rural settlement with some urban areas*	Kokstad / Umzimkhulu
KZ	Ugu	*Traditional rural settlement with some urban areas*	Izingolweni / Port Shepstone
KZ	Umgungundlovu	*A mix of urban areas, traditional rural and informal settlements*	Pietermaritzburg / Edendale /Imbali
KZ	Umkhanyakude	*Traditional rural settlement*	Manguzi / Mtubatuba surrounds
KZ	Umlazi	*Urban with informal settlements and some some traditional rural settlement*	Durban / Umlazi
KZ	Umzinyathi	*Traditional rural with some urban and commercial farming areas*	Nqutu / Pomeroy (or Tugela Ferry)
KZ	Uthukela	*Traditional rural with some urban and commercial farming areas*	Ladysmith / Zunckels
KZ	Uthungulu	*Traditional rural settlement with some urban areas*	Empangeni / Richards Bay
KZ	Zululand	*Traditional rural settlement with some urban and commercial farming areas*	Nongoma / Vryheid

Province	Education District	Settlement Type	Major Town/s
LP	Lebowakgomo	*Traditional rural settlement with some urban areas*	Mogoto / Lebowakgomo
LP	Mogalakwena	*Traditional rural settlement with some urban areas*	Mosate / Mahwelereng
LP	Mopani	*Traditional rural settlement with some urban areas*	Phalaborwa / Giyani
LP	Polokwane	*Traditional rural settlement with some urban areas*	Polokwane / Seshego
LP	Riba Cross	*Traditional rural settlement*	Tubatse / Ga-kgoete
LP	Sekhukhune	*Traditional rural settlement*	Sekhulhune / Witfontein
LP	Tshipise Sagole	*Traditional rural with with some urban and commercial farming areas*	Dzanani / Musina
LP	Tzaneen	*Traditional rural with with some urban and commercial farming areas*	Tzaneen / Ga-Modjadi
LP	Vhembe	*Traditional rural settlement with some urban areas*	Louis-Trichardt / Thohoyandao
LP	Waterberg	*Urban with some commercial farming areas and traditional rural settlement*	Modimolle / Bela-Bela
MP	Bohlabela	*Traditional rural settlement with some urban areas*	Hluvukani / Casteel
MP	Ehlanzeni	*Traditional rural settlement with some urban areas*	Boschfontein / Msogwaba
MP	Gert Sibande	*Urban with commercial farming and traditional rural settlement*	Piet Retief and surrounds / Secunda surrounds/ Embalenhle
MP	Nkangala	*Urban with some traditional rural settlement*	Middleburg / Witbank
NC	Frances Baard	*Urban with some informal settlements*	Galeshewe / Kimberley
NC	John Taolo Gaetsewe	*Traditional rural settlement with some urban areas*	Kuruman / Maropeng
NC	Namakwa	*Urban with some commercial farming areas*	Springbok / Calvinia
NC	Pixley ka Seme	*Urban with some commercial farming areas*	De Aar / Bucklands
NC	Siyanda	*Urban with some commercial farming areas*	Upington
NW	Bojanala	*Traditional rural settlement with some urban areas*	Freedom Park / Rustenberg
NW	Dr Kenneth Kaunda	*Urban with some commercial farming areas*	Klerksdorp / Potchefstroom

Province	Education District	Settlement Type	Major Town/s
NW	Dr Ruth Segomotsi Mompati	*Traditional rural settlement with urban and commercial farming areas*	Taung / Kraaipan
NW	Ngaka Modiri Molema	*Traditional rural settlement with urban and commercial farming areas*	Mafikeng / Zeerust
WC	Cape Winelands	*Urban with some commercial farming areas*	Paarl / Worcester
WC	Eden and Central Karoo	*Urban with some commercial farming areas*	George / Oudtshoorn
WC	Metro Central	*Urban with some informal settlements*	Cape Town Metro / Guguletu
WC	Metro East	*Urban with some informal settlements*	Khayelitsha / Belville
WC	Metro North	*Urban*	Parow / Milnerton
WC	Metro South	*Urban with some informal settlements*	Cape Town Metro / Mitchell's Plain
WC	Overberg	*Urban with some commercial farming areas*	Caledon / Grabouw
WC	West Coast	*Urban with some commercial farming areas*	Saldanha / Vredendal

Table 22: Dominant settlement type and major towns in each education district

3.3 Population and population density: 6 to 18 year olds

Population density measures the number of people per unit area, expressed in **Map 20** overleaf as the population of school-going age (aged 6 to 18) per square kilometre. The map shows the extent to which the school-going population of South Africa is concentrated in the main metropolitan centres of Gauteng, Cape Town and Durban, and to a lesser extent Port Elizabeth and East London.

The eight metropolitan areas account for 40% of the total population of South Africa[38]. If one includes areas that are within 25 km of a metro area, then this figure rises to 50%. One half of South Africa's population is therefore concentrated in eight relatively small (in relation to the total area of South Africa), heavily urbanised areas. The metros are very significant in terms of education delivery and face special challenges. These include rapid growth due to inward migration, increasing densification and the challenges of providing services to people in informal settlements.

The distribution of 6 to 18 year olds follows a slightly different pattern to the one described above, as illustrated by **Table 23** opposite. The table shows the population aged 6 to 18 in each of the eight metro areas as well the rest of South Africa, based on the 2011 Census. The share accounted for by each metro area is also shown. Of the total population aged 6 to 18 of 12.3 million in 2011, 32% was in the eight metro areas and 68% was in the rest of South Africa. The cities of Cape Town, Johannesburg and eThekwini Metro each accounts for around 6% of all 6 to 18 year olds in the country.

The lower proportion of 6 to 18 year olds in the metro areas is due to the fact that there are proportionally more people of working age (19 to 64) in them - they attract work seekers in disproportionate numbers.

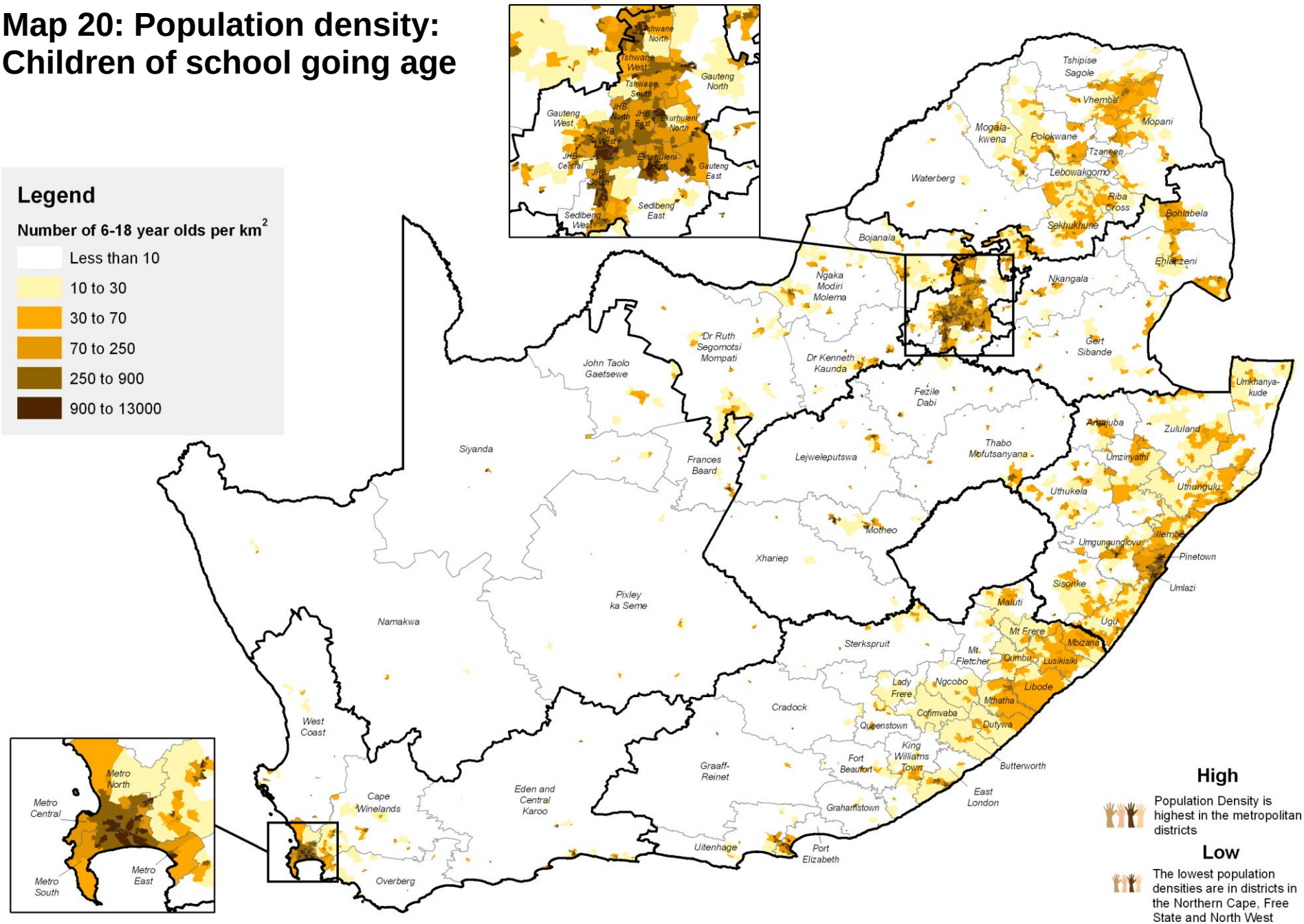
Map 20 overleaf shows that relatively high population densities in excess of 70 people per kilometre can also be found in peripheral areas of the Eastern Cape (e.g. the former Transkei), KwaZulu-Natal, Limpopo (e.g. Sekhukhune and Vhembe) and Mpumalanga (Bohlabela). Many of these areas offer few economic opportunities for their inhabitants and present serious challenges in terms of education delivery and economic development.

Metropolitan Area	Total Population aged to 6-18	Proportion of South Africa's 6 to 18 year olds
Buffalo City	159 944	1%
City of Cape Town	726 346	6%
City of Johannesburg	762 908	6%
City of Tshwane	527 018	4%
Ekurhuleni	586 669	5%
eThekwini Metropolitan	725 711	6%
Mangaung	165 496	1%
Nelson Mandela Bay	239 673	2%
Rest of South Africa	8 433 788	68%
Total	**12 327 553**	**100%**

Table 23: Population aged 6 to 18 by Metro area, 2011 Census

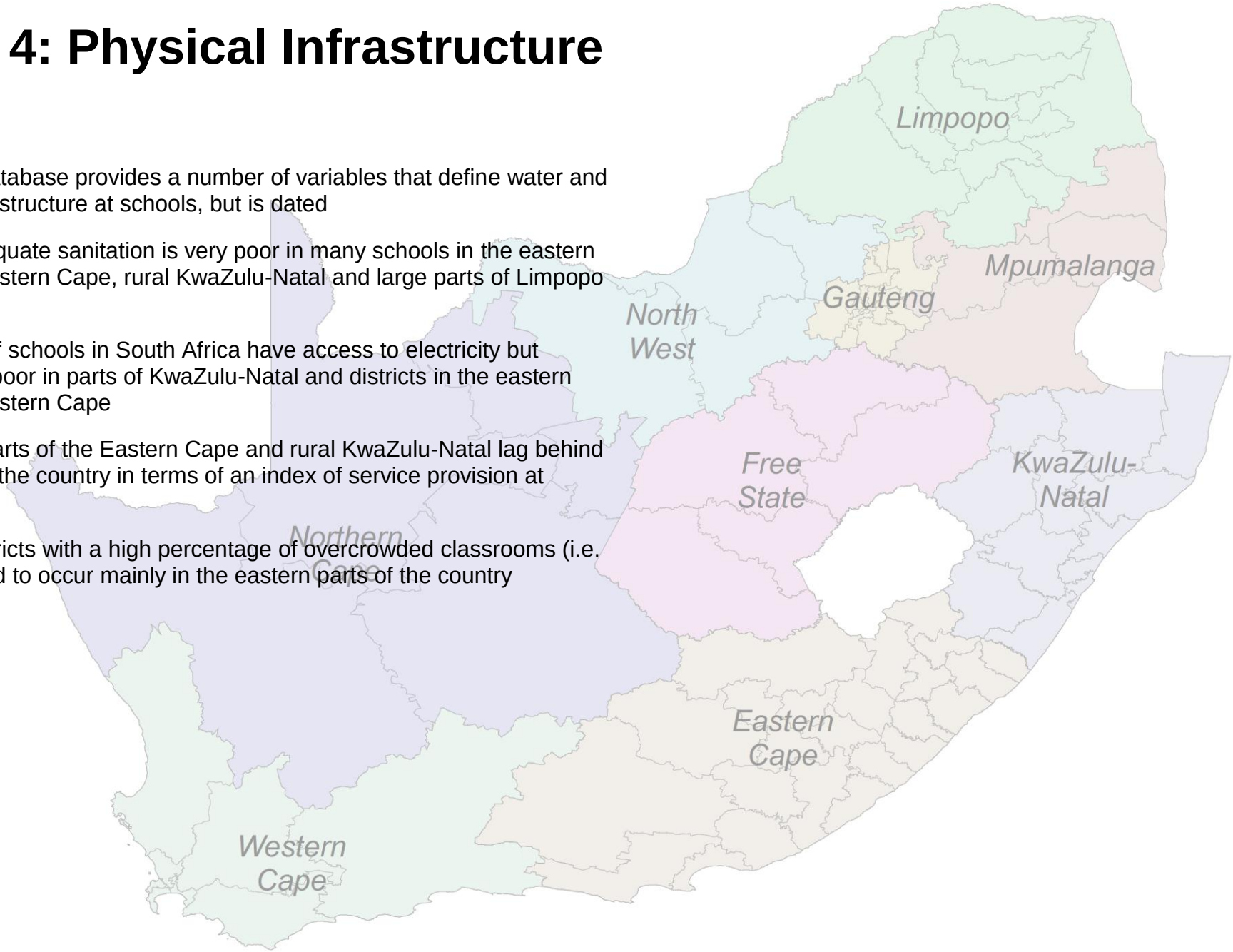
[38] 2011 Census

Map 20: Population density: Children of school going age



Section 4: Physical Infrastructure

- The NEIMS database provides a number of variables that define water and sanitation infrastructure at schools, but is dated
- Access to adequate sanitation is very poor in many schools in the eastern parts of the Eastern Cape, rural KwaZulu-Natal and large parts of Limpopo Province
- The majority of schools in South Africa have access to electricity but access is still poor in parts of KwaZulu-Natal and districts in the eastern parts of the Eastern Cape
- The eastern parts of the Eastern Cape and rural KwaZulu-Natal lag behind other areas of the country in terms of an index of service provision at schools
- Education districts with a high percentage of overcrowded classrooms (i.e. LCR > 40) tend to occur mainly in the eastern parts of the country



4.1 Infrastructure data for schools

The National Education Infrastructure Management System (NEIMS) dataset contains detailed information on services and infrastructure at schools throughout South Africa. Even though this data is now somewhat dated, having been collected in 2006 and updated in some sections since, it nevertheless provides valuable insight into the physical condition of schools, information which is crucial for effective infrastructure planning although the detail on the latest update is not available.

Information on the provision of water, electricity, sewage disposal, toilets and security at schools was extracted from the NEIMS database and is examined in detail in the sections that follow. These infrastructure indicators were then combined into a Composite Infrastructure Index, which allows physical infrastructure provision for schools in education districts to be compared with other districts in the country.

4.2 Water and sanitation

The NEIMS database provides a number of variables that characterise water and sanitation infrastructure at schools. The first of these, water supply source, is a crucial service as it is a major factor in determining the type of sanitation infrastructure that can be installed at schools. The NEIMS database reports on five different types of water access: (1) no water source on site, (2) borehole or rain harvesting, (3) municipal water tanker, (4) communal (not on site but nearby), and (5) municipal connection. Some schools have one or more of these water sources. The percentages of schools with one or more of these types of water supply are shown in **Table 24** overleaf.

Sanitation infrastructure at schools is indicated by the type of toilets installed as well as the method of sewage disposal employed. Toilets at schools are classified into six different types, namely (1) bucket toilet, (2) pit latrine, (3) ventilated pit latrine (VIP), (4) enviro loo, (5) flush to septic tank and (6) flush to municipal sewage system. The ideal is for all schools to have flush toilets, something that is only possible if schools have an adequate and reliable water supply. This, of course, is dependent on the type of water service available to the communities within which schools are located, something which is examined in detail in Section 5.3 of this report. **Table 24** reports on those schools with flushing toilets, whether to a septic tank or a municipal sewage system.

Sewage disposal at schools is classified into one of four categories, these being (1) none, (2) municipal service to remove and replace buckets, (3) emptying of septic tank by municipal vacuum, and (4) removal via municipal sewerage system. The ideal would be to have all human waste removed, either immediately via the municipal sewerage system or periodically through emptying of the septic tank. The percentages of schools with these two types of sewage disposal are also shown in **Table 24**. Again, the provision of water-borne sewage removal depends on the availability of an adequate and reliable supply of water (see Section 5.3).

Access to adequate sanitation is very poor in many schools in the former Transkei, rural KwaZulu-Natal and large parts of Limpopo Province. This is especially noticeable in the Eastern Cape where in 12 of the 23 education districts less than 10% of schools have proper sewage disposal systems. Indeed it is only in the more urbanised districts of Uitenhage, East London and Port Elizabeth that more than 80% of schools have proper sewage removal. The situation regarding flushing toilets at schools in the Eastern Cape is similar, with 12 of the 23 education districts having less than 10% of schools with flushing toilets. The position in KwaZulu-Natal is slightly better although access to adequate sanitation is still poor. In this province seven of the 12 districts have less than 20% of schools with flushing toilets. In Limpopo Province, the best resourced education district in terms of

sanitation provision at schools is Waterberg District where 50% of schools have adequate sewage disposal and 43% have flushing toilets. Many of the other districts in Limpopo have less than 20% of schools with adequate sanitation. The best resourced province is the Western Cape where over 90% of schools in all eight education districts have adequate sanitation. Schools in Gauteng also have good access to sanitation.

Using the fairly generous definition of water access (i.e. borehole, communal, rain water, municipal, water tanker), most schools in the country have some form of access to water. Even in the most poorly resourced Eastern Cape over 65% of schools in the worst district (Qumbu) have access to water. If the provision of adequate sanitation (i.e. flushing toilets and removal of sewage) were to be prioritised then water sources such as communal taps, rain water, and water tankers would probably not be sufficient.

Province	Education District	% Schools with Access to Water	% Schools with Electricity	% Schools with Fencing and Gates	% Schools with Sewage Disposal	% Schools with Flushing Toilets	Composite Infrastructure Index (0 = worst infrastructure) worst 10 highlighted
EC	Butterworth	69%	78%	73%	4%	4%	**0.22**
EC	Cofimvaba	80%	80%	83%	1%	1%	**0.33**
EC	Cradock	93%	85%	82%	44%	58%	**0.62**
EC	Dutywa	83%	79%	65%	1%	1%	**0.26**
EC	East London	98%	95%	85%	89%	64%	**0.82**
EC	Fort Beaufort	80%	85%	88%	16%	14%	**0.43**
EC	Graaff-Reinet	96%	83%	86%	75%	75%	**0.75**
EC	Grahamstown	95%	82%	70%	66%	65%	**0.62**
EC	King Williams Town	94%	94%	85%	55%	22%	**0.64**
EC	Lady Frere	71%	77%	77%	9%	9%	**0.27**
EC	Libode	74%	82%	55%	2%	2%	**0.17**
EC	Lusikisiki	73%	67%	59%	1%	1%	**0.11**
EC	Maluti	78%	70%	79%	6%	4%	**0.27**
EC	Mbizana	74%	66%	60%	1%	2%	**0.12**
EC	Mt Fletcher	68%	69%	75%	5%	5%	**0.19**
EC	Mt Frere	70%	69%	76%	2%	2%	**0.19**
EC	Mthatha	84%	84%	72%	10%	10%	**0.35**
EC	Ngcobo	77%	76%	73%	7%	6%	**0.27**
EC	Port Elizabeth	100%	98%	92%	98%	97%	**0.96**
EC	Queenstown	86%	85%	84%	45%	43%	**0.57**
EC	Qumbu	65%	65%	63%	1%	1%	**0.08**
EC	Sterkspruit	81%	89%	93%	25%	23%	**0.52**
EC	Uitenhage	98%	91%	88%	83%	87%	**0.85**
FS	Fezile Dabi	86%	84%	80%	57%	55%	**0.59**
FS	Lejweleputswa	86%	84%	78%	68%	67%	**0.63**
FS	Motheo	98%	99%	95%	79%	77%	**0.89**
FS	Thabo Mofutsanyana	85%	89%	91%	51%	50%	**0.64**
FS	Xhariep	100%	96%	93%	82%	78%	**0.89**
GT	Ekurhuleni North	100%	100%	95%	100%	98%	**0.99**
GT	Ekurhuleni South	100%	99%	90%	99%	94%	**0.95**
GT	Gauteng East	100%	100%	94%	98%	99%	**0.98**
GT	Gauteng North	100%	98%	79%	77%	88%	**0.84**
GT	Gauteng West	100%	100%	90%	91%	98%	**0.95**
GT	Johannesburg Central	100%	100%	96%	100%	100%	**1.00**
GT	Johannesburg East	100%	99%	91%	100%	100%	**0.97**
GT	Johannesburg North	100%	100%	84%	100%	100%	**0.94**
GT	Johannesburg South	100%	98%	90%	98%	99%	**0.95**
GT	Johannesburg West	100%	100%	93%	99%	100%	**0.98**
GT	Sedibeng East	100%	100%	93%	91%	93%	**0.95**
GT	Sedibeng West	100%	100%	90%	97%	98%	**0.96**
GT	Tshwane North	100%	100%	92%	86%	87%	**0.93**
GT	Tshwane South	100%	100%	93%	99%	100%	**0.98**
GT	Tshwane West	100%	98%	93%	92%	91%	**0.94**
KZ	Amajuba	91%	77%	89%	41%	41%	**0.57**
KZ	Ilembe	95%	73%	86%	15%	18%	**0.46**
KZ	Pinetown	99%	96%	84%	76%	73%	**0.81**

Province	Education District	% Schools with Access to Water	% Schools with Electricity	% Schools with Fencing and Gates	% Schools with Sewage Disposal	% Schools with Flushing Toilets	Composite Infrastructure Index (0 = worst infrastructure) worst 10 highlighted
KZ	Sisonke	71%	63%	86%	7%	7%	**0.24**
KZ	Ugu	84%	74%	79%	14%	16%	**0.36**
KZ	Umgungundlovu	91%	82%	86%	34%	36%	**0.55**
KZ	Umkhanyakude	88%	58%	92%	5%	6%	**0.34**
KZ	Umlazi	100%	97%	90%	84%	87%	**0.90**
KZ	Umzinyathi	83%	57%	81%	8%	8%	**0.26**
KZ	Uthukela	89%	74%	84%	19%	20%	**0.43**
KZ	Uthungulu	94%	71%	91%	15%	17%	**0.47**
KZ	Zululand	91%	73%	90%	11%	14%	**0.44**
LP	Lebowakgomo	95%	94%	90%	9%	11%	**0.55**
LP	Mogalakwena	97%	96%	89%	21%	15%	**0.60**
LP	Mopani	95%	96%	87%	27%	26%	**0.61**
LP	Polokwane	94%	93%	87%	15%	16%	**0.55**
LP	Riba Cross	94%	90%	94%	7%	8%	**0.54**
LP	Sekhukhune	89%	94%	82%	15%	17%	**0.50**
LP	Tshipise Sagole	87%	97%	92%	10%	11%	**0.53**
LP	Tzaneen	93%	94%	73%	29%	24%	**0.52**
LP	Vhembe	96%	96%	88%	22%	24%	**0.61**
LP	Waterberg	97%	93%	82%	50%	43%	**0.67**
MP	Bohlabela	91%	94%	87%	19%	21%	**0.56**
MP	Ehlanzeni	99%	97%	67%	42%	67%	**0.66**
MP	Gert Sibande	89%	77%	65%	41%	54%	**0.47**
MP	Nkangala	98%	95%	69%	46%	61%	**0.65**
NC	Frances Baard	99%	99%	95%	97%	97%	**0.97**
NC	John Taolo Gaetsewe	99%	98%	85%	30%	36%	**0.66**
NC	Namakwa	99%	96%	87%	92%	89%	**0.89**
NC	Pixley ka Seme	97%	90%	96%	80%	80%	**0.86**
NC	Siyanda	99%	99%	96%	93%	93%	**0.96**
NW	Bojanala	100%	98%	91%	50%	56%	**0.78**
NW	Dr Kenneth Kaunda	99%	98%	91%	74%	79%	**0.87**
NW	Dr Ruth Segomotsi Mompati	98%	95%	87%	29%	39%	**0.66**
NW	Ngaka Modiri Molema	97%	93%	87%	49%	58%	**0.72**
WC	Cape Winelands	100%	100%	76%	92%	98%	**0.88**
WC	Eden and Central Karoo	100%	100%	87%	94%	97%	**0.94**
WC	Metro Central	100%	100%	86%	100%	100%	**0.95**
WC	Metro East	100%	100%	86%	100%	99%	**0.95**
WC	Metro North	100%	100%	85%	99%	100%	**0.95**
WC	Metro South	100%	100%	90%	99%	100%	**0.97**
WC	Overberg	100%	99%	75%	95%	99%	**0.88**
WC	West Coast	100%	99%	77%	90%	98%	**0.88**

Table 24: Infrastructure indices for schools, based on NEIMS 2006 data

4.3 Electricity and security

The provision of electricity to schools is an important service as it allows teaching to take place in classrooms that are adequately lit and that permit the use of audio-visual equipment. The NEIMS database reports on three types of electricity provision at schools: generator, solar panels, ESKOM or municipal grid. Some schools have access to more than one of these sources. For electricity indicators the aim should be to have every school either on the grid or using alternative energy sources such as solar or wind energy.

The geographical patterns of electricity provision show that most schools in the country have access to electricity. Worrying, though, are districts like Umzinyathi and Umkhanyakude in KwaZulu-Natal, where almost half the schools don't have any electricity, and districts in the former Transkei where electricity access is also lower than elsewhere in the country. Of course, it should be remembered that these figures are based on data collected in 2006 so the present situation may be somewhat different.

Providing a safe and secure learning environment at schools should also be a key planning priority. This aspect was examined by developing a security indicator which combined NEIMS fencing and access gate data to show schools that have both fencing and gates. These schools are deemed to be more secure than schools without fences and/or gates.

Most schools in South Africa are fenced and have gates, although the indicator developed here doesn't say anything about their state. Indeed the geographical patterns exhibited by this infrastructure indicator are quite different from the other indicators discussed above. While the three districts with the lowest indicator values all occur in the Eastern Cape (Libode, Lusikisiki and Mbizana), districts in parts of the Western Cape, Free State and Mpumalanga also have lower values than in other parts of the country. Whether this is due to a real or perceived lower risk of crime in these districts is not known.

4.4 Composite infrastructure index

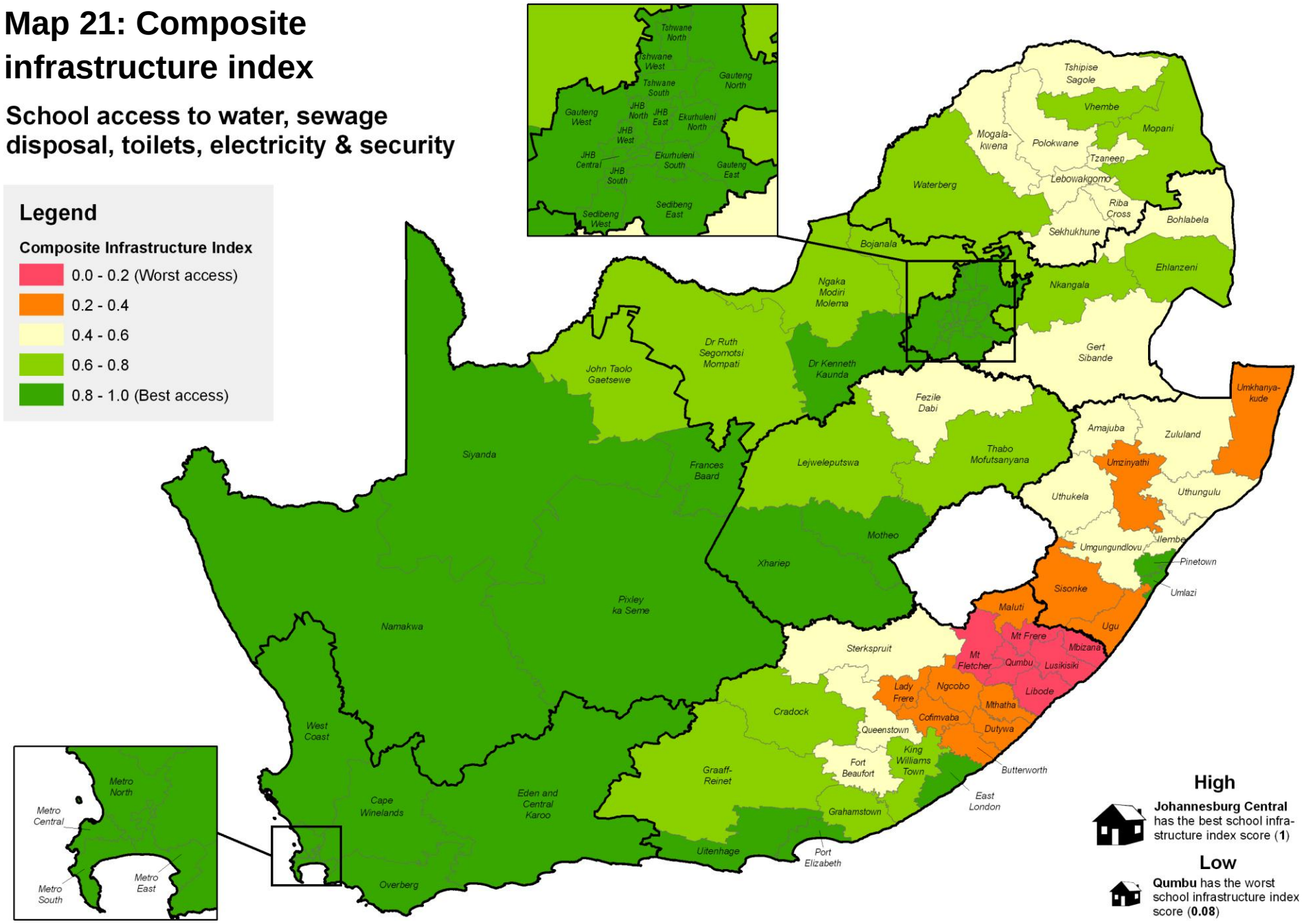
The five infrastructure indices (water, sewage disposal, toilets, electricity and security) were combined into a Composite Infrastructure Index (CII), which allows the different indices to be compared across all districts. These values are shown in the table above, where index values close to zero indicate poor infrastructure and values close to one indicate very good infrastructure.

The CII shows quite clearly that areas in the former Transkei and rural KwaZulu-Natal lag behind other areas of the country in terms of service provision at schools. So too do many districts in Limpopo Province and some districts in Mpumalanga and the Free State. The seven lowest ranked districts all occur in the Eastern Cape while the 21 worst districts are either in the Eastern Cape or KwaZulu-Natal. In other words, almost a quarter of the districts with the lowest Composite Infrastructure Index occur in just two provinces. This is in stark contrast to Gauteng, the Western Cape, most of the Northern Cape, and all large metropolitan areas where CII values are all clustered above 0.8. Indeed, the average CII value for Gauteng is an extremely high 0.96 while that of the Western Cape is 0.92.

The implication of these patterns for infrastructure planning is that resources can be targeted at specific regions of the country to great effect.

Map 21: Composite infrastructure index

School access to water, sewage disposal, toilets, electricity & security



4.5 Learner:classroom ratios and classroom backlogs for Education Districts

In addition to the variables discussed previously, the NEIMS dataset also contains detailed information on different learning spaces at each of the operational public schools, Early Childhood Development Centres, and Adult Basic Education and Training Centres across the country. Even though this data is now somewhat outdated, it nevertheless provides insight into the learner:classroom ratio (LCR) and classroom shortages at schools across the country. In the NEIMS dataset, learner spaces at schools fall into one of 11 different categories as shown in **Table 25**.

Code	Description
E01	classroom
E02	multipurpose room
E03	dance/drama
E04	music room
E05	laboratory
E06	computer centre
E07	library
E08	cookery centre
E09	needle work centre
E10	technical training centre
E11	staircase (Note is however classified as administrative area)

Table 25: Learner space categories

For the purposes of this study, learning spaces E01 to E10 were aggregated for each school to provide the total number of learning spaces per school (Code E11, staircase, was excluded from this classroom backlog assessment). These learning spaces were all deemed to contribute towards the overall school LCR, which was calculated as a ratio between the number of learners reported in the SNAP 2012 survey, and the number of NEIMS-reported learner spaces. Using a LCR of 40 as a benchmark, the number of schools with a LCR above 40 was calculated and a percentage calculated for each education district. Note that the number of schools listed in this table does not necessarily tally with district totals listed elsewhere in this report as these numbers are based on data as recorded in the NEIMS database in 2006.

Province	Education District	Schools	Schools with LCR > 40	% Schools with LCR > 40
EC	Butterworth	382	65	17%
EC	Cofimvaba	275	22	8%
EC	Cradock	81	6	7%
EC	Dutywa	342	111	32%
EC	East London	297	48	16%
EC	Fort Beaufort	250	7	3%
EC	Graaff-Reinet	81	3	4%
EC	Grahamstown	77	9	12%
EC	King Williams Town	430	40	9%
EC	Lady Frere	161	18	11%
EC	Libode	416	299	72%
EC	Lusikisiki	347	267	77%
EC	Maluti	224	64	29%
EC	Mbizana	210	176	84%
EC	Mt Fletcher	187	30	16%
EC	Mt Frere	243	67	28%
EC	Mthatha	335	162	48%
EC	Ngcobo	217	78	36%
EC	Port Elizabeth	238	28	12%
EC	Queenstown	170	26	15%
EC	Qumbu	249	73	29%
EC	Sterkspruit	167	40	24%
EC	Uitenhage	160	23	14%
FS	Fezile Dabi	239	28	12%
FS	Lejweleputswa	264	31	12%
FS	Motheo	297	50	17%
FS	Thabo Mofutsanyana	462	58	13%
FS	Xhariep	72	10	14%
GT	Ekurhuleni North	144	39	27%
GT	Ekurhuleni South	162	64	40%
GT	Gauteng East	152	49	32%
GT	Gauteng North	48	18	38%
GT	Gauteng West	147	47	32%
GT	Johannesburg Central	204	27	13%
GT	Johannesburg East	111	39	35%
GT	Johannesburg North	132	25	19%

Province	Education District	Schools	Schools with LCR > 40	% Schools with LCR > 40
GT	Johannesburg South	89	38	43%
GT	Johannesburg West	118	24	20%
GT	Sedibeng East	67	11	16%
GT	Sedibeng West	131	22	17%
GT	Tshwane North	134	57	43%
GT	Tshwane South	173	35	20%
GT	Tshwane West	131	54	41%
KZ	Amajuba	241	84	35%
KZ	Ilembe	419	95	23%
KZ	Pinetown	496	171	34%
KZ	Sisonke	443	142	32%
KZ	Ugu	491	154	31%
KZ	Umgungundlovu	497	112	23%
KZ	Umkhanyakude	520	249	48%
KZ	Umlazi	462	120	26%
KZ	Umzinyathi	475	222	47%
KZ	Uthukela	437	149	34%
KZ	Uthungulu	653	255	39%
KZ	Zululand	746	274	37%
LP	Lebowakgomo	245	49	20%
LP	Mogalakwena	261	39	15%
LP	Mopani	516	195	38%
LP	Polokwane	651	147	23%
LP	Riba Cross	246	49	20%
LP	Sekhukhune	643	151	23%
LP	Tshipise Sagole	216	54	25%
LP	Tzaneen	170	67	39%
LP	Vhembe	733	230	31%
LP	Waterberg	174	40	23%
MP	Bohlabela	361	140	39%
MP	Ehlanzeni	362	208	57%
MP	Gert Sibande	517	161	31%
MP	Nkangala	519	132	25%
NC	Frances Baard	118	19	16%
NC	John Taolo Gaetsewe	169	53	31%
NC	Namakwa	74	0	0%
NC	Pixley ka Seme	97	5	5%
NC	Siyanda	105	14	13%
NW	Bojanala	528	118	22%
NW	Dr Kenneth Kaunda	224	52	23%
NW	Dr Ruth Segomotsi Mompati	371	108	29%
NW	Ngaka Modiri Molema	384	103	27%
WC	Cape Winelands	269	29	11%
WC	Eden and Central Karoo	214	28	13%
WC	Metro Central	208	15	7%
WC	Metro East	132	31	23%
WC	Metro North	188	35	19%
WC	Metro South	184	22	12%
WC	Overberg	79	5	6%
WC	West Coast	120	12	10%

Table 26: Learner/Classroom ratios for education districts. The 10 districts with the highest percentage of schools with an LCR over 40 are shown in red and those with the 10 lowest in green. School totals are as reported in the NEIMS 2006 dataset

Education districts with a high percentage of overcrowded schools (i.e. LCR > 40) tend to occur mainly in the eastern parts of the country. This is particularly the case in the former Transkei, KwaZulu-Natal, Mpumalanga and eastern Limpopo Province. Of the 11 education districts in KwaZulu-Natal, nine have more than 40% of schools classed as overcrowded. Particularly notable is Mbizana district in the Eastern Cape, where 84% of the 210 schools can be considered to be overcrowded. Most schools in Libode and Lusikisiki districts of the Eastern Cape are also overcrowded, with 566 of the 763 schools (74%) in these two districts having a LCR above 40. Between them, the three districts of Mbizana, Libode and Lusikisiki account for 11% of the country's overcrowded schools yet contain only 4% of the schools in South Africa.

Gauteng has a mix of schools that are overcrowded and not overcrowded. The more rural southern part of the province appears to have schools adequately resourced with classrooms whereas Tshwane West and Tshwane North have many overcrowded schools. Schools in the Free

State, Northern Cape, Western Cape and the western parts of the Eastern Cape don't generally suffer from overcrowding. Indeed, the Namakwa district has no schools that are considered overcrowded when using the criterion of an LCR greater than 40.

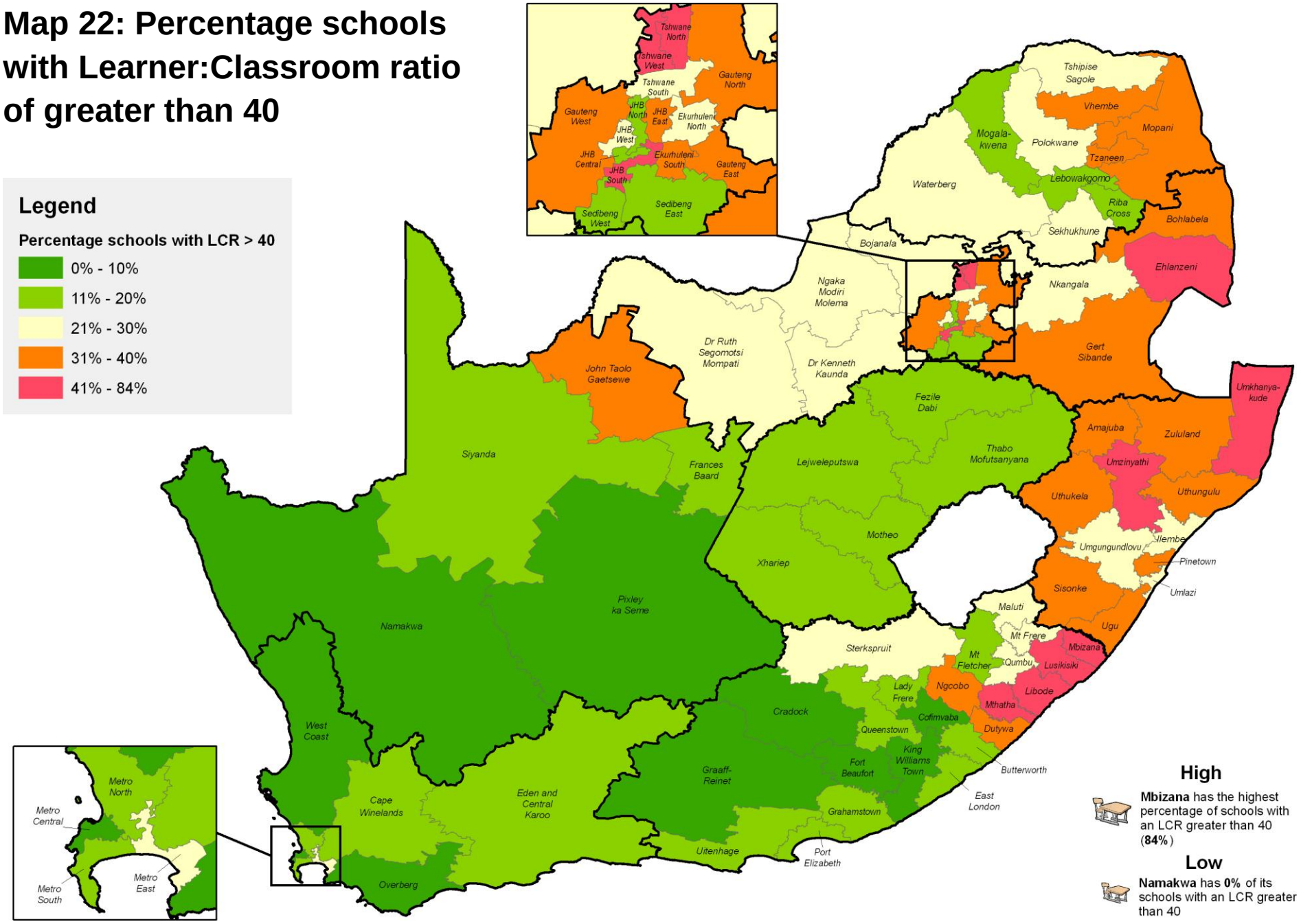
Province	Education District	Schools	Classroom backlog
EC	Butterworth	382	137
EC	Cofimvaba	275	41
EC	Cradock	81	6
EC	Dutywa	342	350
EC	East London	297	171
EC	Fort Beaufort	250	18
EC	Graaff-Reinet	81	4
EC	Grahamstown	77	45
EC	King Williams Town	430	135
EC	Lady Frere	161	36
EC	Libode	416	1378
EC	Lusikisiki	347	1279
EC	Maluti	224	252
EC	Mbizana	210	965
EC	Mt Fletcher	187	137
EC	Mt Frere	243	188
EC	Mthatha	335	656
EC	Ngcobo	217	254
EC	Port Elizabeth	238	120
EC	Queenstown	170	57
EC	Qumbu	249	205
EC	Sterkspruit	167	169
EC	Uitenhage	160	57
FS	Fezile Dabi	239	100
FS	Lejweleputswa	264	148
FS	Motheo	297	255
FS	Thabo Mofutsanyana	462	235
FS	Xhariep	72	44
GT	Ekurhuleni North	144	148
GT	Ekurhuleni South	162	394
GT	Gauteng East	152	205
GT	Gauteng North	48	113
GT	Gauteng West	147	228
GT	Johannesburg Central	204	95
GT	Johannesburg East	111	312
GT	Johannesburg North	132	130
GT	Johannesburg South	89	214
GT	Johannesburg West	118	77
GT	Sedibeng East	67	25
GT	Sedibeng West	131	82
GT	Tshwane North	134	264
GT	Tshwane South	173	273
GT	Tshwane West	131	290
KZ	Amajuba	241	477
KZ	Ilembe	419	384
KZ	Pinetown	496	1124
KZ	Sisonke	443	539
KZ	Ugu	491	579
KZ	Umgungundlovu	497	488
KZ	Umkhanyakude	520	1005
KZ	Umlazi	462	669
KZ	Umzinyathi	475	734
KZ	Uthukela	437	527
KZ	Uthungulu	653	1038
KZ	Zululand	746	870
LP	Lebowakgomo	245	152
LP	Mogalakwena	261	122
LP	Mopani	516	712
LP	Polokwane	651	673
LP	Riba Cross	246	209
LP	Sekhukhune	643	534
LP	Tshipise Sagole	216	221
LP	Tzaneen	170	291
LP	Vhembe	733	1032
LP	Waterberg	174	232
MP	Bohlabela	361	565
MP	Ehlanzeni	362	1410
MP	Gert Sibande	517	852
MP	Nkangala	519	682
NC	Frances Baard	118	73
NC	John Taolo Gaetsewe	169	191
NC	Namakwa	74	0
NC	Pixley ka Seme	97	14
NC	Siyanda	105	44
NW	Bojanala	528	502
NW	Dr Kenneth Kaunda	224	192
NW	Dr Ruth Segomotsi Mompati	371	436
NW	Ngaka Modiri Molema	384	370
WC	Cape Winelands	269	77
WC	Eden and Central Karoo	214	96
WC	Metro Central	208	50
WC	Metro East	132	143
WC	Metro North	188	150
WC	Metro South	184	93
WC	Overberg	79	25
WC	West Coast	120	46

Table 27: Classroom backlogs for education districts in South Africa. The 10 districts with the highest backlogs are shown in red and those 10 with the lowest in green. School totals are as reported in the NEIMS 2006 dataset

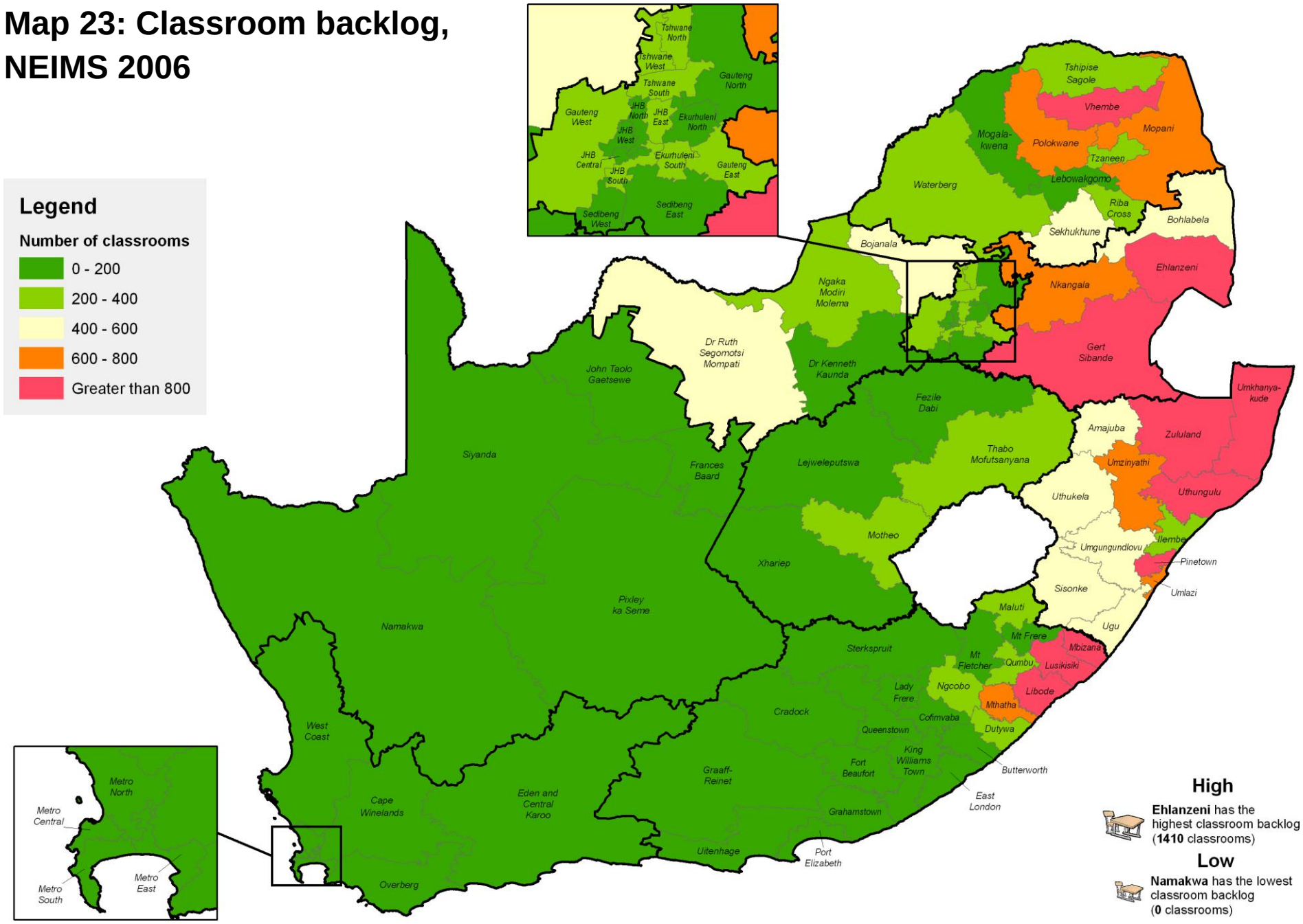
The spatial pattern of classroom backlogs mirrors, to a certain extent, the patterns observed in the LCR discussed previously. There are 10 districts that have a backlog of over 800 classrooms and these all occur in the eastern part of the country (former Transkei, KwaZulu-Natal, Mpumalanga and eastern Limpopo Province). Together these 10 districts have a backlog of 10953 classrooms, which is 38% of the total estimated backlog of 28915 classrooms. Mbizana district in the Eastern Cape has an estimated backlog of 965 classrooms for its 210 schools, and thus requires an average of almost five classrooms per school. This ties in with the overcrowding noted for this district in the analysis of the LCR in the previous section. At the other end of the scale, districts in the central and western parts of the country generally have a much lower classroom backlog, in some cases less than 10 classrooms per district.

Goal 24 of the DBE Action Plan to 2014 is aimed at improving infrastructure at schools. This includes eliminating the backlog between the current infrastructure at schools and that which is considered desirable given South Africa's level of development. Even though the NEIMS dataset is somewhat dated, the findings discussed in this section nevertheless have important implications for planning as they allow for informed targeting of funds for building projects to those areas most in need.

Map 22: Percentage schools with Learner:Classroom ratio of greater than 40

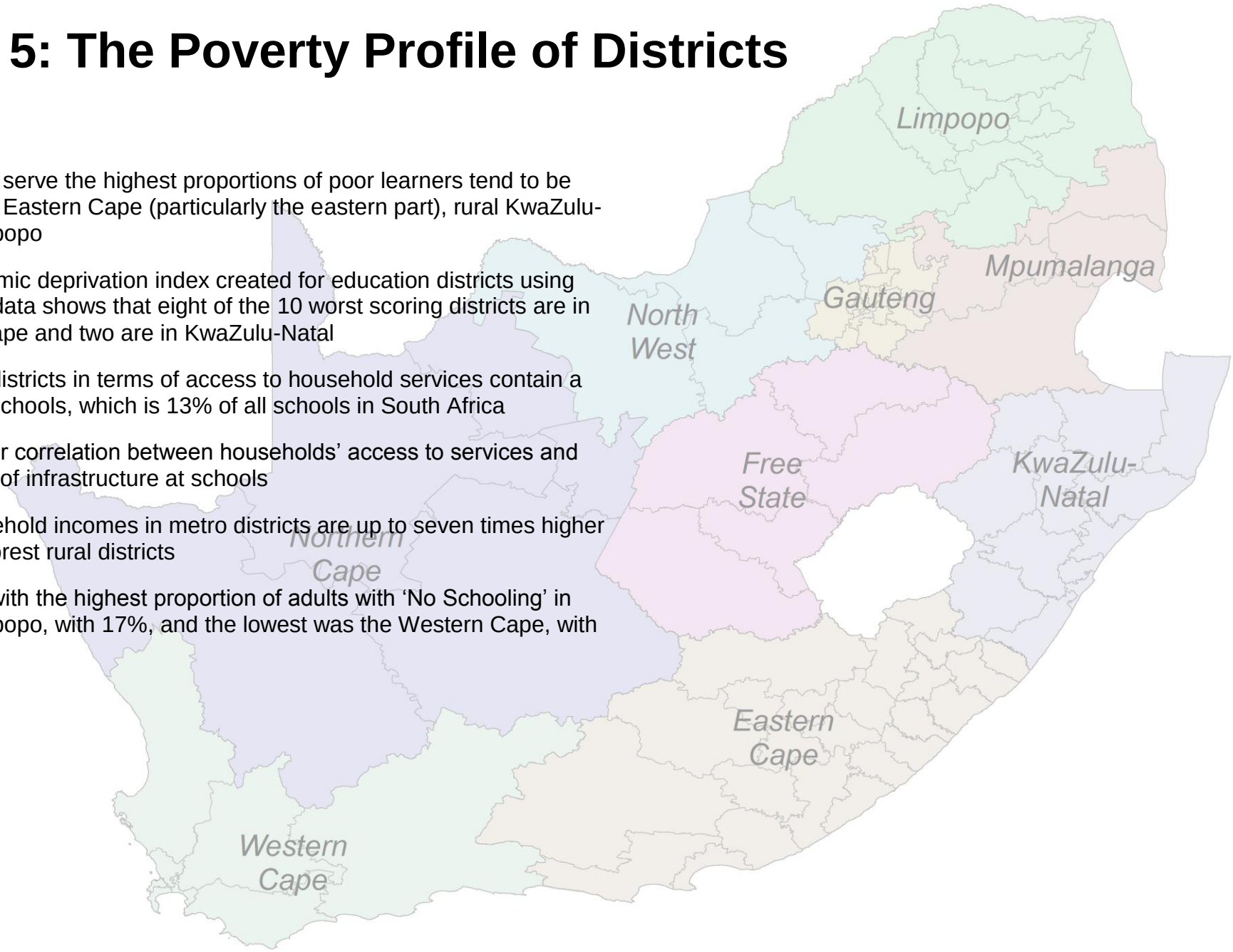


Map 23: Classroom backlog, NEIMS 2006



Section 5: The Poverty Profile of Districts

- Districts which serve the highest proportions of poor learners tend to be grouped in the Eastern Cape (particularly the eastern part), rural KwaZulu-Natal and Limpopo
- A socio-economic deprivation index created for education districts using 2011 Census data shows that eight of the 10 worst scoring districts are in the Eastern Cape and two are in KwaZulu-Natal
- The 10 worst districts in terms of access to household services contain a total of 3 331 schools, which is 13% of all schools in South Africa
- There is a clear correlation between households' access to services and the availability of infrastructure at schools
- Average household incomes in metro districts are up to seven times higher than in the poorest rural districts
- The province with the highest proportion of adults with 'No Schooling' in 2011 was Limpopo, with 17%, and the lowest was the Western Cape, with 3%



5.1 School Quintiles

The National Norms and Standards for School Funding were first promulgated in 1998 by the National Department of Education. They originally required provinces to rank schools using a series of school and community based indicators. The school indicators included criteria such as the learner:classroom ratio, and availability of power and water. Community based criteria included functional literacy, per capita income and other poverty measures.

The object of the ranking exercise was to place schools into groups (Quintiles) from most to least poor for the purposes of allocating pro-poor per-learner funding. Schools in Quintile 1 in each province received the most funding since they served the poorest communities and were most disadvantaged in terms of school infrastructure, over-crowding and so forth. Each province undertook the ranking exercise, divided its schools into Quintiles and allocated pro-poor funding based on what it could afford.

In November 2004, a set of amendments to the Norms and Standards were published. A number of changes were recommended, one of which was a move towards a simpler and more accurate method of gauging the poverty level at schools[39]:

> 'The new method will consider only the community around the school, in particular income levels. A clearer system of exemptions will cater for schools where the poverty levels of learners enrolled in the school do not match the poverty level of the community around the school.'

Each province was therefore required to re-rank schools using *only* community-based indicators. The primary source of the poverty indicators at the time was the 2001 Census at placename and sub-placename level. The poverty indicators were assigned to schools using a Geographical Information System (GIS).

The other change that was recommended concerned the actual funding levels for schools, which were considered to be too low:

> 'Despite dramatic increases in the value of the school allocation in certain provinces, in many parts of the country the monetary value of the school allocation is still too low. This is related to unacceptable inequities across the country in terms of the school allocation.'

Provincial Education Departments had to attain monetary targets for the per learner school allocation amounts. These targets took into account the greater extent of poverty in certain provinces, and consequently the need for more generous levels of funding in these provinces.

Provincial education departments were therefore required to meet specific annual per learner funding targets for each Quintile and to declare a certain percentage of schools 'no fee schools'.

Map 24 overleaf shows the percentage learners in Quintiles 1 and 2 by education district. The districts shown in red, which serve the highest proportions of poor learners, tend to be grouped in the Eastern Cape (particularly in the former Transkei), rural KwaZulu-Natal and Limpopo. One district in Mpumalanga, Bohlabela, is also included in this group. These districts are predominantly rural, far from key economic centres of activity and also contain a great many under-performing schools.

[39] Government Gazette No 27014 - Amendments to the National Norms and Standards for School Funding, November 2004

Map 24: Percentage learners in Quintiles 1 and 2

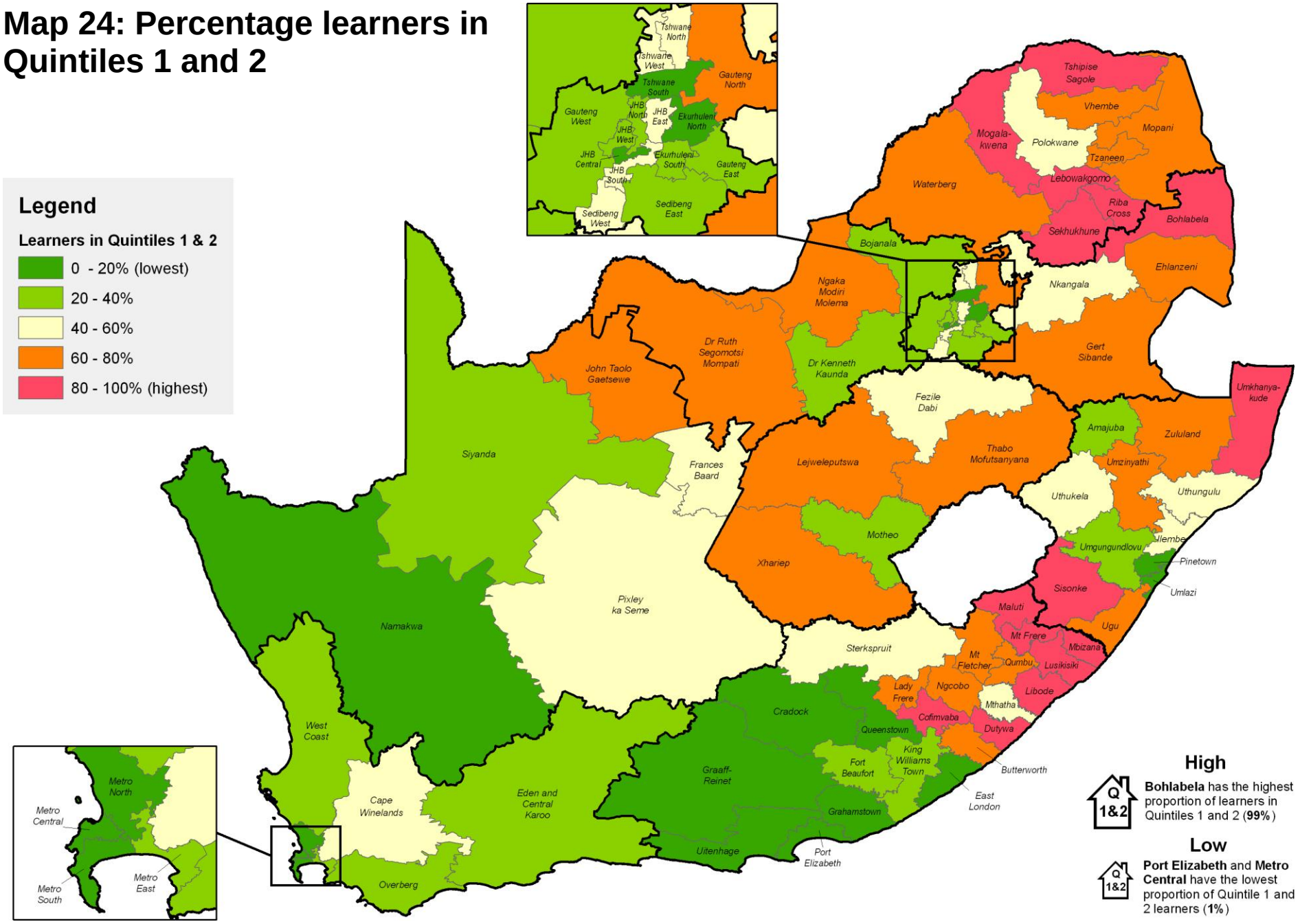


Table 28Table 28 below shows the relative proportion of learners in Quintiles 1 and 2 (most poor) versus those in Quintiles 3, 4 and 5 (least poor). The districts have been ranked in terms of the proportion of learners in Quintiles 1 and 2. A rank of 1 denotes the district with the highest proportion of Quintile 1 and 2 learners. The top 10 districts in the table have been highlighted in red.

Six of the worst 10 districts in terms of the proportion of poor learners are in the Eastern Cape, two are in KwaZulu-Natal, one is in Limpopo and one in Mpumalanga. The lowest proportions of learners in Quintiles 1 and 2 are found in Port Elizabeth, Metro Central in the Western Cape and Umlazi District in KwaZulu-Natal.

Province	Education District	Proportion of learners in Quintiles 1 & 2	Proportion of learners in Quintiles 3, 4 & 5	Rank (1 = most learners in Q1 & 2) worst 10 highlighted
EC	Butterworth	65%	35%	31
EC	Cofimvaba	89%	11%	6
EC	Cradock	13%	87%	76
EC	Dutywa	86%	14%	10
EC	East London	13%	87%	75
EC	Fort Beaufort	21%	79%	70
EC	Graaff-Reinet	3%	97%	83
EC	Grahamstown	7%	93%	79
EC	King Williams Town	22%	78%	67
EC	Lady Frere	76%	24%	21
EC	Libode	86%	14%	9
EC	Lusikisiki	92%	8%	4
EC	Maluti	86%	14%	8
EC	Mbizana	92%	8%	5
EC	Mt Fletcher	80%	20%	16
EC	Mt Frere	84%	16%	12
EC	Mthatha	51%	49%	45
EC	Ngcobo	77%	23%	19
EC	Port Elizabeth	1%	99%	86
EC	Queenstown	14%	86%	73
EC	Qumbu	70%	30%	26
EC	Sterkspruit	43%	57%	50
EC	Uitenhage	7%	93%	82
FS	Fezile Dabi	49%	51%	46
FS	Lejweleputswa	63%	37%	34
FS	Motheo	39%	61%	54
FS	Thabo Mofutsanyana	72%	28%	24
FS	Xhariep	79%	21%	18
GT	Ekurhuleni North	9%	91%	78
GT	Ekurhuleni South	24%	76%	66
GT	Gauteng East	25%	75%	65
GT	Gauteng North	69%	31%	27
GT	Gauteng West	28%	72%	63
GT	Johannesburg Central	7%	93%	81
GT	Johannesburg East	41%	59%	52
GT	Johannesburg North	35%	65%	56
GT	Johannesburg South	55%	45%	41
GT	Johannesburg West	25%	75%	64
GT	Sedibeng East	29%	71%	61
GT	Sedibeng West	53%	47%	44
GT	Tshwane North	54%	46%	43
GT	Tshwane South	17%	83%	71
GT	Tshwane West	42%	58%	51
KZ	Amajuba	22%	78%	69
KZ	Ilembe	57%	43%	38
KZ	Pinetown	7%	93%	80
KZ	Sisonke	81%	19%	15
KZ	Ugu	65%	35%	33
KZ	Umgungundlovu	22%	78%	68
KZ	Umkhanyakude	87%	13%	7
KZ	Umlazi	2%	98%	84
KZ	Umzinyathi	79%	21%	17
KZ	Uthukela	46%	54%	48
KZ	Uthungulu	57%	43%	39
KZ	Zululand	70%	30%	25
LP	Lebowakgomo	83%	17%	13
LP	Mogalakwena	85%	15%	11
LP	Mopani	66%	34%	30
LP	Polokwane	56%	44%	40

Province	Education District	Proportion of learners in Quintiles 1 & 2	Proportion of learners in Quintiles 3, 4 & 5	Rank (1 = most learners in Q1 & 2) worst 10 highlighted
LP	Riba Cross	98%	2%	2
LP	Sekhukhune	97%	3%	3
LP	Tshipise Sagole	82%	18%	14
LP	Tzaneen	61%	39%	36
LP	Vhembe	73%	27%	23
LP	Waterberg	61%	39%	35
MP	Bohlabela	99%	1%	1
MP	Ehlanzeni	76%	24%	20
MP	Gert Sibande	74%	26%	22
MP	Nkangala	60%	40%	37
NC	Frances Baard	44%	56%	49
NC	John Taolo Gaetsewe	66%	34%	28
NC	Namakwa	17%	83%	72
NC	Pixley ka Seme	55%	45%	42
NC	Siyanda	38%	62%	55
NW	Bojanala	33%	67%	57
NW	Dr Kenneth Kaunda	32%	68%	58
NW	Dr Ruth Segomotsi Mompati	65%	35%	32
NW	Ngaka Modiri Molema	66%	34%	29
WC	Cape Winelands	46%	54%	47
WC	Eden and Central Karoo	40%	60%	53
WC	Metro Central	1%	99%	85
WC	Metro East	29%	71%	60
WC	Metro North	9%	91%	77
WC	Metro South	14%	86%	74
WC	Overberg	30%	70%	59
WC	West Coast	29%	71%	62
Average		**51%**	**49%**	

Table 28: Percentage learners in Quintiles 1 and 2 versus 3, 4 and 5

5.2 Socio-economic deprivation

Since communities play a vital part in supporting the provision of education, it is important to assess the socio-economic environment in which those communities exist. In order to undertake a comparison, a socio-economic deprivation index has been calculated for education districts by combining various social and economic criteria from the 2011 Census.

The following criteria were used to create the index:

- Functional Literacy - percentage of the adult population that has attained at least Grade 6 schooling, divided by the total number of adults (age 20 and above)
- Per Capita Income - total monthly income divided by the total population
- Percentage of households with electricity (supplied by Eskom or a local municipality)

Each criterion was ranked from worst to best, given equal weight and combined into a single standardised index ranging from 0 (most poor) to 1 (least poor). It is important to note that the score measures *relative* rather than absolute disadvantage between districts in South Africa, and compares the performance of districts to one another , this is not to a defined as a national benchmark.

Education districts with the highest score, or those identified to be the most disadvantaged in terms of the criteria used, are typically characterised by:

- High unemployment
- Large numbers of dependants
- Low levels of literacy
- Small proportions of the population with tertiary education
- Low levels of basic household services such as electricity and piped water

Using this particular index the most disadvantaged district in South Africa (see **Map 25** overleaf and **Table 29** below) was Umkhanyakude in northern KwaZulu-Natal. It has a combination of low literacy levels (62%), low income (R850 per month) and particularly poor household access to electricity (38%). The second most disadvantaged district was Dutywa in the Eastern Cape with an index score of 0.07. Eight of the 10 worst scoring districts in South Africa are in the Eastern Cape and two are in KwaZulu-Natal.

At the other end of the socio-economic spectrum are the districts of Johannesburg East, North and West in Gauteng as well as Metro Central and Metro North in the Western Cape. They have much lower levels of deprivation in relative terms.

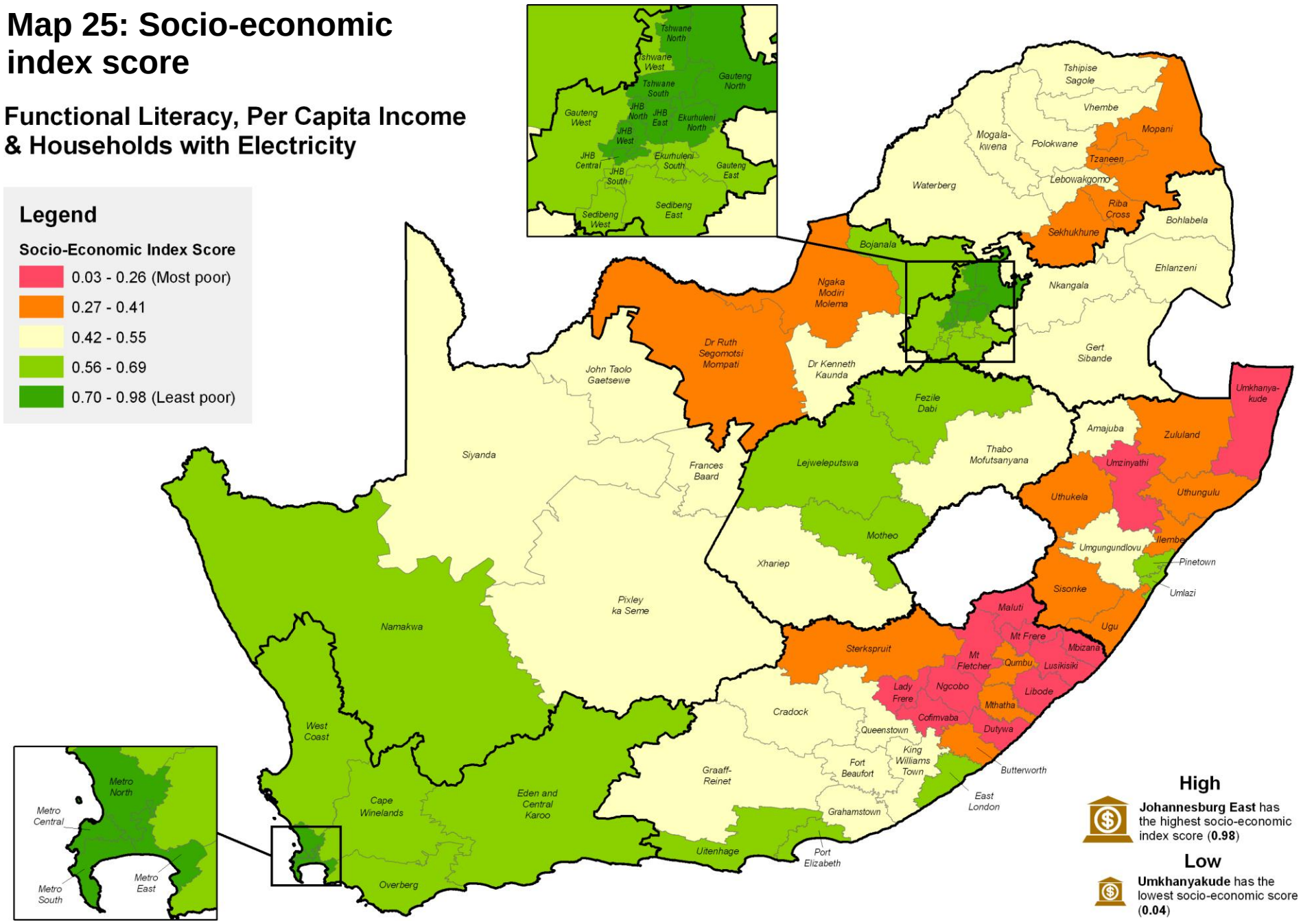
Province	Education District	Functional Literacy	Monthly Income Per Capita	Households with access to Electricity	Poverty Index (0 = most poor) poorest 10 highlighted
EC	Butterworth	72%	R 951	61%	0.27
EC	Cofimvaba	64%	R 716	61%	0.18
EC	Cradock	71%	R 1 791	93%	0.47
EC	Dutywa	60%	R 759	49%	0.07
EC	East London	86%	R 2 676	78%	0.57
EC	Fort Beaufort	76%	R 1 118	89%	0.47
EC	Graaff-Reinet	75%	R 1 712	90%	0.49
EC	Grahamstown	79%	R 2 221	88%	0.53
EC	King Williams Town	78%	R 1 491	89%	0.50
EC	Lady Frere	59%	R 750	82%	0.25
EC	Libode	62%	R 615	70%	0.21
EC	Lusikisiki	61%	R 665	51%	0.09
EC	Maluti	72%	R 960	45%	0.18
EC	Mbizana	62%	R 666	60%	0.15

Province	Education District	Functional Literacy	Monthly Income Per Capita	Households with access to Electricity	Poverty Index (0 = most poor) poorest 10 highlighted
EC	Mt Fletcher	64%	R 898	46%	0.11
EC	Mt Frere	75%	R 875	45%	0.20
EC	Mthatha	74%	R 1 306	73%	0.36
EC	Ngcobo	63%	R 955	61%	0.17
EC	Port Elizabeth	91%	R 2 788	90%	0.68
EC	Queenstown	78%	R 1 636	91%	0.52
EC	Qumbu	70%	R 766	73%	0.30
EC	Sterkspruit	69%	R 1 386	83%	0.37
EC	Uitenhage	84%	R 1 986	90%	0.59
FS	Fezile Dabi	81%	R 2 038	90%	0.56
FS	Lejweleputswa	81%	R 1 738	91%	0.55
FS	Motheo	85%	R 2 753	91%	0.64
FS	Thabo Mofutsanyana	77%	R 1 332	87%	0.47
FS	Xhariep	70%	R 1 709	92%	0.45
GT	Ekurhuleni North	93%	R 5 962	83%	0.79
GT	Ekurhuleni South	92%	R 3 496	82%	0.67
GT	Gauteng East	87%	R 2 174	82%	0.57
GT	Gauteng North	88%	R 6 136	85%	0.77
GT	Gauteng West	87%	R 3 249	82%	0.61
GT	Johannesburg Central	93%	R 2 963	93%	0.72
GT	Johannesburg East	93%	R 8 923	95%	0.98
GT	Johannesburg North	93%	R 7 681	85%	0.87
GT	Johannesburg South	89%	R 2 922	88%	0.66
GT	Johannesburg West	93%	R 5 371	92%	0.82
GT	Sedibeng East	89%	R 3 822	87%	0.69
GT	Sedibeng West	88%	R 2 208	93%	0.65
GT	Tshwane North	89%	R 4 098	94%	0.74
GT	Tshwane South	94%	R 7 251	86%	0.87
GT	Tshwane West	89%	R 3 261	90%	0.69
KZ	Amajuba	80%	R 1 364	84%	0.49
KZ	Ilembe	72%	R 1 452	71%	0.34
KZ	Pinetown	87%	R 2 824	91%	0.65
KZ	Sisonke	72%	R 1 029	62%	0.28
KZ	Ugu	72%	R 1 390	72%	0.34
KZ	Umgungundlovu	81%	R 2 330	86%	0.55
KZ	Umkhanyakude	62%	R 850	38%	0.04
KZ	Umlazi	90%	R 3 258	89%	0.69
KZ	Umzinyathi	60%	R 919	49%	0.08
KZ	Uthukela	73%	R 1 123	74%	0.35
KZ	Uthungulu	72%	R 1 690	76%	0.38
KZ	Zululand	67%	R 950	70%	0.27
LP	Lebowakgomo	73%	R 1 091	90%	0.45
LP	Mogalakwena	73%	R 1 243	91%	0.45
LP	Mopani	70%	R 1 074	90%	0.41
LP	Polokwane	80%	R 1 948	87%	0.53
LP	Riba Cross	77%	R 1 227	75%	0.40
LP	Sekhukhune	67%	R 907	90%	0.38
LP	Tshipise Sagole	75%	R 1 297	83%	0.43
LP	Tzaneen	70%	R 1 591	85%	0.41
LP	Vhembe	73%	R 1 130	88%	0.44
LP	Waterberg	80%	R 2 682	82%	0.53
MP	Bohlabela	73%	R 877	93%	0.45
MP	Ehlanzeni	76%	R 2 086	87%	0.49
MP	Gert Sibande	76%	R 2 282	83%	0.48
MP	Nkangala	80%	R 2 469	86%	0.54
NC	Frances Baard	79%	R 2 260	83%	0.51
NC	John Taolo Gaetsewe	71%	R 1 797	87%	0.43
NC	Namakwa	82%	R 2 333	86%	0.56
NC	Pixley ka Seme	71%	R 1 735	85%	0.42
NC	Siyanda	78%	R 2 215	87%	0.51
NW	Bojanala	83%	R 2 299	84%	0.55
NW	Dr Kenneth Kaunda	77%	R 2 209	88%	0.52
NW	Dr Ruth Segomotsi Mompati	60%	R 1 057	82%	0.27
NW	Ngaka Modiri Molema	71%	R 1 575	81%	0.39
WC	Cape Winelands	85%	R 3 025	93%	0.65
WC	Eden and Central Karoo	85%	R 2 846	91%	0.63
WC	Metro Central	94%	R 5 568	98%	0.86
WC	Metro East	92%	R 3 562	90%	0.73
WC	Metro North	93%	R 5 010	94%	0.81
WC	Metro South	93%	R 3 903	95%	0.77
WC	Overberg	85%	R 2 903	91%	0.64
WC	West Coast	84%	R 2 737	94%	0.63

Table 29: Functional Literacy, Per Capita Income and Households with access to Electricity – combined Poverty Index

Map 25: Socio-economic index score

Functional Literacy, Per Capita Income & Households with Electricity



5.3 Access to household services – Composite services index

A composite index of access to household services was created using data from Census 2011. Four variables were used to construct this index, namely type of toilet facility, source of water, refuse disposal method and the type of energy used for cooking. Census 2011 reported a number of categories for each of these variables, which, for the purposes of this study, were classified as being either adequate or inadequate. These categories are summarised in the table below. In analysing sanitation, the choice of adequate toilet type was based on work done by the Socio-Economic Rights Institute of South Africa (SERI). In their document 'Basic Sanitation in South Africa: A Guide to Legislation, Policy and Practice' they state that pit latrines and bucket toilets are not an acceptable form of basic sanitation and that chemical toilets are only suitable for short-term temporary use.

Service category	Adequate	Inadequate
Type of toilet (Sanitation)	• Flush toilet (connected to sewerage system) • Flush toilet (with septic tank) • Pit toilet with ventilation (VIP)	• Chemical toilet • Pit toilet without ventilation • Bucket toilet • Other
Source of water	• Regional/local water scheme (operated by municipality or other water services provider) • Borehole • Spring • Rain water tank	• Dam/pool/stagnant water • River/stream • Water vendor • Water tanker • Other
Refuse disposal	• Removed by local authority/private company at least once a week • Removed by local authority/private company less often	• Communal refuse dump • Own refuse dump • No rubbish disposal • Other
Energy for cooking	• Electricity • Gas • Solar	• Paraffin • Wood • Coal • Animal dung • Other

Table 30: Service categories used to construct the Composite Services Index

Each of these services was aggregated to education district level and a percentage was calculated for the number of households with inadequate access to the desired level of service. Education districts were then ranked from best to worst, with a score of 0 being the worst and a score of 1 indicating the best district. Finally, the four different indicators were combined into a Composite Services Index (CSI), also ranging from 0 (worst) to 1 (best). These are shown in the table below.

Education District	Sanitation Indicator	Water Indicator	Refuse Indicator	Cooking Energy Indicator	Composite Services Index
Amajuba	0.52	0.89	0.58	0.68	**0.67**
Bohlabela	0.12	0.72	0.12	0.41	**0.34**
Bojanala	0.40	0.83	0.50	0.72	**0.61**
Butterworth	0.08	0.49	0.14	0.23	**0.24**
Cape Winelands	0.95	0.91	0.85	0.94	**0.91**
Cofimvaba	0.10	0.45	0.00	0.21	**0.19**
Cradock	0.86	0.91	0.66	0.85	**0.82**
Dr Kenneth Kaunda	0.90	0.98	0.74	0.79	**0.85**
Dr Ruth Segomotsi Mompati	0.47	0.91	0.23	0.59	**0.55**
Dutywa	0.04	0.14	0.01	0.08	**0.07**
East London	0.78	0.94	0.74	0.66	**0.78**
Eden and Central Karoo	0.91	0.94	0.88	0.89	**0.90**
Ehlanzeni	0.37	0.64	0.31	0.70	**0.51**
Ekurhuleni North	0.90	0.99	0.91	0.77	**0.89**
Ekurhuleni South	0.90	0.99	0.91	0.77	**0.89**
Fezile Dabi	0.84	0.98	0.84	0.87	**0.88**
Fort Beaufort	0.43	0.86	0.32	0.73	**0.59**
Frances Baard	0.83	0.96	0.78	0.79	**0.84**
Gauteng East	0.87	0.97	0.89	0.72	**0.87**
Gauteng North	0.75	0.91	0.77	0.78	**0.80**
Gauteng West	0.88	0.97	0.80	0.74	**0.85**
Gert Sibande	0.76	0.88	0.65	0.49	**0.69**
Graaff-Reinet	0.90	0.94	0.83	0.83	**0.88**
Grahamstown	0.73	0.95	0.87	0.83	**0.84**
Ilembe	0.39	0.65	0.35	0.55	**0.49**
Johannesburg Central	0.98	1.00	1.00	0.94	**0.98**
Johannesburg East	1.00	0.99	1.00	0.94	**0.98**
Johannesburg North	0.97	0.98	0.98	0.80	**0.93**
Johannesburg South	0.89	0.93	0.96	0.86	**0.91**

Education District	Sanitation Indicator	Water Indicator	Refuse Indicator	Cooking Energy Indicator	Composite Services Index
Johannesburg West	0.97	0.99	0.98	0.93	**0.97**
John Taolo Gaetsewe	0.45	0.90	0.25	0.68	**0.57**
King Williams Town	0.46	0.84	0.33	0.70	**0.58**
Lady Frere	0.19	0.59	0.07	0.52	**0.34**
Lebowakgomo	0.23	0.72	0.16	0.38	**0.37**
Lejweleputswa	0.80	0.98	0.83	0.87	**0.87**
Libode	0.22	0.12	0.00	0.09	**0.11**
Lusikisiki	0.17	0.03	0.02	0.00	**0.05**
Maluti	0.25	0.59	0.11	0.09	**0.26**
Mbizana	0.25	0.00	0.00	0.03	**0.07**
Metro Central	0.94	0.99	0.99	1.00	**0.98**
Metro East	0.90	0.99	0.93	0.93	**0.94**
Metro North	0.96	1.00	0.99	0.97	**0.98**
Metro South	0.95	0.99	0.96	0.97	**0.97**
Mogalakwena	0.29	0.83	0.23	0.38	**0.43**
Mopani	0.28	0.69	0.15	0.08	**0.30**
Motheo	0.80	0.97	0.81	0.89	**0.87**
Mt Fletcher	0.25	0.47	0.12	0.14	**0.25**
Mt Frere	0.23	0.38	0.06	0.07	**0.19**
Mthatha	0.44	0.40	0.25	0.45	**0.39**
Namakwa	0.88	0.92	0.83	0.88	**0.88**
Ngaka Modiri Molema	0.38	0.86	0.45	0.58	**0.57**
Ngcobo	0.22	0.47	0.06	0.24	**0.25**
Nkangala	0.57	0.89	0.49	0.65	**0.65**
Overberg	0.94	0.89	0.86	0.91	**0.90**
Pinetown	0.69	0.90	0.88	0.87	**0.83**
Pixley ka Seme	0.82	0.92	0.75	0.79	**0.82**
Polokwane	0.32	0.85	0.33	0.53	**0.51**
Port Elizabeth	0.92	0.99	0.92	0.86	**0.92**
Queenstown	0.78	0.91	0.61	0.81	**0.78**
Qumbu	0.19	0.32	0.03	0.26	**0.20**
Riba Cross	0.00	0.54	0.06	0.35	**0.24**
Sedibeng East	0.93	0.99	0.90	0.83	**0.91**
Sedibeng West	0.93	1.00	0.92	0.94	**0.95**
Sekhukhune	0.05	0.55	0.07	0.34	**0.25**
Sisonke	0.36	0.50	0.20	0.13	**0.30**
Siyanda	0.77	0.78	0.74	0.86	**0.79**
Sterkspruit	0.50	0.84	0.38	0.62	**0.58**
Thabo Mofutsanyana	0.57	0.94	0.47	0.75	**0.68**
Tshipise Sagole	0.45	0.73	0.24	0.04	**0.37**
Tshwane North	0.79	0.95	0.76	0.91	**0.85**
Tshwane South	0.86	0.93	0.91	0.82	**0.88**
Tshwane West	0.80	0.95	0.77	0.87	**0.85**
Tzaneen	0.25	0.63	0.16	0.16	**0.30**
Ugu	0.35	0.68	0.24	0.44	**0.43**
Uitenhage	0.86	0.94	0.87	0.86	**0.88**
Umgungundlovu	0.68	0.78	0.46	0.74	**0.66**
Umkhanyakude	0.29	0.47	0.08	0.09	**0.23**
Umlazi	0.76	0.94	0.91	0.85	**0.86**
Umzinyathi	0.43	0.55	0.20	0.11	**0.32**
Uthukela	0.51	0.78	0.33	0.41	**0.51**
Uthungulu	0.39	0.66	0.30	0.53	**0.47**
Vhembe	0.21	0.78	0.10	0.03	**0.28**
Waterberg	0.72	0.89	0.62	0.64	**0.72**
West Coast	0.91	0.89	0.79	0.96	**0.89**
Xhariep	0.85	0.96	0.73	0.84	**0.85**
Zululand	0.35	0.48	0.22	0.40	**0.36**

Table 31: Service indicators for education districts, based on data reported in Census 2011. The 10 worst districts are shown in red and the 10 best districts in green

In terms of adequate access to services, education districts in the Eastern Cape fare particularly poorly, with the seven worst districts all occurring in the former Transkei. Rural KwaZulu-Natal and the eastern half of Limpopo Province also suffer from inadequate access to services. This contrasts with the Western Cape and Gauteng where every single district has a CSI value between 0.8 and 1, with many of them being close to 1.

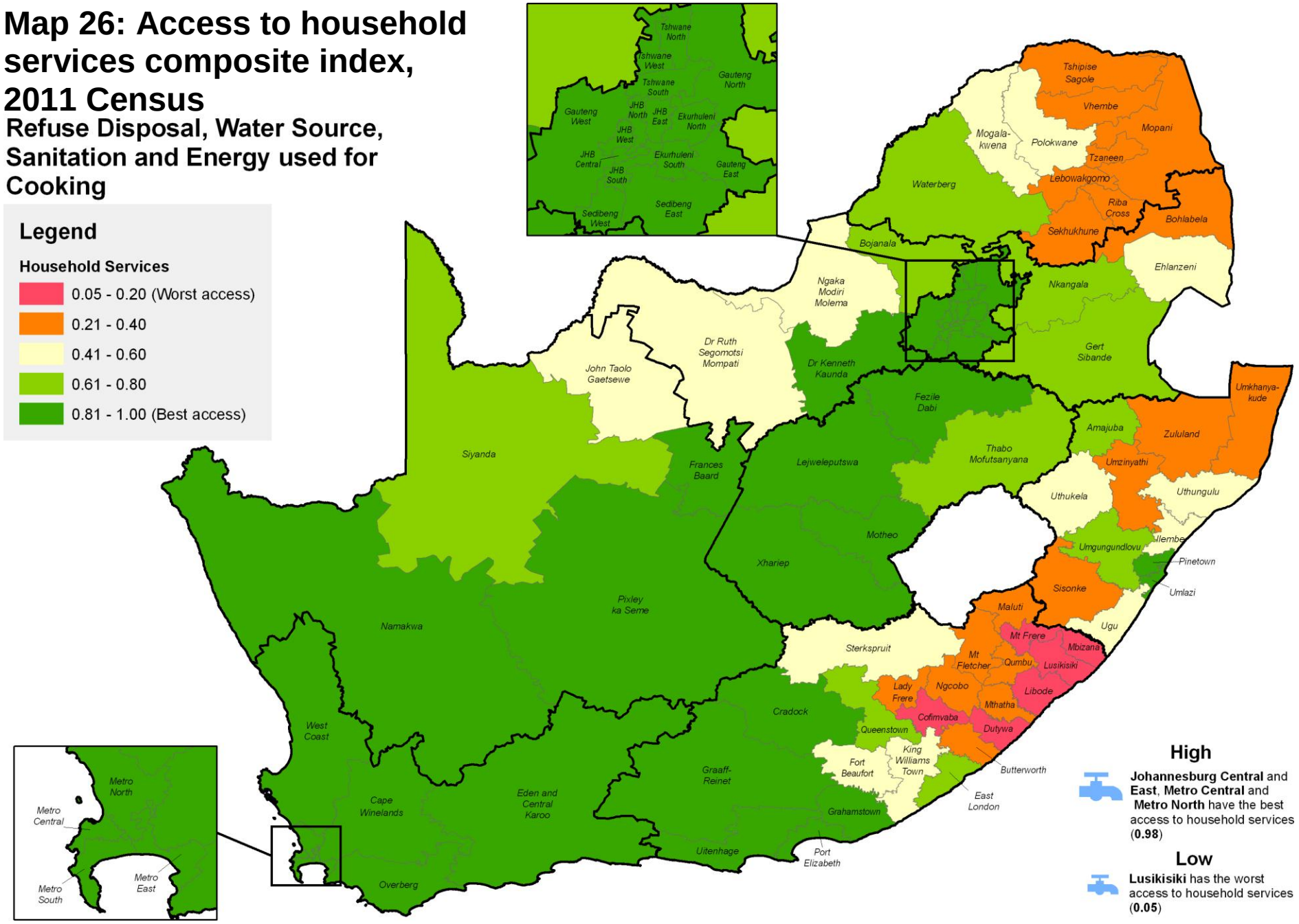
The Free State also fares well with only one district having an index value below 0.8. The Eastern Cape displays a marked contrast from west to east, with all the districts in the west having CSI values above 0.8 (i.e. very good access to services). The former Ciskei has adequate access to services while the former Transkei has poor access to services. Limpopo Province also has a west-east gradient although not as pronounced as in the

Eastern Cape. These patterns are most likely linked to the distribution of the former homelands in these provinces.

The 10 worst districts in terms of access to household services contain a total of 3 331 schools, which is 13% of all schools in South Africa. The 10 best districts, on the other hand, contain only 8% of South Africa's schools (2 085 schools). In terms of the composite services index, the 43 districts in the lower half of the ranking contain 66% of schools while the 43 districts in the upper half comprise 34% of the schools. This has implications for education planning as two out of every three schools are situated in areas struggling with backlogs in household service provision. Ensuring that schools have adequate access to sanitation, water and electricity is difficult in districts where the infrastructure for providing these services is poor or absent.

Map 26: Access to household services composite index, 2011 Census

Refuse Disposal, Water Source, Sanitation and Energy used for Cooking



5.4 Comparison of composite services and composite infrastructure indices

The Composite Services Index summarises households' access to services within districts and is based on Census 2011 data. In Section 4 of this report, a school-based Composite Infrastructure Index was presented, which provided a combined measure of water, sanitation, electricity and security infrastructure at schools. This index was developed from NEIMS 2006 school infrastructure data. When these two indices are compared against each other it is immediately evident that there is a clear relationship between them. The calculated correlation coefficient of 0.91 ($R^2 = 0.82$) indicates that there is a strong positive correlation between the two indices, implying that education districts where access to household services is poor also tend to have schools with poor infrastructure, and *vice versa*.

The ideal should be for all schools to have the same or similar infrastructure no matter what the state of services in the surrounding community. This would afford learners access to the same level of education service without being prejudiced by living in a poorly resourced area. The comparison between the two indices shows, however, that the level of services within a community is a strong predictor of the state of infrastructure that can be expected at schools within that community. In reality, though, trying to improve school infrastructure such as sanitation or electricity is very difficult if these services aren't present in the surrounding community either.

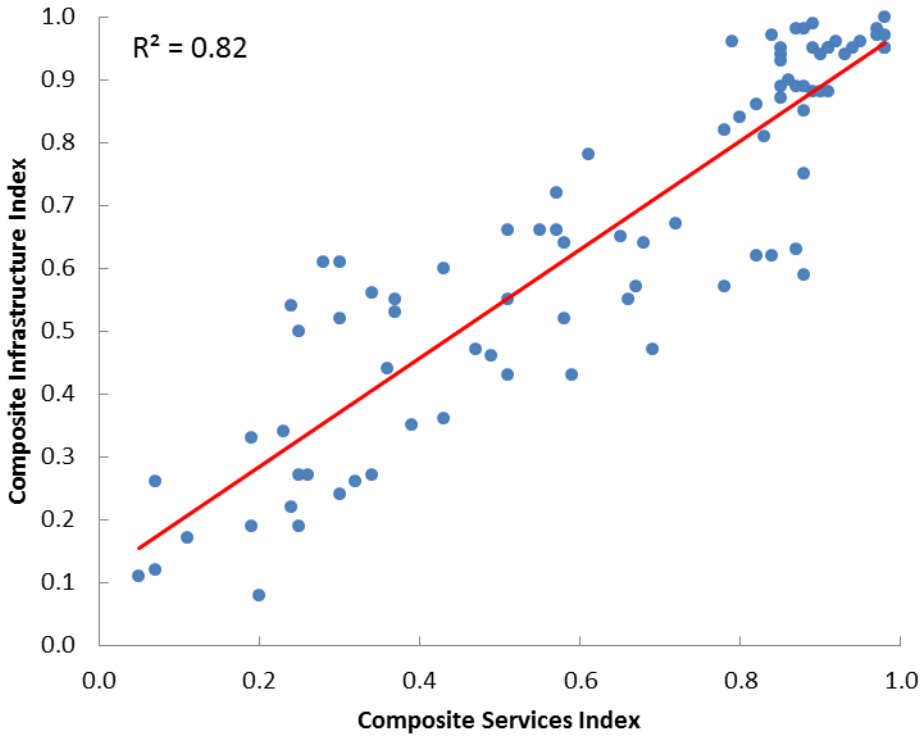


Figure 14: Comparison of the Composite Infrastructure and Composite Services Indices. A linear trend line has been fitted

5.5 Annual household income

Household income is derived by dividing the total income earned by households in an area by the number of households. It is therefore an average, in this case expressed as Rands per household per annum. Although the derivation of income data from censuses is always going to be subject to problems of non-disclosure, the data is nonetheless useful for highlighting the distribution of poor and more affluent areas in South Africa. Patterns of income inequality are strongly linked to levels of education (covered in a previous section) and stubbornly continue to reflect the old territorial divisions that existed under Apartheid[40].

Individuals in households in the 2011 Census were required to indicate the income category that described their gross monthly or annual income, before deductions. All sources of income were to be indicated by individuals, including social grants, UIF, remittances, sales of products, services, rentals etc. Respondents were not required to give exact figures, but to indicate an income band, of which there were 12, ranging from (in the case of annual income) 'No income' to 'R2 457 601 or more'. The question included children, since they could have an income in the form of child maintenance grants. For people whose income varied during the course of the year (e.g. seasonal workers), an average was taken for the whole year[41].

Annual household income was derived from the individual income data by adding together the individual incomes of all members of a household. Because the individual income was recorded in intervals rather than exact amounts, a fixed amount had to be allocated to each range. Persons who indicated they had earned no income were not adjusted. For the first class (R1 to R4 800) the amount used was R3 200 (i.e. two-thirds of the top cut-off point of this bracket), for the second class the amount used was the midpoint (R7 200). For all other classes the logarithmic mean of the top and bottom of the given interval was used except the last category (which had no upper limit), where a value of R4 915 200 was used. These midpoints were assigned to the individual income categories to determine the annual household income.

Figure 15 below compares the average annual household income for provinces in South Africa, as determined by the 2011 Census. The lowest provincial household income, which was R57 000 per annum, was in Limpopo Province. This equates to an average monthly household income of R4 700. The next lowest annual incomes were in the Eastern Cape (R65 000), followed by the North West (R70 000). Gauteng and the Western Cape top the provincial income list with R156 000 and R143 000 respectively, well over double the level in the three poorest provinces, and significantly ahead of the other seven provinces.

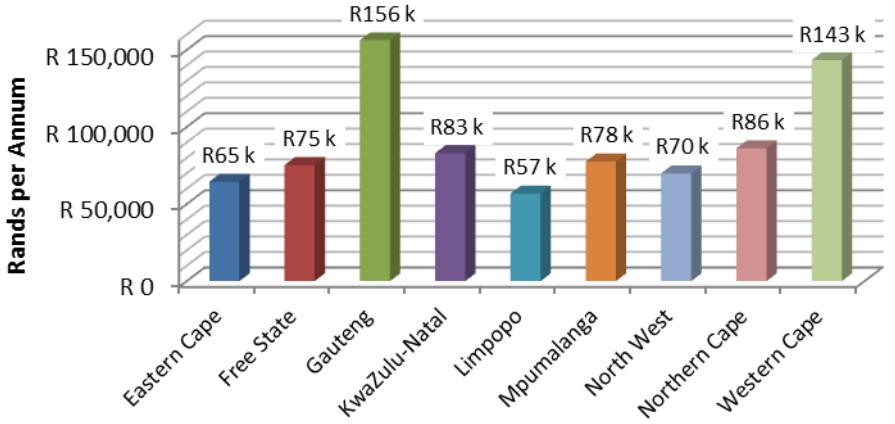


Figure 15: Average Annual Household Income by province, 2011 Census

[40] The Education Atlas of South Africa, 2000
[41] 2011 Census metadata, Statistics South Africa

Map 27 shows average annual household income by education district, derived from the 2011 Census. The red districts are those where household incomes were less than R40 000 per annum. Dark green districts are at the other end of the scale and have incomes ranging from R150 000 per annum to R247 000. The patterns are not surprising. Low incomes coincide with former homelands and remote, marginalised rural areas. Poverty and education are inextricably linked. The map of adult education levels (see next section) closely follows the distribution of household income levels.

The districts with the lowest incomes in South Africa are all in the Eastern Cape: Cofimvaba (R29 800), Lady Frere (R 32 400) and Libode (R32 500) are the lowest three. The next seven are also in the Eastern Cape, followed by the 11th lowest district, Bohlabela in Mpumalanga. Sekhukhune in Limpopo province is in 14th lowest position. Note that the Eastern Cape Province as a whole did not have the lowest provincial household incomes. This is because of the effect of Port Elizabeth and East London, both of which are in the top 30 districts in terms of income levels.

Figure 16 illustrates the income extremes that exist in South Africa, comparing average household incomes in the lowest and highest five districts. It is essentially a comparison of Gauteng with the Eastern Cape (apart from Metro Central, which is in the top five and located in the Western Cape). Average incomes in Johannesburg East for example are seven times higher than the poorest Eastern Cape districts. It's not surprising therefore that the metropolitan areas of Gauteng and Western Cape present such a powerful pull on potential migrants from the Eastern Cape and Limpopo.

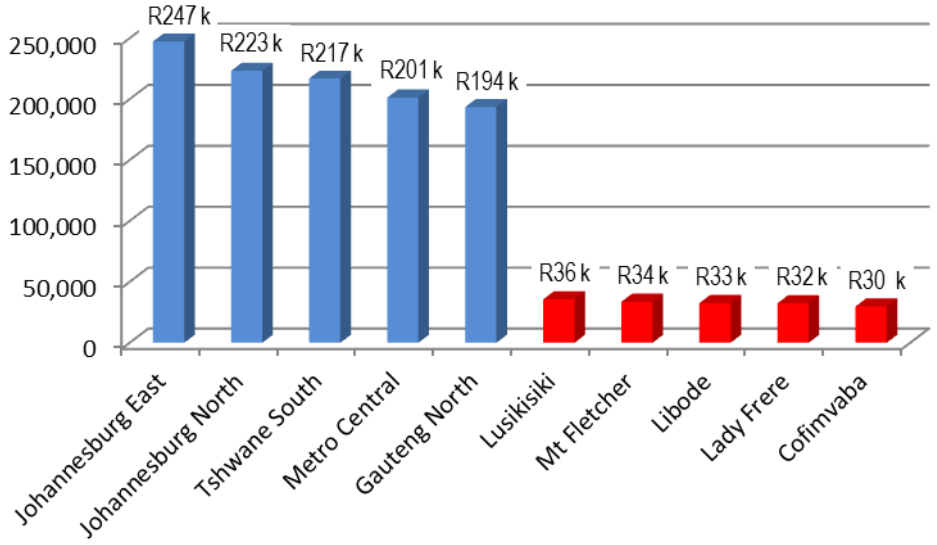
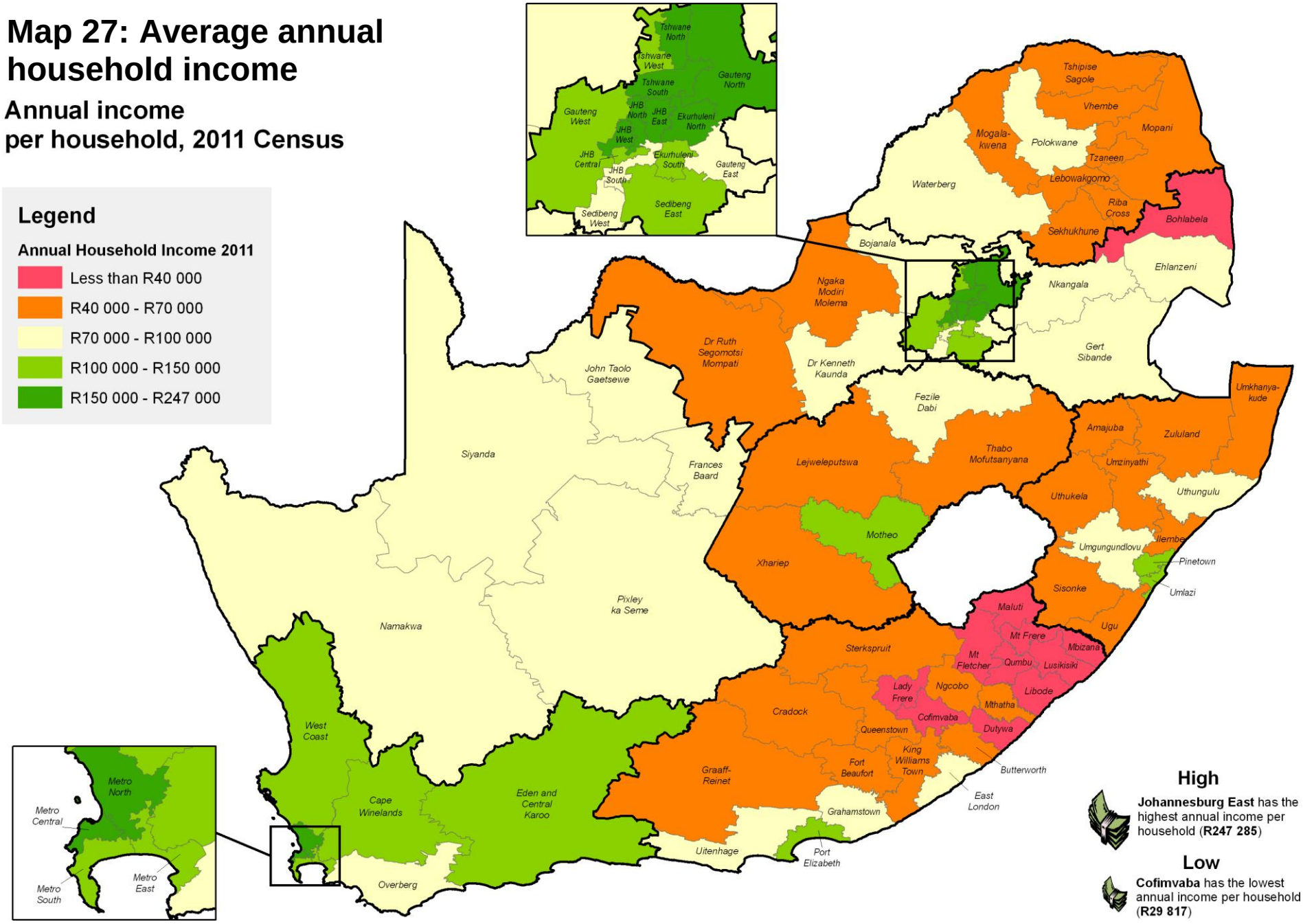


Figure 16: Average Annual Household Income, highest and lowest districts, 2011 Census

Map 27: Average annual household income

Annual income per household, 2011 Census



5.6 Level of education of adults

In the 2011 Census, people were asked to indicate the highest level of education that they had completed. This question applied to all respondents aged 5 years and older. It referred to the highest level completed, not the level currently in, if the person was still studying. A learner who was in Grade 12 at the time of the census would therefore be indicated as having completed Grade 11. Persons who had attended literacy classes but did not finish were indicated as having 'no schooling'.

Table 32 below shows the education levels of adults aged 20 and older by province. The category 'Some primary' refers to adults who had completed between Grades 1 and 6, but not Grade 7. Similarly, 'Some secondary' refers to between Grades 8 and 11, but not Grade 12. 'Higher' denotes post Matric qualifications such as a Higher Diploma, Bachelors or Honours degree[42].

Educational levels play a key role in determining socio-economic status, as well as influencing health and welfare. They also have a bearing on the home environment and the extent to which parents can play an active and critical role in the education of their children.

The province with the highest proportion of adults with 'No Schooling' in 2011 was Limpopo, with 17%. The lowest was the Western Cape at 3%. Limpopo and the Eastern Cape were equal lowest in terms of the proportion of adults with 'No Schooling' or 'Some Primary' (29% and 28%).

Gauteng tops the list of provinces when it comes to the proportion of adults with Higher Education (18%), followed by the Western Cape (14%). Gauteng is considerably ahead of all other provinces (except the Western Cape) in this regard – it has double the proportion of adults with tertiary education than five other provinces.

Map 28 shows the percentage of adults in each district that had completed an education level of Grade 12 or higher. The district with the highest percentage was Tshwane South in Gauteng with 64%. Next highest were Johannesburg East (59%) and Ekurhuleni North (58%). The map clearly shows that the metropolitan areas of South Africa have the most highly qualified adults. Durban, Port Elizabeth, East London, Cape Town and Bloemfontein all have high proportions of qualified people in relation to other parts of the country.

The worst districts in terms of adults with Grade 12 or higher are Cofimvaba (14%), Lady Frere (15%) and Dutywa (15%), all of which are in the Eastern Cape. The map illustrates the extremes that exist in South Africa. Metropolitan areas have the highest levels of educational attainment whereas rural and economically depressed areas, particularly in the Eastern Cape, have much lower levels, reflecting the continuing challenges that exist for equitable education delivery in South Africa.

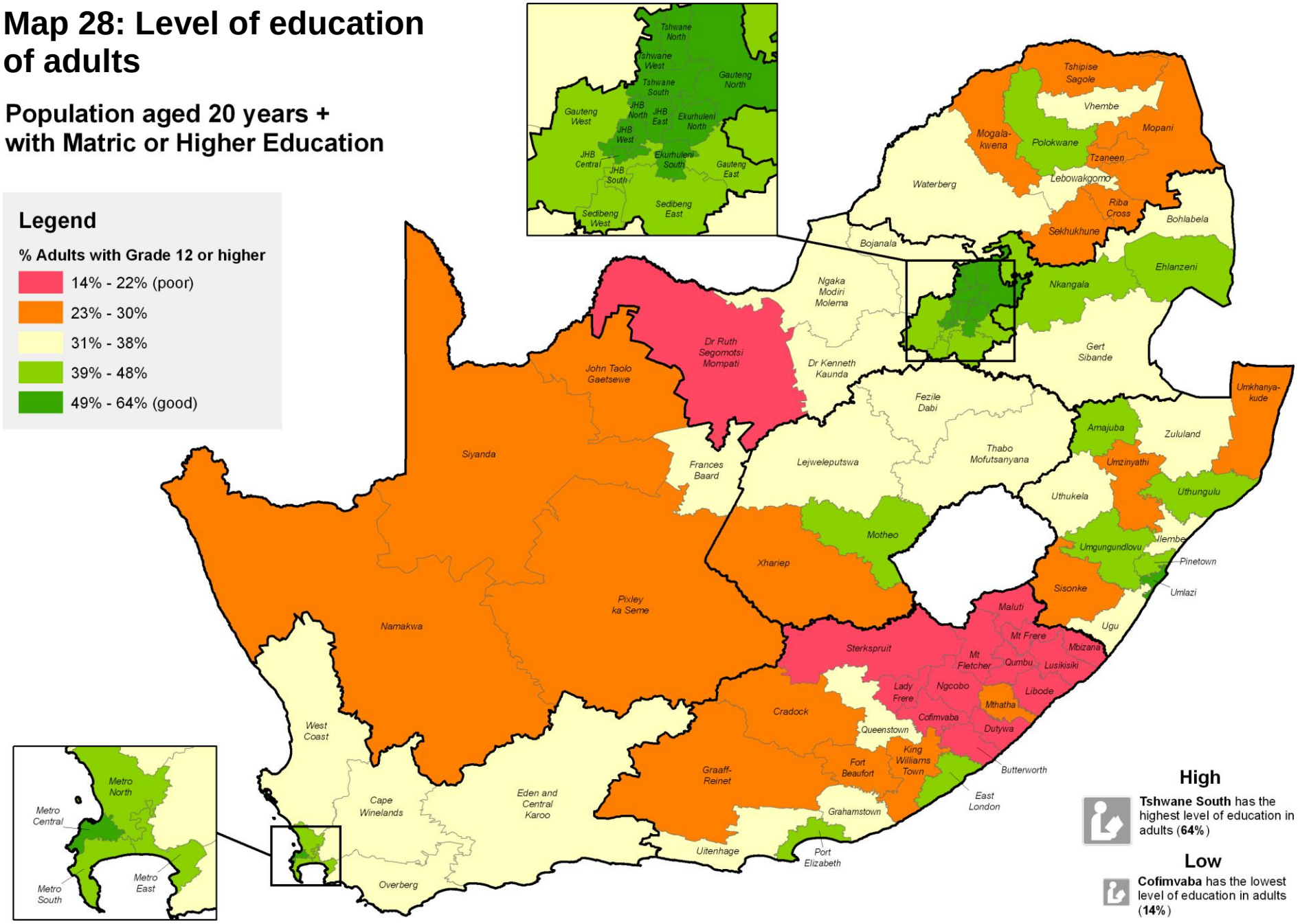
Province	No schooling	Some primary	Completed primary	Some secondary	Grade 12/Std 10	Higher	Unspecified
Eastern Cape	10%	18%	6%	36%	20%	9%	0.2%
Free State	7%	16%	5%	35%	27%	10%	0.3%
Gauteng	4%	7%	3%	33%	34%	18%	0.5%
KwaZulu-Natal	11%	14%	4%	31%	31%	9%	0.3%
Limpopo	17%	12%	4%	35%	22%	9%	0.2%
Mpumalanga	14%	12%	4%	31%	29%	10%	0.3%
North West	12%	17%	5%	33%	25%	8%	0.2%
Northern Cape	11%	17%	6%	35%	23%	7%	0.3%
Western Cape	3%	11%	6%	38%	28%	14%	0.5%
South Africa	**9%**	**12%**	**5%**	**34%**	**28%**	**12%**	**0.4%**

Table 32: Education levels of adults – highest level completed, 20+ year olds, 2011 Census

[42] Census 2011, Metadata. Statistics South Africa

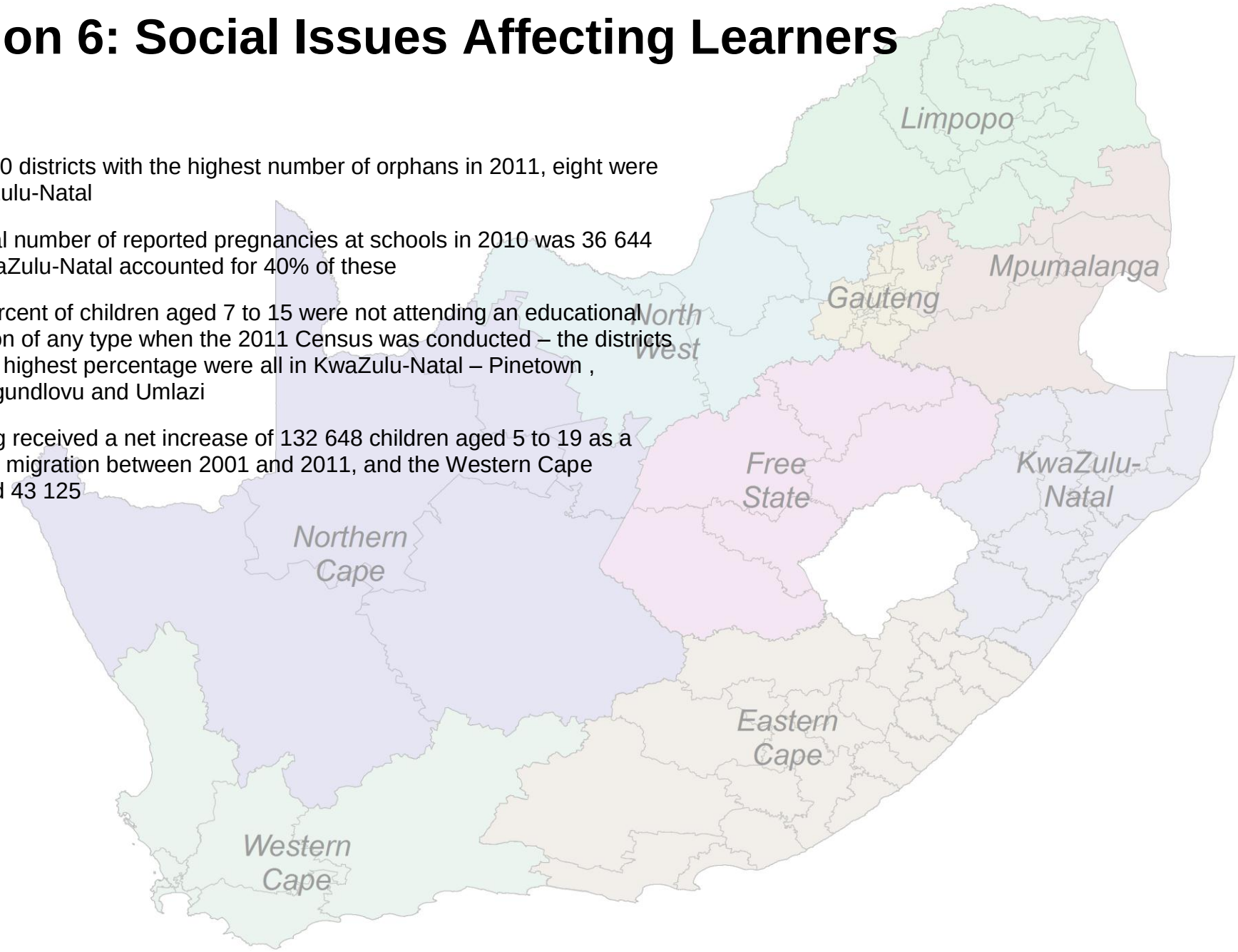
Map 28: Level of education of adults

Population aged 20 years + with Matric or Higher Education



Section 6: Social Issues Affecting Learners

- Of the 10 districts with the highest number of orphans in 2011, eight were in KwaZulu-Natal
- The total number of reported pregnancies at schools in 2010 was 36 644 and KwaZulu-Natal accounted for 40% of these
- Four percent of children aged 7 to 15 were not attending an educational institution of any type when the 2011 Census was conducted – the districts with the highest percentage were all in KwaZulu-Natal – Pinetown , Umgungundlovu and Umlazi
- Gauteng received a net increase of 132 648 children aged 5 to 19 as a result of migration between 2001 and 2011, and the Western Cape received 43 125



6.1 Orphans

For several years, schools have been asked in the Annual Survey to supply information on the number of learners whose parents are deceased. This reflects a growing concern over the incidence of orphans and vulnerable children at school, and the potential difficulties faced by children whose parents are absent or deceased.

The question requires school principals to indicate the number of male and female learners by grade whose Mothers, Fathers or Both Parents are deceased. This information would be acquired from class teachers, and requires a degree of disclosure on the part of school children or knowledge of family circumstances on the part of teachers. For the purposes of this analysis, we have focussed on the number and proportion of learners for whom **both** parents are deceased.

For comparison purposes, data on parental survival has also been extracted from the 2011 Census. In the Census, each household member was asked to indicate whether their biological mother was still alive and their biological father still alive. By cross-tabulating responses to these two questions and filtering by age it was possible to identify children whose mothers and fathers were not alive when the Census took place. Examples of how both questions appeared in their respective surveys are shown below:

2012 Annual Survey question relating to orphans:

3.23	Number of learners whose parent(s) are deceased.																	
GRADE	Male learners									Female learners								
	Only mother deceased			Only father deceased			Both parents Deceased			Only mother deceased			Only father deceased			Both parents deceased		
Pre-Grade R																		
Grade R																		
Grade 1																		
Grade 2																		

2011 Census question on Parental Survival:

SECTION D: PARENTAL SURVIVAL AND INCOME - ASK OF EVERYONE LISTED ON THE FLAP

P-14 MOTHER ALIVE	**P-14a** MOTHER PERSON NUMBER	**P-15** FATHER ALIVE
Is *(name's)* **own biological mother still alive?** 1 = Yes 2 = No 3 = Do not know *Mark the appropriate circle with an X.*	**Who in this household is** *(name's)* **biological mother?** *If the person's mother does not reside in the household (not listed on the flap), write 98.*	**Is** *(name's)* **own biological father still alive?** 1 = Yes 2 = No 3 = Do not know *Mark the appropriate circle with an X.*

Table 33 overleaf shows the total number of orphans (both parents) by district and the percentage of learners that are orphans. The last column indicates the percentage of children aged 5 to 19 whose mothers and fathers were not alive according to the 2011 Census. **Map 29** that follows the table shows the distribution of orphans by district according to the 2011 Annual Survey.

Of the 10 districts with the highest number of orphans in 2011, eight were in KwaZulu-Natal. The highest number was 23 219 in Zululand District, followed by 21 929 in Pinetown and 21 307 in Uthungulu. The lowest was in Namakwa in the Northern Cape, which had 236. Zululand, Lusikisiki and Ugu were the three districts with the highest proportion of learners that were orphans, which was 8%. Many other districts in KwaZulu-Natal, the Eastern Cape and Mpumalanga have over 5% of learners that are orphans.

The census data on parental survival, shown in the last column of **Table 33** mostly corresponds with the Annual Survey data. Districts with high proportions of orphans indicated by schools also reflect high proportions from household respondents in the census. Those districts with a high level

of agreement between these two independent data sources can probably be assumed to have reasonably reliable estimates of orphan numbers. Half of the districts fall into this category. Districts where there is a high level of difference such as Dr Kenneth Kaunda, which indicates 2% orphans via EMIS but 6% via the Census should be reviewed. There may have been under-recording of orphans in the Annual Survey or (less likely) a consistent upward bias in the Census for this district.

Map 29, which shows the percentage of orphans (both parents deceased) by district reveals the extent to which the eastern provinces of South Africa are affected. The districts with the highest proportions (shown in red) are throughout KwaZulu-Natal, and to a lesser extent the Eastern Cape and Mpumalanga. The western and northern parts of the country are far less severely affected. The map provides a clear indication of the damaging effects of HIV but also a means for targeting orphaned and vulnerable children in specific districts. Support and monitoring should be prioritised in the most severely affected districts, particularly in terms of health, education and psycho-social support.

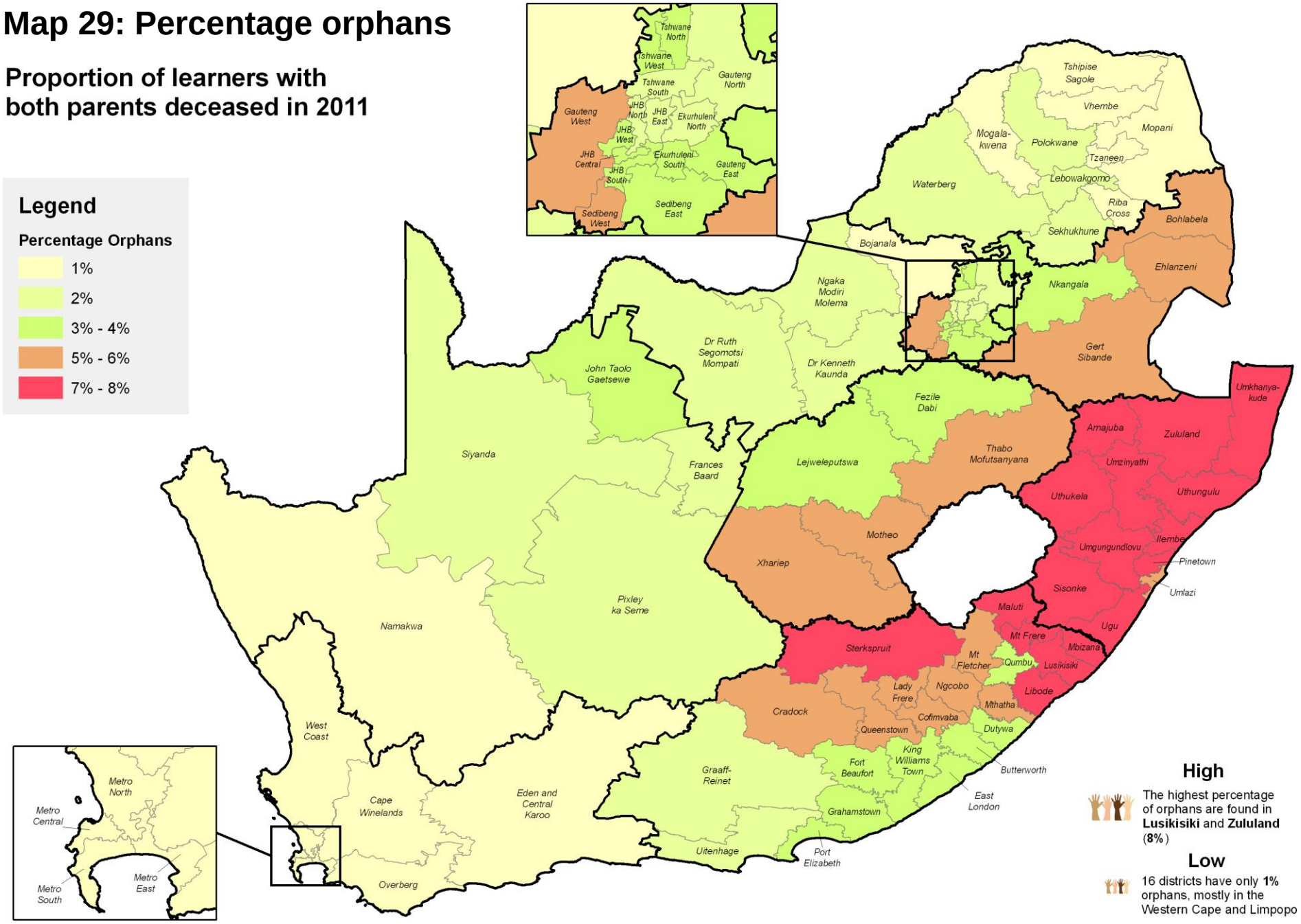
Province	Education District	Annual Survey 2011		Census 2011
		Total Orphans	% Orphans	% Children aged 5-19 Mother and Father not alive
EC	Butterworth	3 350	4%	5%
EC	Cofimvaba	2 487	4%	6%
EC	Cradock	1 028	4%	6%
EC	Dutywa	3 610	4%	6%
EC	East London	3 673	3%	4%
EC	Fort Beaufort	1 437	4%	5%
EC	Graaff-Reinet	575	2%	3%
EC	Grahamstown	841	3%	4%
EC	King Williams Town	3 692	4%	5%
EC	Lady Frere	1 470	4%	6%
EC	Libode	10 807	6%	8%
EC	Lusikisiki	12 679	8%	9%
EC	Maluti	5 160	7%	9%
EC	Mbizana	7 513	6%	10%
EC	Mt Fletcher	2 596	6%	8%
EC	Mt Frere	5 518	7%	9%
EC	Mthatha	6 654	4%	6%
EC	Ngcobo	2 864	4%	6%
EC	Port Elizabeth	5 397	3%	4%
EC	Queenstown	2 461	4%	6%
EC	Qumbu	2 285	3%	7%
EC	Sterkspruit	3 684	6%	8%
EC	Uitenhage	2 053	2%	4%
FS	Fezile Dabi	3 112	3%	7%
FS	Lejweleputswa	5 047	4%	9%
FS	Motheo	8 010	4%	8%
FS	Thabo Mofutsanyana	8 668	5%	9%
FS	Xhariep	1 353	4%	7%
GT	Ekurhuleni North	3 833	2%	3%
GT	Ekurhuleni South	7 547	4%	5%
GT	Gauteng East	5 413	4%	5%
GT	Gauteng North	975	2%	3%
GT	Gauteng West	5 517	4%	5%
GT	Johannesburg Central	4 555	3%	4%
GT	Johannesburg East	3 730	2%	3%
GT	Johannesburg North	3 142	2%	3%
GT	Johannesburg South	4 232	3%	4%
GT	Johannesburg West	2 850	3%	4%
GT	Sedibeng East	1 614	3%	5%
GT	Sedibeng West	4 346	4%	6%
GT	Tshwane North	3 295	3%	4%
GT	Tshwane South	3 067	2%	2%
GT	Tshwane West	3 855	3%	4%
KZ	Amajuba	9 062	7%	8%
KZ	Ilembe	12 389	7%	9%
KZ	Pinetown	21 929	6%	7%
KZ	Sisonke	10 828	7%	9%
KZ	Ugu	16 993	8%	9%
KZ	Umgungundlovu	17 533	7%	9%
KZ	Umkhanyakude	15 964	7%	7%
KZ	Umlazi	16 985	5%	6%
KZ	Umzinyathi	11 109	6%	8%

Province	Education District	Annual Survey 2011		Census 2011
		Total Orphans	% Orphans	% Children aged 5-19 Mother and Father not alive
KZ	Uthukela	14 736	7%	8%
KZ	Uthungulu	21 307	7%	9%
KZ	Zululand	23 219	8%	9%
LP	Lebowakgomo	1 864	2%	4%
LP	Mogalakwena	1 142	1%	5%
LP	Mopani	3 931	1%	4%
LP	Polokwane	5 094	2%	4%
LP	Riba Cross	1 376	1%	5%
LP	Sekhukhune	4 525	2%	4%
LP	Tshipise Sagole	959	1%	3%
LP	Tzaneen	1 214	1%	5%
LP	Vhembe	3 456	1%	3%
LP	Waterberg	1 515	2%	4%
MP	Bohlabela	8 106	4%	5%
MP	Ehlanzeni	15 424	5%	6%
MP	Gert Sibande	14 612	6%	7%
MP	Nkangala	9 817	3%	4%
NC	Frances Baard	2 048	2%	5%
NC	John Taolo Gaetsewe	1 945	3%	5%
NC	Namakwa	236	1%	2%
NC	Pixley ka Seme	1 126	2%	4%
NC	Siyanda	1 016	2%	4%
NW	Bojanala	3 763	1%	5%
NW	Dr Kenneth Kaunda	2 719	2%	6%
NW	Dr Ruth Segomotsi Mompati	3 084	2%	7%
NW	Ngaka Modiri Molema	3 051	2%	6%
WC	Cape Winelands	1 055	1%	2%
WC	Eden and Central Karoo	900	1%	2%
WC	Metro Central	988	1%	2%
WC	Metro East	1 712	1%	2%
WC	Metro North	1 071	1%	2%
WC	Metro South	1 007	1%	1%
WC	Overberg	278	1%	1%
WC	West Coast	386	1%	1%

Table 33: Number and Percentage Orphans (both parents) by District - Annual Survey 2011 and Census 2011

Map 29: Percentage orphans

Proportion of learners with both parents deceased in 2011



6.2 Learner pregnancy

There are several questions in the Annual Survey of Ordinary Schools that address the issue of learner welfare. These questions require schools to report on access to social grants, learner mortality and pregnancy.

In the case of pregnancy, schools are asked to indicate:

> *'Number of female learners (that you are aware of) who fell pregnant during the previous academic year'*

The learners who fell pregnant are indicated by grade and, as the question implies, subject to the school being aware of this fact. Some learners may leave the school and the local area before knowledge of their pregnancy becomes public. Issues of sensitivity and non-disclosure apply, but class teachers generally should have knowledge of the home circumstances of learners.

Table 34 shows the total number of female learners by province that fell pregnant during the previous academic year, reported by schools in the 2011 Annual Survey. The table also shows pregnancies as a percentage of females in Grade 8 to 12. **Figure 17** illustrates this graphically.

The total number of reported pregnancies in 2010 was 36 644 (reported in the 2011 ASS). KwaZulu-Natal accounted for 14 327 of these (40%), a large proportion by any standards and an issue of major social concern. Other provinces with high numbers were the Eastern Cape and Mpumalanga. **Figure 17** shows pregnancies in Grades 8 to 12 as a percentage of all female learners in these grades. The disparity between provinces is clear: KwaZulu-Natal and Mpumalanga each have the highest percentages at 2.5%, followed by the Northern Cape (1.9%) and Eastern Cape (1.8%). The pregnancy rates in Free State, Limpopo and North West are much lower – at less than one quarter the rate in KwaZulu-Natal and Mpumalanga.

Province	Reported Pregnancies in 2011	Percentage Pregnant in Grades 8 to 12
Eastern Cape	6 513	1.8%
Free State	809	0.6%
Gauteng	3 988	1.0%
KwaZulu-Natal	14 327	2.5%
Limpopo	2 310	0.6%
Mpumalanga	5 273	2.5%
North West	372	0.3%
Northern Cape	920	1.9%
Western Cape	2 132	1.1%
South Africa	36 644	1.5%

Table 34: Learner pregnancies by province in 2011, Annual Survey

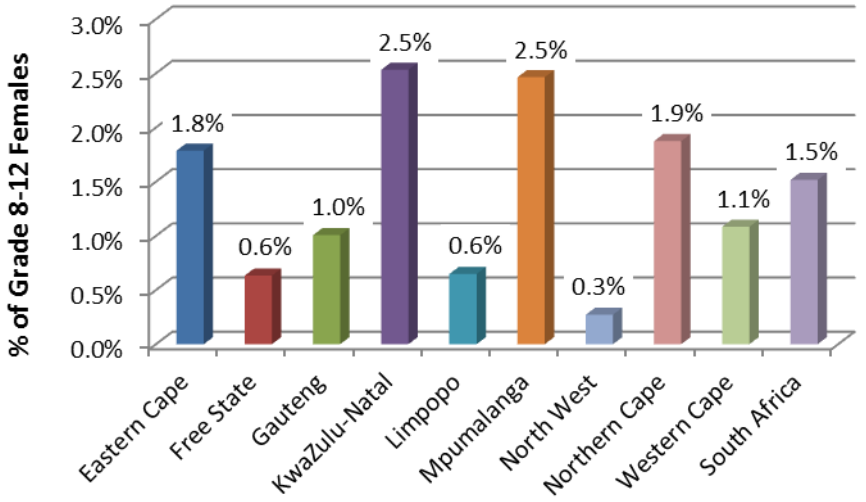


Figure 17: Percentage females in Grades 8 to 12 reported pregnant, Annual Survey 2011

Map 30 overleaf shows the percentage pregnancies in Grades 8 to 12 by district. The district with the highest percentage overall was Umkhanyakude in KwaZulu-Natal with 4%, which implies that 1 in 25 girls in high schools fell pregnant in this district in 2010. Other districts with particularly high rates were Ngcobo (3.3%) in the Eastern Cape, Zululand (3.2%) and Sisonke (3.1%).

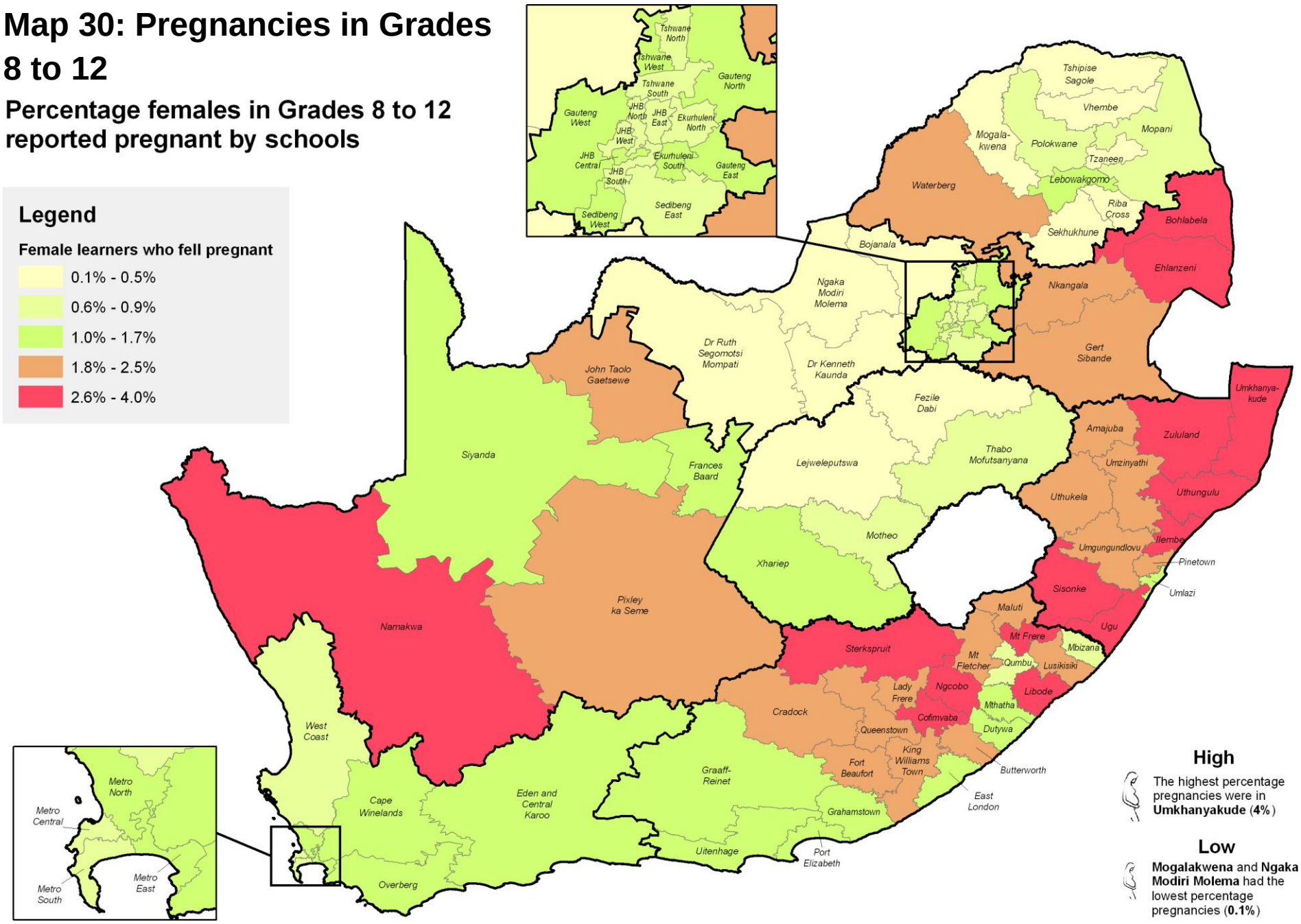
The map shows that pregnancy rates in high school are highest in the eastern parts of the country, particularly KwaZulu-Natal, Mpumalanga and the Eastern Cape. These areas, as **Map 29** showed, are also where the highest orphan rates tend to be. The one exception to this pattern is the district of Namakwa in the Northern Cape, which has a pregnancy rate of 3%, much higher than its surrounding districts.

The fact that so many females are reported pregnant in some districts is a serious problem. It is one that provincial Departments of Education and their partners in the Social Cluster should make every effort to address. The impact on the education of the learners involved is likely to be significant – they are at risk of not completing their education, and their ability to support their soon to be born children may be compromised. There is also the question of the fathers involved and the extent to which they are in a position to provide support.

Support and monitoring should be prioritised in districts with the highest pregnancy rates. Female learners in districts such as Umkhanyakude and Zululand are disproportionately more at risk from teenage pregnancies than those in Limpopo province or the North West.

Map 30: Pregnancies in Grades 8 to 12

Percentage females in Grades 8 to 12 reported pregnant by schools

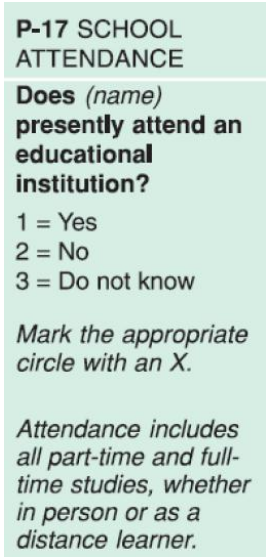


6.3 Children not in school

Much of the analysis in this report has focussed on sources of information that emanate directly from the education sector. There are however other information sources that provide useful education-related data such as the recently released 2011 Census. The census was household and person based as opposed to the SNAP or Annual Surveys which are school-based.

The level of access to education in South Africa is generally thought to be good, particularly amongst children of primary school age. It is important to be able to measure the extent to which universal access has been achieved, particularly given historical problems of inequitable funding and difficulties of poor access in rural areas[43].

In the 2011 Census, the following question was asked of all persons aged 5 years and older in households:


P-17 SCHOOL ATTENDANCE

Does *(name)* **presently attend an educational institution?**

1 = Yes
2 = No
3 = Do not know

Mark the appropriate circle with an X.

Attendance includes all part-time and full-time studies, whether in person or as a distance learner.

[43] The Education Atlas of South Africa, 2000

If the respondents are filtered by age it is possible to identify the proportion of the population aged 7 to 15 that were not attending an educational institution when the census was conducted. This is the age band for which attendance at school is currently compulsory.

The Census reveals that a total of 322 661 or 4% of children aged 7 to 15 were not attending an educational institution of any type when the 2011 Census was conducted (see **Table 35**). Note that this figure does not include children who were home schooled. There were 28 609 learners aged 7 to 15 who were home schooled and they were indicated as attending an educational institution.

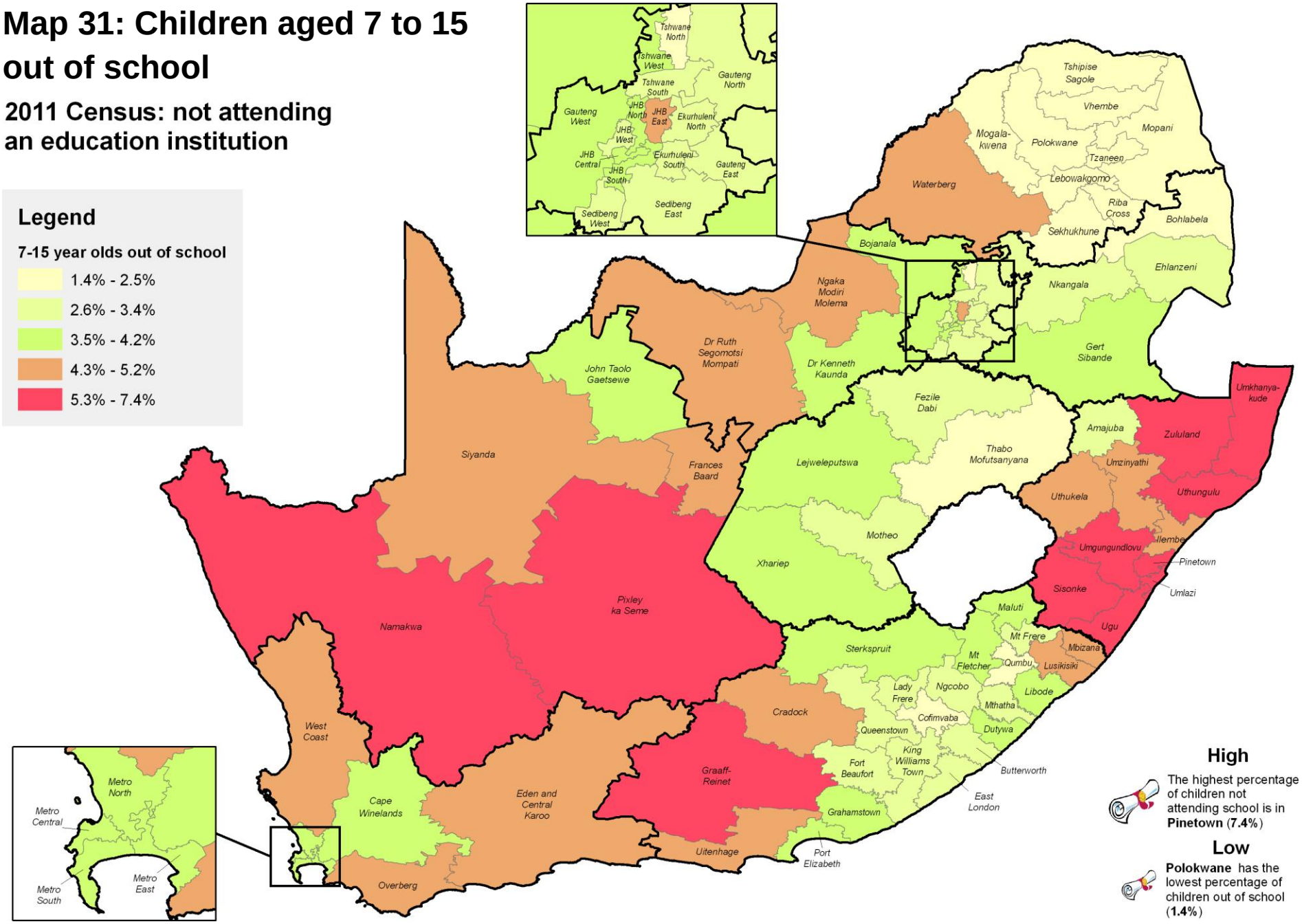
Does the Person currently attend an educational institution?	Total	%
Yes	7 744 097	93%
No	***322 661***	***4%***
Do not know	1 855	0.02%
Unspecified	177 626	2%
Not applicable	57 622	1%
Total	**8 303 861**	**100%**

Table 35: Present School attendance, 7 to 15 year olds, 2011 Census

Map 31 overleaf shows the percentage of 7 to 15 year olds in each district that were out of school, according to the 2011 Census. The district with the highest percentage was Pinetown (7.4%), followed by Umgungundlovu (6.7%) and Umlazi (6.5%). The district with the lowest proportion was Polokwane (1.4%) followed by Bohlabela (1.6%). KwaZulu-Natal is disproportionately affected by high proportions of children out of school. With the exception of Amajuba the figure exceeds 4% for all districts. It is not apparent why this should be so, since it is not the most rural districts that are worst affected. Over-crowded schools may be a possible factor.

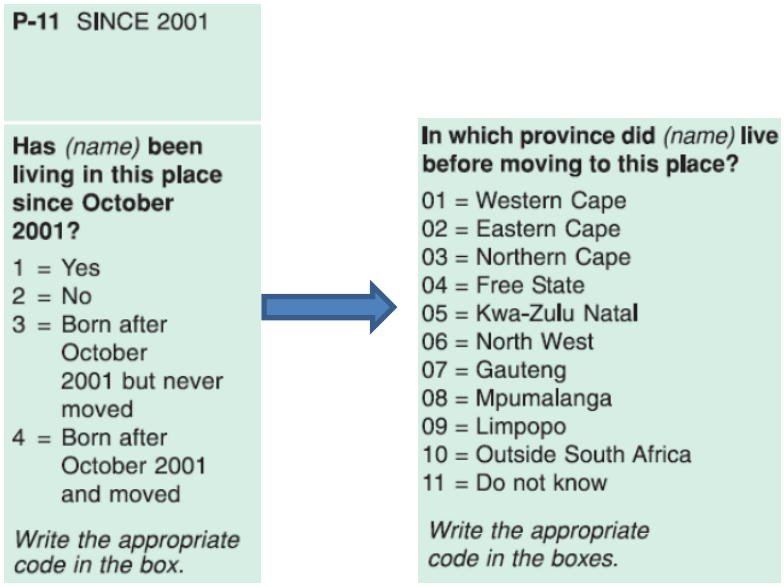
Map 31: Children aged 7 to 15 out of school

2011 Census: not attending an education institution



6.4 Learner migration

A census in South Africa is conducted every 10 years. One of the opportunities that regular censuses present is the opportunity to assess the mobility of population. In the 2011 Census, all persons in households were asked to indicate whether they had been living in the same place since October 2001. If the answer was 'No' or 'Born after October 2001 and moved', they were then asked to indicate where they had moved from. Respondents could indicate whether they had moved within the province, from another province or from outside South Africa. The structure of these questions in the census is shown below:



Most population movement takes place within the same province. People in urban areas in South Africa who have moved between 2001 and 2011 are likely to have done so within the same town or city. There is also the movement of population from rural to urban areas within provinces as migrants seek better economic opportunities. In addition to this is the flow of people between provinces and from outside South Africa to specific provinces, notably Gauteng and the Western Cape.

Since the respondents are grouped by age it is possible to filter the migration data in order to assess the extent to which 5 to 19 year olds have moved between provinces during the period 2001 to 2011, and what the size of these population movements has been.

Table 36 shows the number of 5 to 19 year olds who indicated they had moved between provinces or from outside South Africa during the inter-census period. It includes children who were born after 2001 but who had moved between provinces. The rows in the table indicate provinces that have *received* migrants ('Province moved to') and the columns indicate where these migrants came from. The province with the largest total inflow of 5 to 19 year olds was Gauteng with 211 539. The biggest proportion of these (60 747) came from outside South Africa, followed by Limpopo (37 037) and KwaZulu-Natal (28 164). The province with the second largest total inflow of 5 to 19 year olds was the Western Cape. Significant inter-provincial flows of children aged 5 to 19 were from the Eastern Cape to Western Cape (29 992), Mpumalanga to Gauteng (21 224) and the Eastern Cape to Gauteng (20 904).

The column totals indicate how many children moved *from* each province in question. In the Eastern Cape for example, the Census indicates there was a total of 75 483 children aged 5 to 19 that left the province between 2001 and 2011. The two main recipient provinces of these migrants were the Western Cape (29 992, indicated above) and Gauteng (20 904). The largest outflow of children from any province was Gauteng with 78 891, which it distributed fairly evenly throughout South Africa, followed by Limpopo (52 428), most of whom went to Gauteng.

The key issue for population planning is the difference between population inflows and outflows, in other words the difference between the row and column totals (see **Figure 18**). Gauteng for example, received an inflow of 211 539 children aged 5 to 19 from other provinces and outside South Africa, and an outflow of 78 891. The difference therefore was an increase of 132 648 children aged 5 to 19[44]. The Western Cape also experienced a significant net increase of 69 045 – 25 920 = 43 125 additional children aged 5 to 19. The largest decrease was in the Eastern Cape, which received 31 860 children in this age category but lost 75 483, yielding a net loss of 43 623.

These are not massive changes relative to the total learner populations concerned. For the Eastern Cape, for example, a loss of 43 626 children represents roughly 2% of learners in 2011 (and spread over the 10 year inter-census period). It could however be significant for education planning if these children congregate in specific locations such as the Cape Metro or the urban metropolis of Gauteng.

Map 32 shows the percentage of 5 to 19 year olds who indicated that they had moved to the district from another province or from outside South Africa, during the period 2001 to 2011. High percentages reflect districts where there has been a large influx of children in this age group from other provinces. The highest figure is in Tshwane South, where 13.1% of all children aged 5 to 19 indicated they had moved there from another province since 2001. Other districts with high percentages were Johannesburg North and East with 12.3% and 11.2% respectively. Of the 10 districts with the highest proportion of migrants eight are in Gauteng. The other two are Bojanala (8%) in North West and Waterberg (7.7%) in Limpopo.

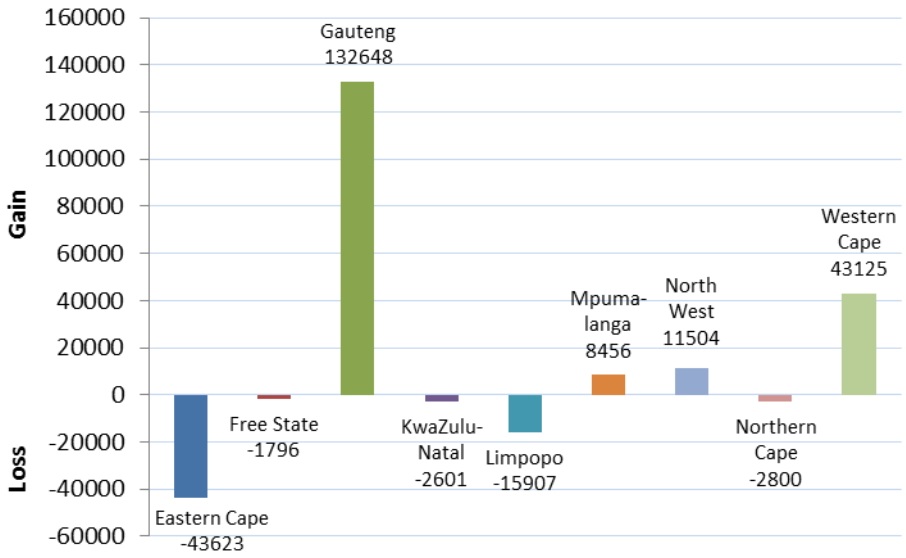


Figure 18: Net Migration (inflows minus outflows) 2001 to 2011, children aged 5 to 19

[44] Assuming the Census data is accurate and that respondents could correctly recall which province they had lived in before

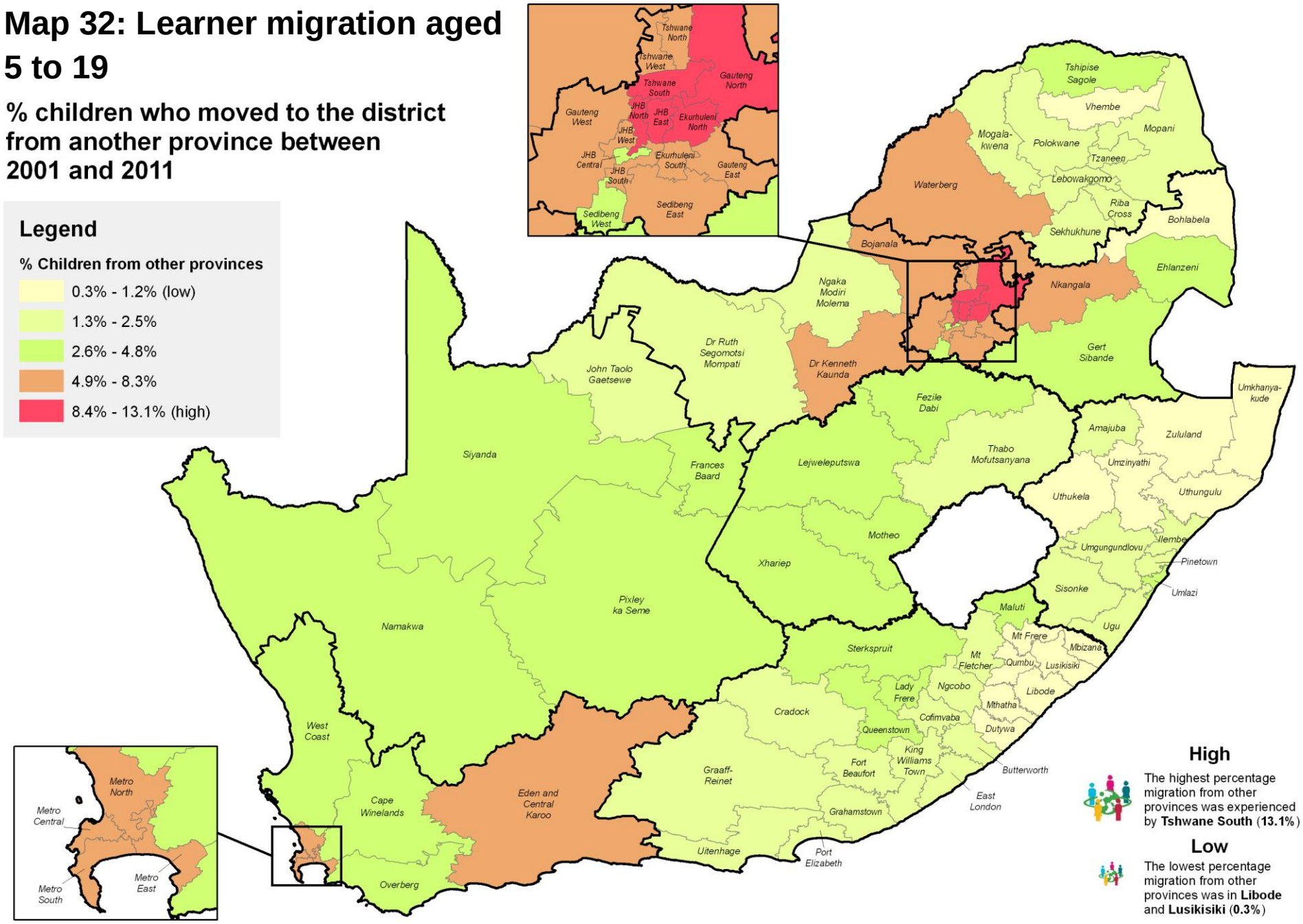
	Province moved from:										
Province moved to:	**Eastern Cape**	**Free State**	**Gauteng**	**KwaZulu-Natal**	**Limpopo**	**Mpumalanga**	**North West**	**Northern Cape**	**Western Cape**	**Outside South Africa**	**Total**
Eastern Cape		1 554	8 741	4 019	407	639	610	954	9 977	4 959	**31 860**
Free State	3 338		6 253	2 425	1 024	991	2 093	1 732	939	4 950	**23 745**
Gauteng	20 904	12 132		28 164	37 037	21 224	19 677	2 889	8 765	60 747	**211 539**
KwaZulu-Natal	13 501	1 559	11 164		754	2 965	744	1 340	1 653	9 620	**43 300**
Limpopo	909	953	11 646	698		5 370	2 560	386	586	13 413	**36 521**
Mpumalanga	2 023	1 819	12 134	5 326	7 099		1 684	889	790	11 983	**43 747**
North West	3 963	4 393	14 663	1 438	4 427	2 407		2 511	880	8 501	**43 183**
Northern Cape	853	1 145	1 913	394	314	350	3 289		2 330	686	**11 274**
Western Cape	29 992	1 986	12 377	3 437	1 366	1 345	1 022	3 373		14 147	**69 045**
Total	**75 483**	**25 541**	**78 891**	**45 901**	**52 428**	**35 291**	**31 679**	**14 074**	**25 920**	**129 006**	**514 214**

Table 36: Learner migration - movement of population aged 5 to 19, 2011 Census

The issue of inter-provincial migration is dealt with in more detail in a separate report entitled ‘Learner Migration – a preliminary investigation’.

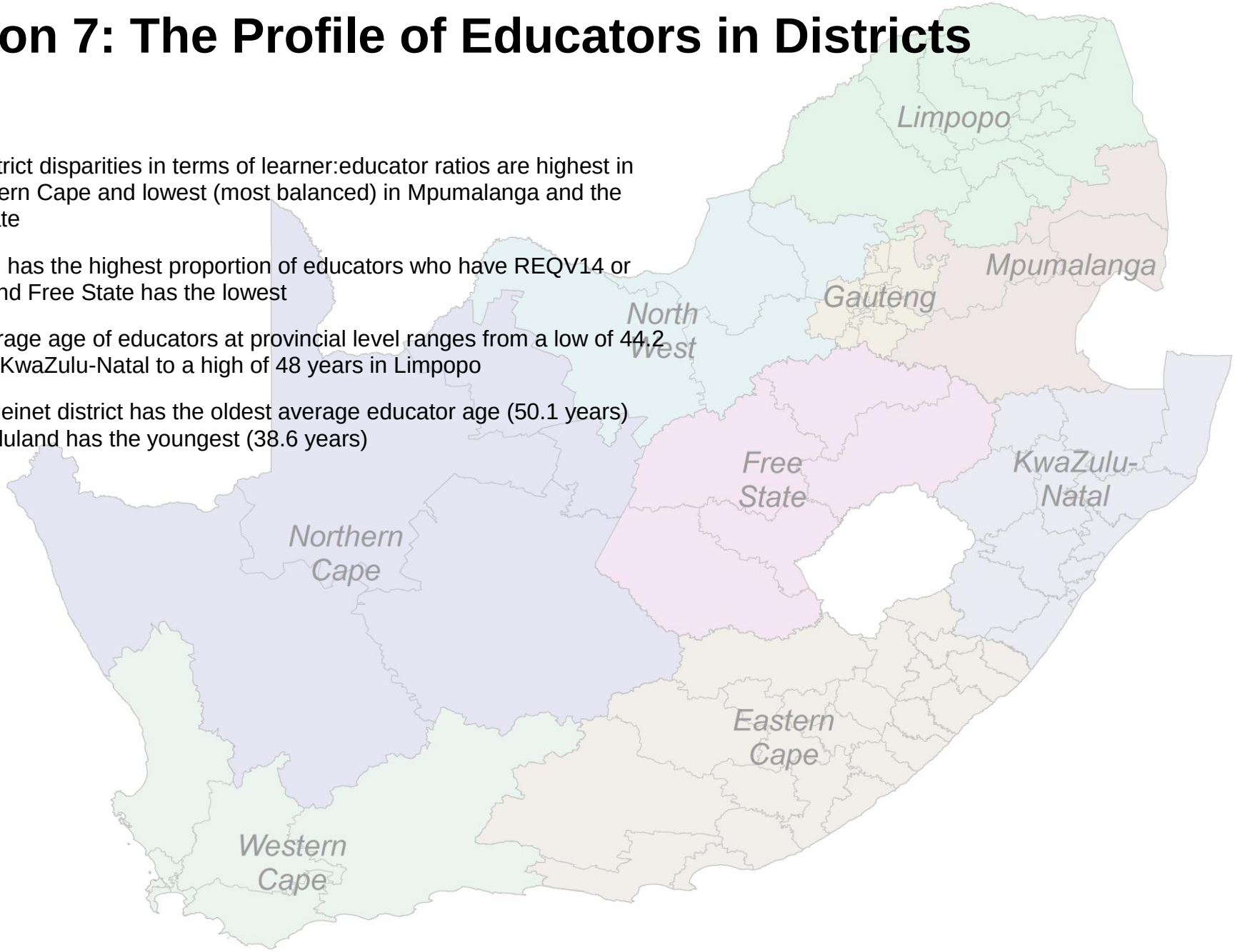
Map 32: Learner migration aged 5 to 19

% children who moved to the district from another province between 2001 and 2011



Section 7: The Profile of Educators in Districts

- Inter-district disparities in terms of learner:educator ratios are highest in the Eastern Cape and lowest (most balanced) in Mpumalanga and the Free State
- Gauteng has the highest proportion of educators who have REQV14 or higher and Free State has the lowest
- The average age of educators at provincial level ranges from a low of 44.2 years in KwaZulu-Natal to a high of 48 years in Limpopo
- Graaff-Reinet district has the oldest average educator age (50.1 years) while Zululand has the youngest (38.6 years)



7.1 Learner:Educator ratios

The learner to educator ratio (LER) is a measure of the average number of learners per educator. It is often cited as an indicator of education quality on the assumption that fewer learners per educator improves contact time and enhances learning. Much depends of course on teacher qualifications and experience, as well as many other factors including the availability of learning materials, level of organisation of the school (timekeeping, management etc.), the socio-economic background of the learners and the motivation of the teachers concerned.

Table 37 shows the learner to educator ratio (LER) by phase for 2012. The table indicates the difference between the LER which includes educators paid for by School Governing Bodies and the adjusted rate which excludes them. For primary schools, the total LER was 32 and for secondary schools it was 27, but without SGB appointed educators the respective figures were 35 and 29. The learner:educator ratio for South Africa as a whole in 2012 was 29.

Phase	Learner to Educator Ratio 2012	State-paid only Learner to Educator Ratio 2012
Combined	25	37
Intermediate	29	32
Primary	32	35
Secondary	27	29

Table 37: Learner:Educator ratios by Phase – all educators and state-paid educators only, SNAP 2012

Figure 19 opposite shows the relative provincial ratios in 2012 (for all educators), the highest being 31 in the Northern Cape and the lowest 26 in the Free State.

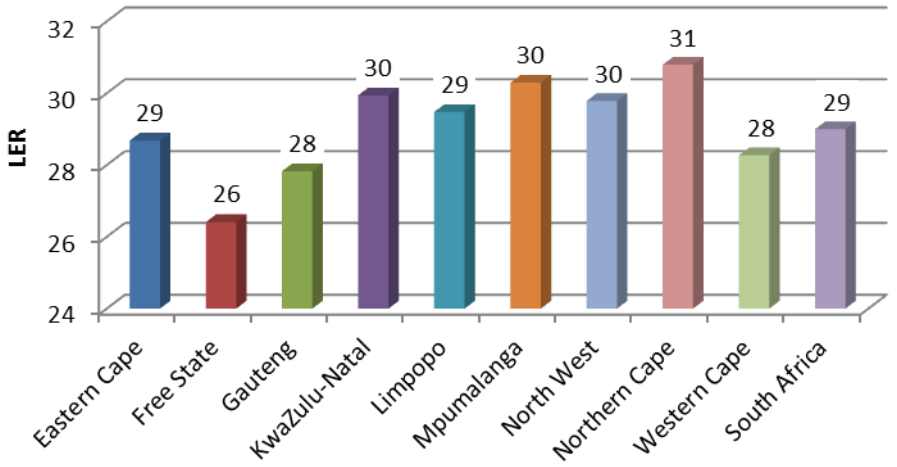


Figure 19: Learner:Educator ratios by Province – all educators, SNAP 2012

Map 33 on **Page 154** shows learner:educator ratios at a district level, highlighting three districts in the Eastern Cape with relatively high ratios, namely Lusikisiki (36), Mbizana (35) and Libode (34). Surprisingly, the Eastern Cape also has some of the lowest district level learner:educator ratios, such as in Butterworth (23), Cofimvaba (23) and Fort Beaufort (24). Inter-district disparities in terms of learner:educator ratios are highest in the Eastern Cape and lowest (most equal) in Mpumalanga and the Free State.

Table 38 shows the LER by district for all educators and for state-paid educators only in 2012. It also shows the change in district learner:educator ratios between 2007 and 2012, based on SNAP learner and educator numbers. A negative number indicates a drop (improvement)

in ratios, such as in Butterworth where the ratio for 2007 was 29 and in 2012 was 23, hence the improvement of -6 meaning there were 6 fewer learners per educator in 2012 compared to 2007. It should be noted that some of these improvements could be due to improved data quality and tighter controls on reported enrolment rather than actual increases in educator numbers. The lower ratios in Butterworth (-6) and Cofimvaba (-7) for example were both due to much lower reported learner enrolment, since educator numbers in these districts remained fairly constant throughout the period. The introduction of SA-SAMS has had an impact in this regard, leading to an estimated reduction in reported learner enrolment in the Eastern Cape of up to 15%.

A total of 61 districts saw an improvement in their learner:educator ratios between 2007 and 2012, whilst 18 experienced no change and 7 underwent a marginal increase. All Northern Cape districts experienced increases in learner:educator ratios of between one and two learners per educator.

The highest LERs are, as mentioned earlier, in Lusikisiki, Mbizana and Libode and the lowest are in Johannesburg East, Cofimvaba and Butterworth. Taken at face value, there are on average 14 more learners per educator in Lusikisiki than there are in Johannesburg East (LER of 36 compared to 22). Much of this discrepancy is however due to privately paid (SGB) educators who are not paid for out of the public purse. The differences fall away when only state-paid educators are considered, since Johannesburg East climbs to 46 and Lusikisiki increases only marginally to 36. The highest state-paid only LER is in Johannesburg South, where 44% of all educators are state paid.

Although aggregated learner:educator ratios may be useful for broad scale planning at a provincial or district level, they can hide a multitude of disparities at a local level. These disparities can entrench problems of repetition, over-age enrolment and drop-out and take no account of curriculum specialisation particularly at secondary school level. They also do not factor in the degree to which educators in management positions are relieved of teaching, which inflates the real numbers in classrooms.[45]

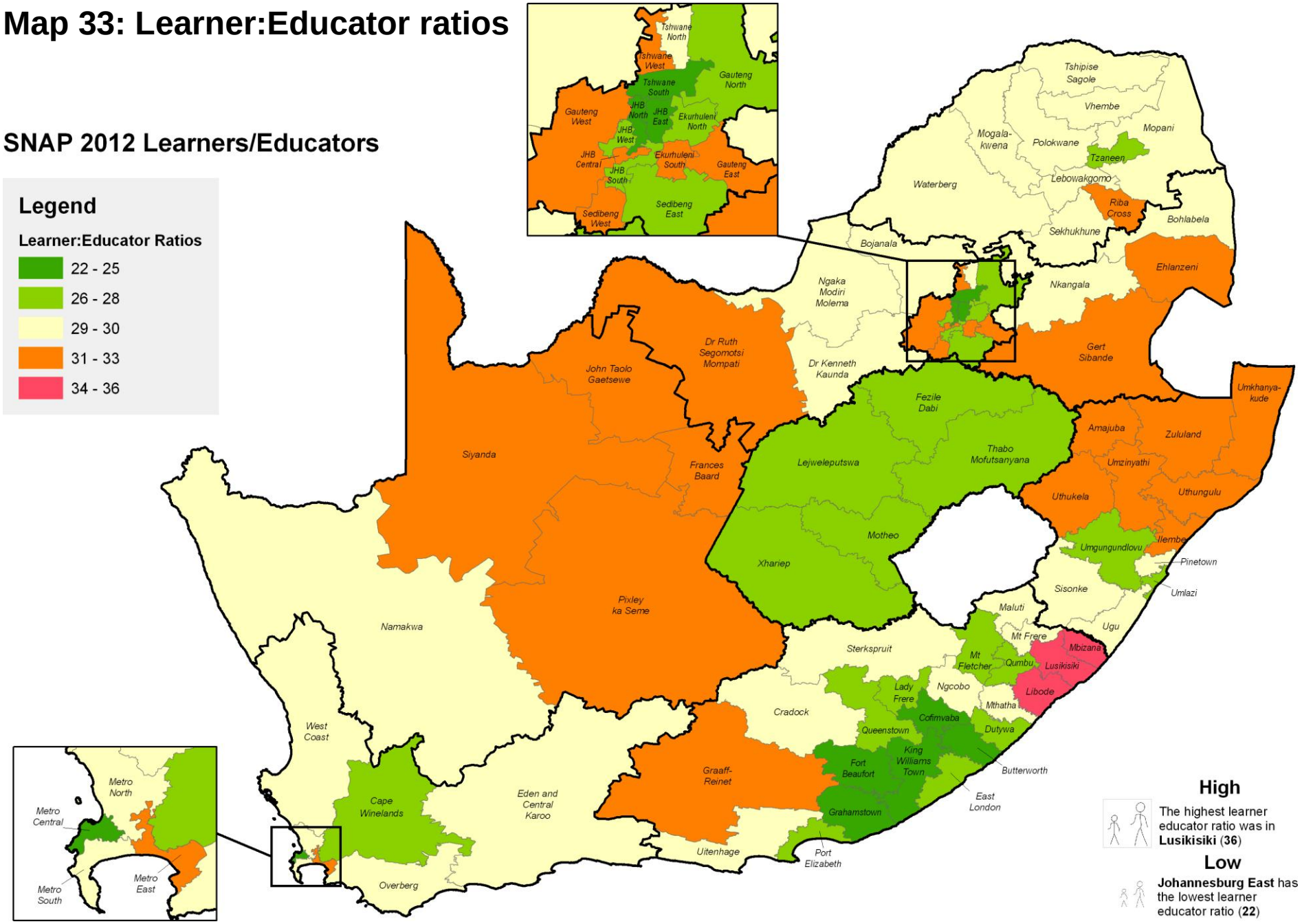
Province	Education District	Learner to Educator Ratio 2012	State-paid only LER 2012	Change in LER from 2007 to 2012
EC	Butterworth	23	26	-6
EC	Cofimvaba	23	24	-7
EC	Cradock	28	30	0
EC	Dutywa	27	29	-6
EC	East London	27	32	-1
EC	Fort Beaufort	24	25	-1
EC	Graaff-Reinet	31	33	0
EC	Grahamstown	25	33	0
EC	King Williams Town	25	27	-1
EC	Lady Frere	26	27	-2
EC	Libode	34	35	0
EC	Lusikisiki	36	37	-1
EC	Maluti	29	31	-3
EC	Mbizana	35	36	-5
EC	Mt Fletcher	27	28	-5
EC	Mt Frere	30	32	-3
EC	Mthatha	30	35	-5
EC	Ngcobo	29	30	-4
EC	Port Elizabeth	28	34	0
EC	Queenstown	27	32	-2
EC	Qumbu	27	28	-6
EC	Sterkspruit	30	32	-2
EC	Uitenhage	30	34	0
FS	Fezile Dabi	26	29	-2
FS	Lejweleputswa	26	29	-3
FS	Motheo	27	30	-2
FS	Thabo Mofutsanyana	27	29	-2
FS	Xhariep	26	27	-2
GT	Ekurhuleni North	26	41	-1
GT	Ekurhuleni South	31	36	-2
GT	Gauteng East	32	36	-2
GT	Gauteng North	27	40	-2

[45] The State of Education in KwaZulu-Natal, report to Provincial Treasury, School of Education and Development, UKZN

Province	Education District	Learner to Educator Ratio 2012	State-paid only LER 2012	Change in LER from 2007 to 2012
GT	Gauteng West	30	35	-1
GT	Johannesburg Central	32	36	-1
GT	Johannesburg East	22	46	-1
GT	Johannesburg North	24	42	-2
GT	Johannesburg South	28	50	-4
GT	Johannesburg West	28	38	-2
GT	Sedibeng East	28	38	-1
GT	Sedibeng West	32	35	-1
GT	Tshwane North	30	35	-1
GT	Tshwane South	24	40	-2
GT	Tshwane West	31	35	-1
KZ	Amajuba	31	33	-2
KZ	Ilembe	31	32	-1
KZ	Pinetown	29	34	-2
KZ	Sisonke	29	30	-4
KZ	Ugu	30	32	-2
KZ	Umgungundlovu	28	34	-1
KZ	Umkhanyakude	33	33	-2
KZ	Umlazi	27	33	0
KZ	Umzinyathi	32	34	-2
KZ	Uthukela	31	33	-2
KZ	Uthungulu	31	33	-2
KZ	Zululand	31	32	-2
LP	Lebowakgomo	29	30	-1
LP	Mogalakwena	29	30	-1
LP	Mopani	30	31	-3
LP	Polokwane	29	32	-1
LP	Riba Cross	31	33	-1
LP	Sekhukhune	29	31	-1
LP	Tshipise Sagole	30	32	-1
LP	Tzaneen	28	30	-3
LP	Vhembe	30	32	-1
LP	Waterberg	30	33	0
MP	Bohlabela	30	31	-1
MP	Ehlanzeni	31	34	-2
MP	Gert Sibande	30	33	-1
MP	Nkangala	30	33	0
NC	Frances Baard	30	33	1
NC	John Taolo Gaetsewe	31	32	2
NC	Namakwa	28	32	2
NC	Pixley ka Seme	32	33	2
NC	Siyanda	31	34	2
NW	Bojanala	29	33	1
NW	Dr Kenneth Kaunda	30	34	0
NW	Dr Ruth Segomotsi Mompati	31	33	0
NW	Ngaka Modiri Molema	30	32	1
WC	Cape Winelands	28	36	0
WC	Eden and Central Karoo	29	35	-1
WC	Metro Central	25	41	0
WC	Metro East	30	37	0
WC	Metro North	29	39	0
WC	Metro South	30	39	0
WC	Overberg	28	36	0
WC	West Coast	29	36	0

Table 38: Learner:Educator ratios by District – all educators and state-paid educators plus change in ratios from 2007 to 2012, SNAP Data

Map 33: Learner:Educator ratios



7.2 Educator Qualifications levels

Figure 20 provides a breakdown of the qualification levels of educators in South Africa as at September 2012, based on data extracted from the personnel salary system (PERSAL). The qualifications of educators range from REQV[46] 10 (Matric, no training) to REQV 17 (Matric + 7 years training). These indicate the duration of the qualification rather than the time taken to complete it. REQV 10 is regarded as unqualified and REQV11-12 as under-qualified. REQV levels 13 to 17 denotes qualified educators, since they have completed Grade 12 and have undertaken three or more years of further study. Educators must have at least a three year qualification that includes some training as a teacher, or a professional teacher-related qualification.

The pie chart opposite provides a graphical picture of the various levels of qualification of educators in South Africa. It shows that in 2012, roughly 3% of the educator workforce in the country was unqualified i.e. had less than the minimum qualification level of REQV13. A further 23% had the minimum qualification of REQV13, 51 % had REQV 14 and 23% had REQV 15 or higher.

A major effort has been made to reduce the number of un- and under-qualified teachers in South Africa. These efforts include the National Professional Diploma in Education that was introduced in 2000 and the Funza Lushaka bursary scheme, which enabled unqualified educators to enrol for a graduate professional teaching qualification[47].

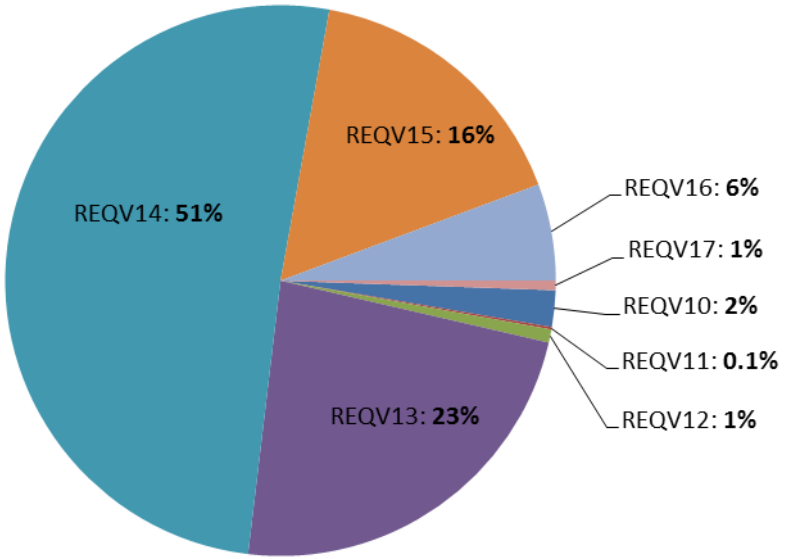


Figure 20: Proportion of Educators by qualification level, PERSAL Sep 2012

Table 39 provides a summary of the REQV qualification levels of educators by province. The highest proportion of unqualified educators (REQV12 or less) was KwaZulu-Natal with 8%, followed by the Northern Cape with 6% and Free State with 4%.

Gauteng leads the way in terms of the proportion of educators who are 'well qualified' i.e. have Matric and four or more years of training (REQV14 or higher). The proportion of well qualified educators was 83% whereas in Free State it was only 66%. The Western Cape had the second highest proportion of well qualified educators at 76%.

It is not clear how these differing levels of qualification manifest in the classroom but presumably they represent different learning experiences and opportunities for pupils, most significantly at secondary school level.

[46] Relative Educational Qualification Value
[47] WQ 356 NA Qualifications of teachers employed by provinces, 17 February 2012 – response to Parliamentary Question

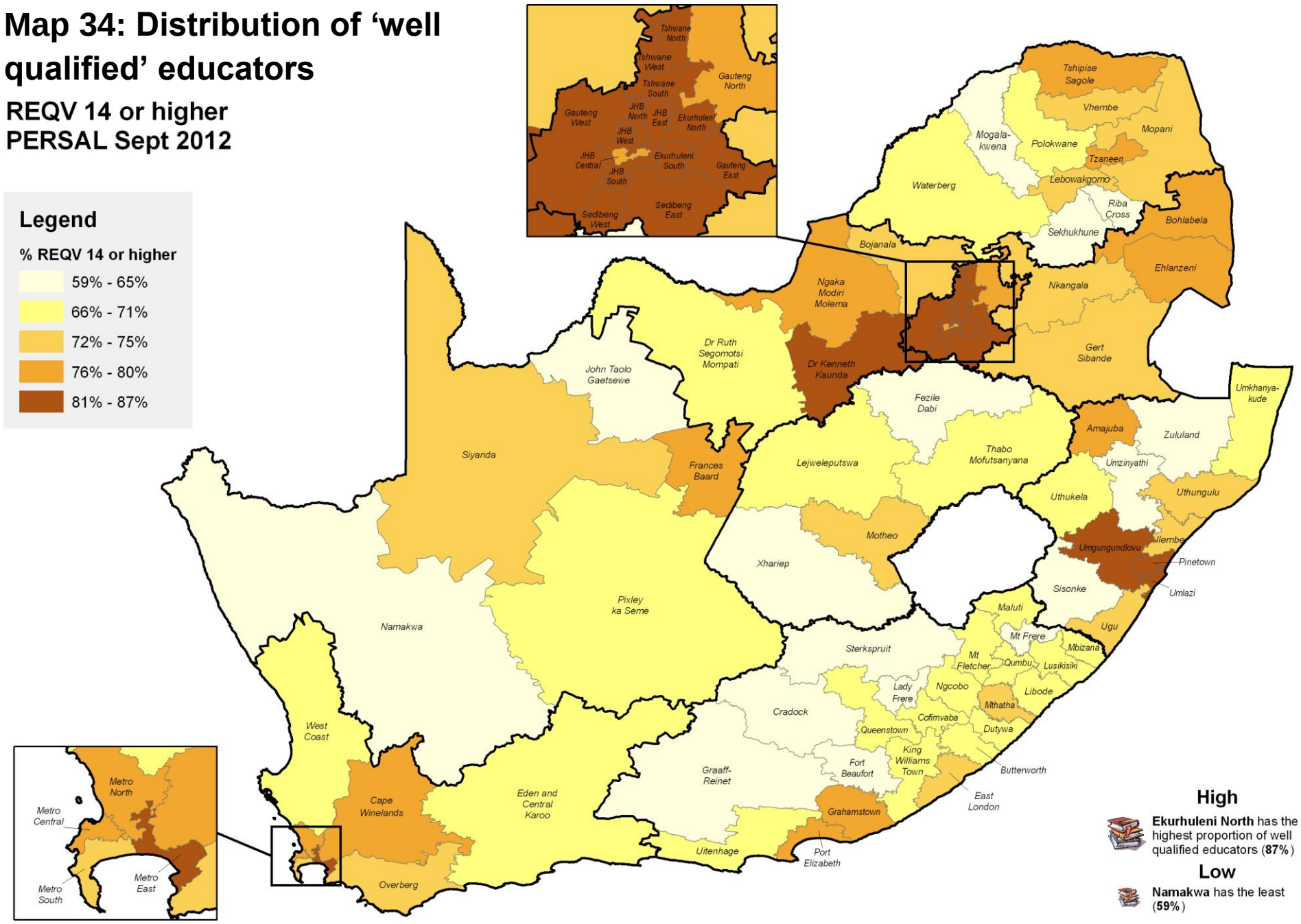
Province	REQV10-12 (un- & under-qualified)	REQV13 (qualified)	REQV14-17 (4 or more years of further study)
Eastern Cape	1%	29%	69%
Free State	4%	30%	66%
Gauteng	1%	16%	83%
KwaZulu-Natal	8%	18%	74%
Limpopo	0%	29%	71%
Mpumalanga	1%	24%	76%
North West	1%	24%	75%
Northern Cape	6%	24%	70%
Western Cape	3%	20%	76%

Table 39: Proportion of Educators by Qualification (REQV) Level per Province

Map 34 overleaf shows the proportion of educators in each district who have REQV14 or higher. The highest percentage is in Ekurhuleni North, which has 87%. Tshwane South and Umlazi District in KwaZulu-Natal both have 86%. The lowest, somewhat surprisingly is rural Namakwa in the Northern Cape, with 59%. Zululand, also a large rural district, but with many more schools, follows this with 60%. Learners in rural areas unfortunately do not have the option to switch schools if their local one is dysfunctional or if the teachers are inexperienced and under-qualified.

Map 34: Distribution of 'well qualified' educators

REQV 14 or higher
PERSAL Sept 2012



7.3 Average age of Educators

Using data from the 2011 Annual Survey, the average ages of educators were calculated for all nine provinces as well as for each education district in South Africa. The average age of educators at provincial level ranges from a low of 44.2 years in KwaZulu-Natal to a high of 48 years in Limpopo. It is interesting to note that although the average age of educators is highest in Limpopo, this province also has the lowest standard deviation of age (7.3), meaning that the range of educator ages in Limpopo is lower than in any other province. This province thus has a much older educator profile than other provinces, which probably indicates that younger educators have not been entering the system in sufficient numbers to replace older educators nearing retirement age. This is a problem in incubation. The ideal would be to have an educator workforce with a fairly even transition between age groups so that older educators can be replaced by younger ones as they retire[48].

Gauteng, which has the second lowest average educator age but the highest standard deviation (10), has a larger mix of younger and older educators than other provinces implying that there is a good stream of younger educators entering the teaching profession and replacing older educators as they retire.

When average educator ages are examined at a district level (**Table 40**), KwaZulu-Natal once again stands out as the province with the lowest average educator ages. Two of the 12 districts in this province have average ages below 42 years, while a further five districts have average educator ages in the range of 42 to 44 years. Zululand, with an average educator age of 38.6, has the lowest in the country, over three years less than that of Umkhanyakude, the next lowest district with 41.7. Zululand does have a relatively high standard deviation, though, indicating that although the average age is low there is a mix of younger and older educators in the workforce.

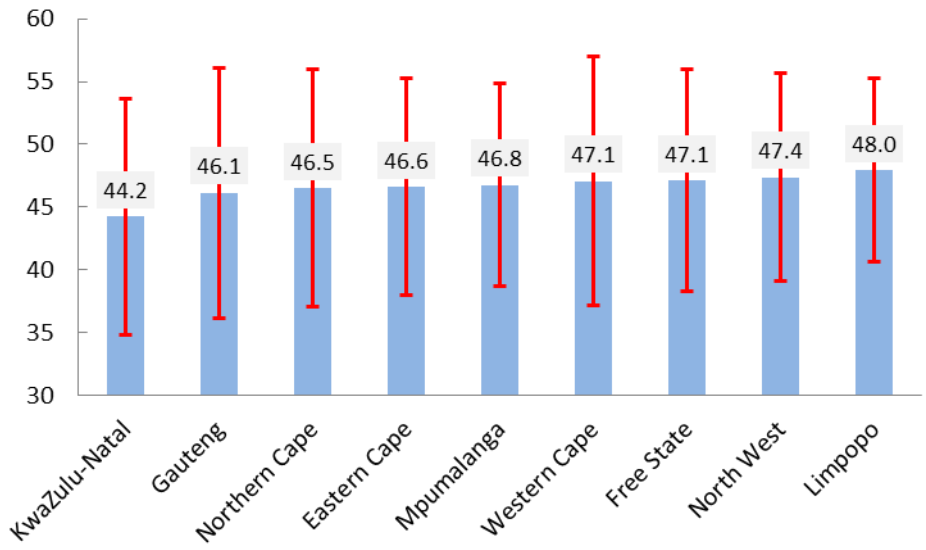


Figure 21: Average age of educators for each province, arranged in order of increasing age. Standard deviation bars are shown in red

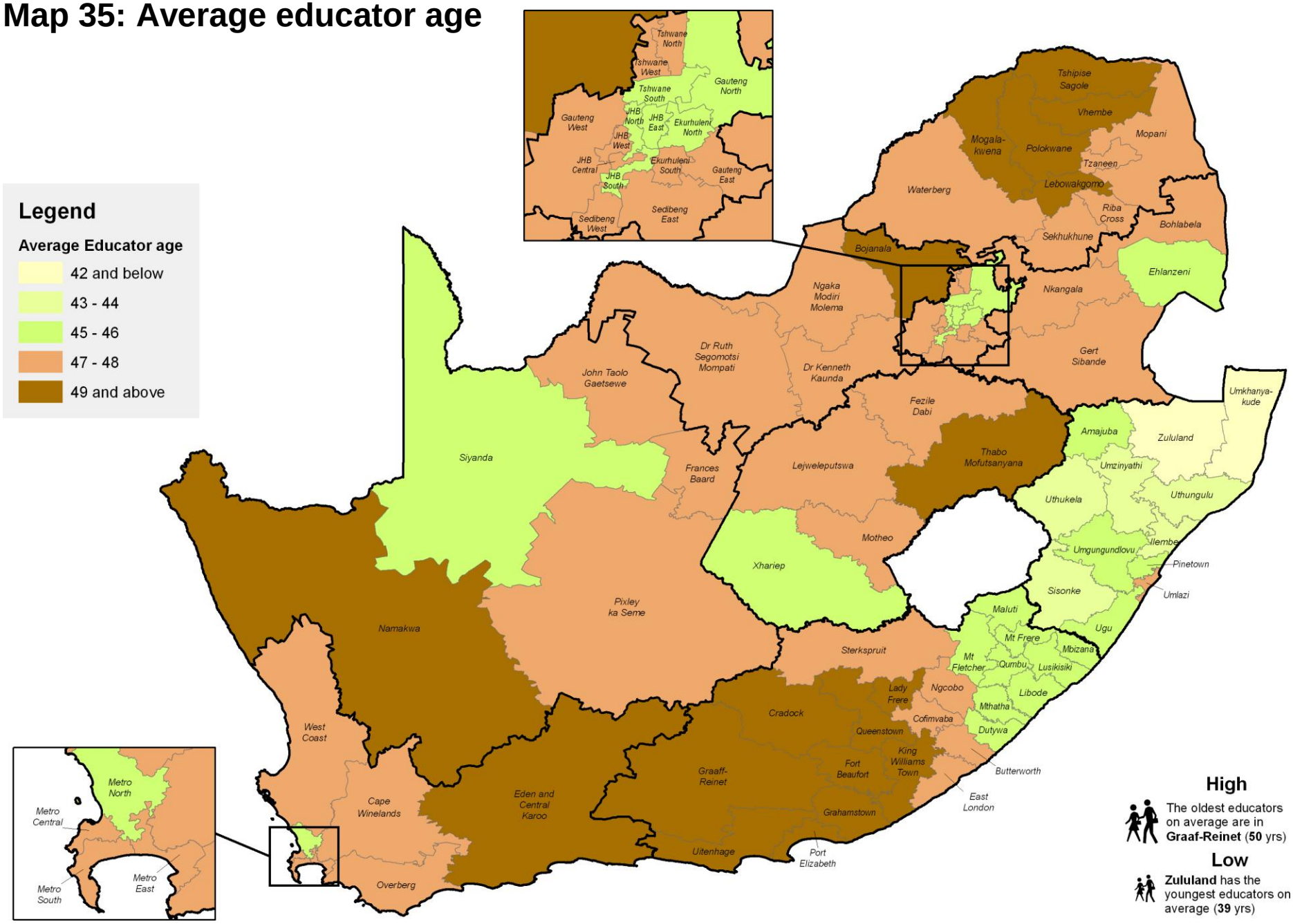
Graaf-Reinet education district has the highest average educator age in the entire country (50.1 years). This high average age is in keeping with a pattern of districts with older educators which is apparent in a band covering the western half of the Eastern Cape, through the Eden and Central Karoo District and into the western parts of the Northern Cape. The Eastern Cape also displays a noticeable gradient from younger educators in the east to older educators in the west.

[48] The State of Education in KwaZulu-Natal, report to Provincial Treasury, School of Education and Development, UKZN

Province	Education District	Average	Standard Deviation
EC	Butterworth	46.8	8.8
EC	Cofimvaba	46.8	7.8
EC	Cradock	48.9	8.9
EC	Dutywa	45.1	7.8
EC	East London	47.9	9.3
EC	Fort Beaufort	49.2	8.0
EC	Graaff-Reinet	50.1	8.3
EC	Grahamstown	48.2	8.6
EC	King Williams Town	49.0	7.9
EC	Lady Frere	48.0	7.4
EC	Libode	44.6	7.8
EC	Lusikisiki	44.7	7.6
EC	Maluti	46.0	8.6
EC	Mbizana	44.2	8.2
EC	Mt Fletcher	45.5	8.1
EC	Mt Frere	45.7	8.6
EC	Mthatha	44.6	8.8
EC	Ngcobo	46.3	8.0
EC	Port Elizabeth	48.7	9.1
EC	Queenstown	48.4	9.0
EC	Qumbu	45.4	8.3
EC	Sterkspruit	47.3	8.0
EC	Uitenhage	48.4	9.3
FS	Fezile Dabi	47.4	8.8
FS	Lejweleputswa	47.1	8.4
FS	Motheo	46.2	9.5
FS	Thabo Mofutsanyana	48.1	8.2
FS	Xhariep	45.9	9.6
GT	Ekurhuleni North	45.7	10.4
GT	Ekurhuleni South	46.2	9.4
GT	Gauteng East	47.1	9.1
GT	Gauteng North	45.9	9.7
GT	Gauteng West	46.3	9.7
GT	Johannesburg Central	47.7	9.4
GT	Johannesburg East	44.8	10.5
GT	Johannesburg North	45.7	10.4
GT	Johannesburg South	44.1	9.2
GT	Johannesburg West	46.6	9.8
GT	Sedibeng East	47.0	10.4
GT	Sedibeng West	47.5	9.4
GT	Tshwane North	46.6	9.4
GT	Tshwane South	45.8	11.0
GT	Tshwane West	47.2	9.3
KZ	Amajuba	45.8	9.1
KZ	Ilembe	43.8	9.4
KZ	Pinetown	45.9	9.7
KZ	Sisonke	43.5	8.8
KZ	Ugu	44.4	8.8
KZ	Umgungundlovu	45.4	9.8
KZ	Umkhanyakude	41.7	8.5
KZ	Umlazi	46.1	10.0
KZ	Umzinyathi	42.8	9.1
KZ	Uthukela	44.0	8.7
KZ	Uthungulu	43.1	9.1
KZ	Zululand	38.6	9.7
LP	Lebowakgomo	48.9	7.2
LP	Mogalakwena	49.3	7.2
LP	Mopani	47.2	7.0
LP	Polokwane	48.1	7.7
LP	Riba Cross	47.5	6.6
LP	Sekhukhune	47.6	7.1
LP	Tshipise Sagole	48.0	7.0
LP	Tzaneen	47.2	7.1
LP	Vhembe	48.4	7.4
LP	Waterberg	47.5	7.9
MP	Bohlabela	47.2	6.9
MP	Ehlanzeni	45.8	8.2
MP	Gert Sibande	46.2	9.1
MP	Nkangala	47.7	7.8
NC	Frances Baard	46.2	9.4
NC	John Taolo Gaetsewe	46.4	7.6
NC	Namakwa	48.8	9.6
NC	Pixley ka Seme	46.7	10.1
NC	Siyanda	45.8	10.4
NW	Bojanala	48.3	8.2
NW	Dr Kenneth Kaunda	46.2	11.8
NW	Dr Ruth Segomotsi Mompati	46.5	7.6
NW	Ngaka Modiri Molema	46.9	8.0
WC	Cape Winelands	47.0	9.9
WC	Eden and Central Karoo	48.4	9.5
WC	Metro Central	47.5	10.2
WC	Metro East	46.7	9.1
WC	Metro North	45.9	10.2
WC	Metro South	47.5	9.7
WC	Overberg	47.1	10.4
WC	West Coast	46.9	10.5

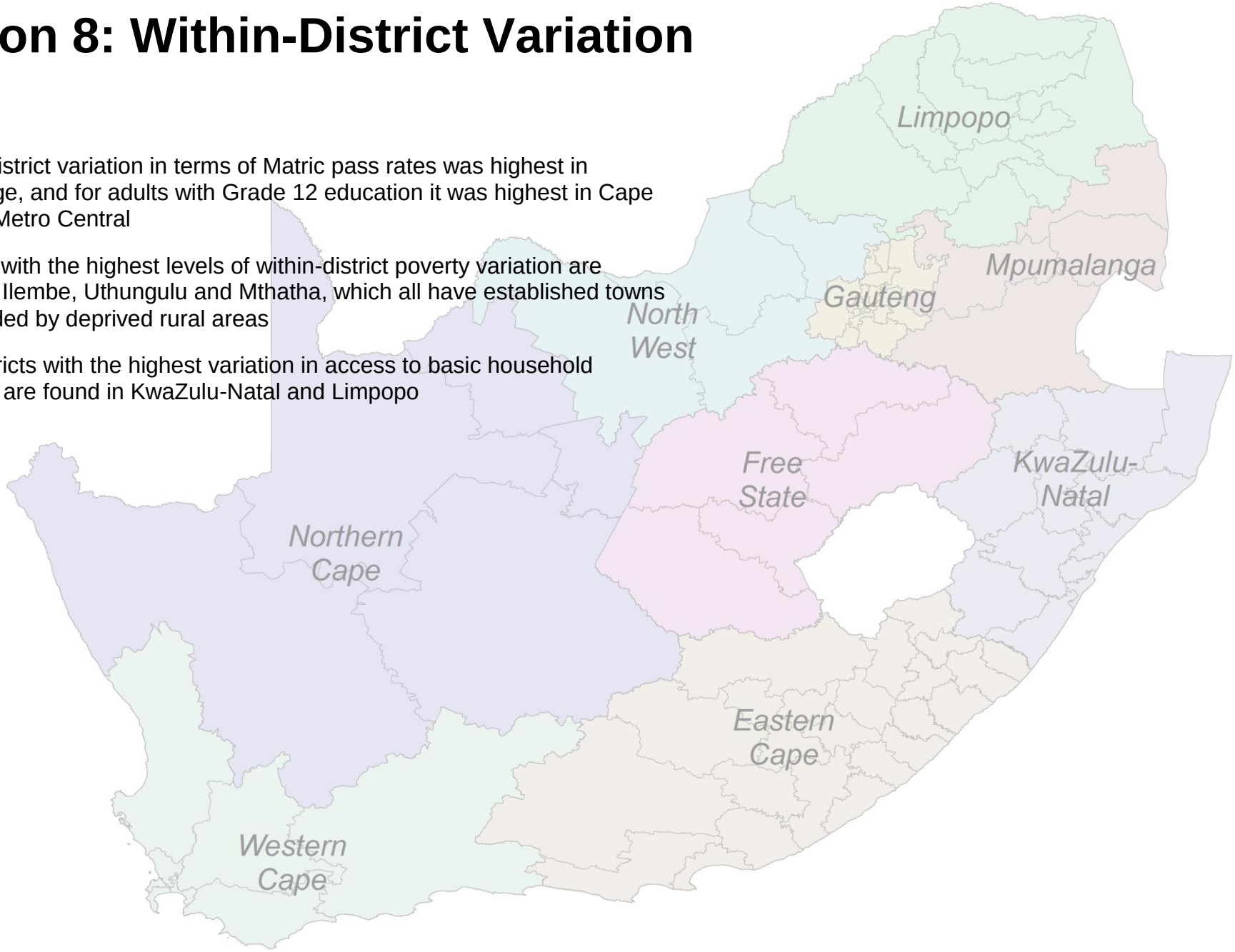
Table 40: Average educator ages and standard deviations for each province. Highest values are shown in red and lowest values in green

Map 35: Average educator age



Section 8: Within-District Variation

- Within-district variation in terms of Matric pass rates was highest in Uitenhage, and for adults with Grade 12 education it was highest in Cape Town's Metro Central
- Districts with the highest levels of within-district poverty variation are Dutywa, Ilembe, Uthungulu and Mthatha, which all have established towns surrounded by deprived rural areas
- The districts with the highest variation in access to basic household services are found in KwaZulu-Natal and Limpopo



8.1 Disparities in Matriculation results and proportion of population with Grade 12 and above

The previous sections of this report have mainly been concerned with variations and disparities *between* districts in South Africa. This section of the report addresses the issue of *within*-district variation. It aims to investigate the extent to which districts are either uniform within, or show a great deal of variation. A typical example would be an education district that contains both middle-class suburbs and townships. The juxtaposition of the two markedly different types of area could mean there are also large disparities in education levels, poverty and service provision within the district. Another example might be an education district with a town at its centre that has good access to services and high employment levels but a much poorer rural hinterland beyond.

There are several ways of assessing disparities, and a variety of statistical techniques that can be used. In this instance we have used the standard deviation as a measure of dispersion. **Table 41** shows the extent of within-district variation in Matric pass rates and the percentage of adults with at least Grade 12 education. The latter derives from the 2011 Census.

The standard deviation for the two indicators shows the extent of variation *within* each district i.e. how much dispersion there is from the average. A low standard deviation indicates very little variation, for example most schools in a district achieving a similar Matric pass rate. A high standard deviation indicates a wide variation such as some schools that achieve 100%, some an average pass and others doing very badly. The standard deviation is in the same units as the variation it is measuring, so in both examples in **Table 41** it is in percentages.

Table 41 shows that the within-district variation in terms of Matric pass rates is highest in Uitenhage in the Eastern Cape. This district had an average Matric pass rate in 2012 of 69% but also had a standard deviation of 28%. There were 36 schools in this district that wrote Matric. Of these, 13 achieved over 80% but 12 achieved less than 40%, so there was a wide variation in performance amongst the schools. Other districts where there was a great deal of within-district disparity in Matric pass rates were Libode, Grahamstown, Waterberg and Sterkspruit. East London also showed considerable variation in school performance with a standard deviation of 24% from its average Matric pass rate of 68%. A number of schools are top performers in this district but there are also many that do very badly, hence the large deviation from the average.

The most consistent districts in terms of school pass rates were Eden and Central Karoo in the Western Cape and Tshwane North in Gauteng. Both these districts had average pass rates above 87% and a standard deviation of around 11%, meaning the schools were clustered in the pass rate range of 76% to 98%. Schools in these districts perform at a higher level and within a narrower band of achievement than those in East London for example.

Table 41 also shows the within-district variation of adults with Grade 12 education or above. This indicator is confined to adults aged 20 and older and is derived from the 2011 Census. The standard deviation column shows the degree of variation between local government wards in each education district. A high standard deviation indicates districts where there is a large difference between wards in terms of the percentage of adults with Grade 12 education or above.

The highest within-district variation is in Metro Central district in the Western Cape. The percentage of adults with Grade 12 is 51% for the district as a whole but there is a high standard deviation of 24%. This is due to the fact that there are some wards in this district where 92% of adults have Grade 12 or higher (e.g. Rondebosch and Newlands) as well as some where only 19% of the population do (e.g. Langa and Bonteheuwel). This reflects significant differences in the quality and provision of education between wards as well as differences created by

inward migration from other provinces with traditionally weaker education systems. Other districts with high inter-ward variation are Metro North in the Western Cape and Mthatha and Grahamstown in the Eastern Cape.

The least within-district variation for adults with Grade 12 is in Lady Frere in the Eastern Cape. The average for this district is very low (15%) but there is also relatively little deviation from this (6%). Most wards are within the range of 10 to 18%.

Map 36 illustrates the extent of within-district variation in terms of Matric results and **Map 37** the within-district variation for adults with at least Grade 12 education.

Province	Education District	Matriculation Pass Rate 2012				Population with Grade 12 or higher (2011 Census)			
		Total Secondary Schools	Matriculation Pass rate	Standard Deviation of Matriculation Pass rate in District	Deviation Rank (1 = least deviation) worst 10 highlighted	Number of Local Govn Wards	% Population aged 20 years and older with Grade 12 education or above	Standard Deviation of Population aged 20 years and older with Grade 12 education or above	Deviation Rank (1 = least deviation) worst 10 highlighted
EC	Butterworth	49	54%	20%	54	31	22%	15%	56
EC	Cofimvaba	32	73%	23%	72	27	14%	7%	5
EC	Cradock	16	73%	21%	60	14	25%	13%	38
EC	Dutywa	35	52%	16%	28	30	16%	9%	14
EC	East London	84	68%	24%	79	45	39%	18%	75
EC	Fort Beaufort	46	49%	23%	73	25	24%	9%	15
EC	Graaff-Reinet	16	71%	24%	77	21	25%	9%	10
EC	Grahamstown	21	68%	27%	84	24	36%	21%	83
EC	King Williams Town	113	57%	23%	75	45	24%	12%	31
EC	Lady Frere	23	63%	24%	80	16	15%	6%	1
EC	Libode	34	59%	28%	85	52	17%	9%	11
EC	Lusikisiki	32	59%	22%	70	50	16%	9%	12
EC	Maluti	27	72%	17%	39	26	19%	13%	34
EC	Mbizana	23	57%	20%	55	31	18%	8%	9
EC	Mt Fletcher	21	67%	24%	81	17	17%	8%	7
EC	Mt Frere	26	50%	19%	48	26	20%	12%	33
EC	Mthatha	58	66%	21%	59	35	30%	21%	84
EC	Ngcobo	22	61%	22%	66	25	17%	11%	23
EC	Port Elizabeth	77	71%	22%	69	50	43%	19%	79
EC	Queenstown	44	62%	23%	74	31	32%	14%	45
EC	Qumbu	28	50%	22%	68	25	17%	7%	4
EC	Sterkspruit	29	56%	25%	82	30	22%	10%	19
EC	Uitenhage	36	69%	28%	86	39	33%	17%	70
FS	Fezile Dabi	58	81%	14%	13	75	37%	15%	50
FS	Lejweleputswa	69	83%	14%	11	70	33%	13%	35
FS	Motheo	77	80%	17%	30	62	43%	19%	78
FS	Thabo Mofutsanyana	86	81%	16%	24	90	34%	11%	25
FS	Xhariep	25	82%	15%	23	20	25%	6%	2

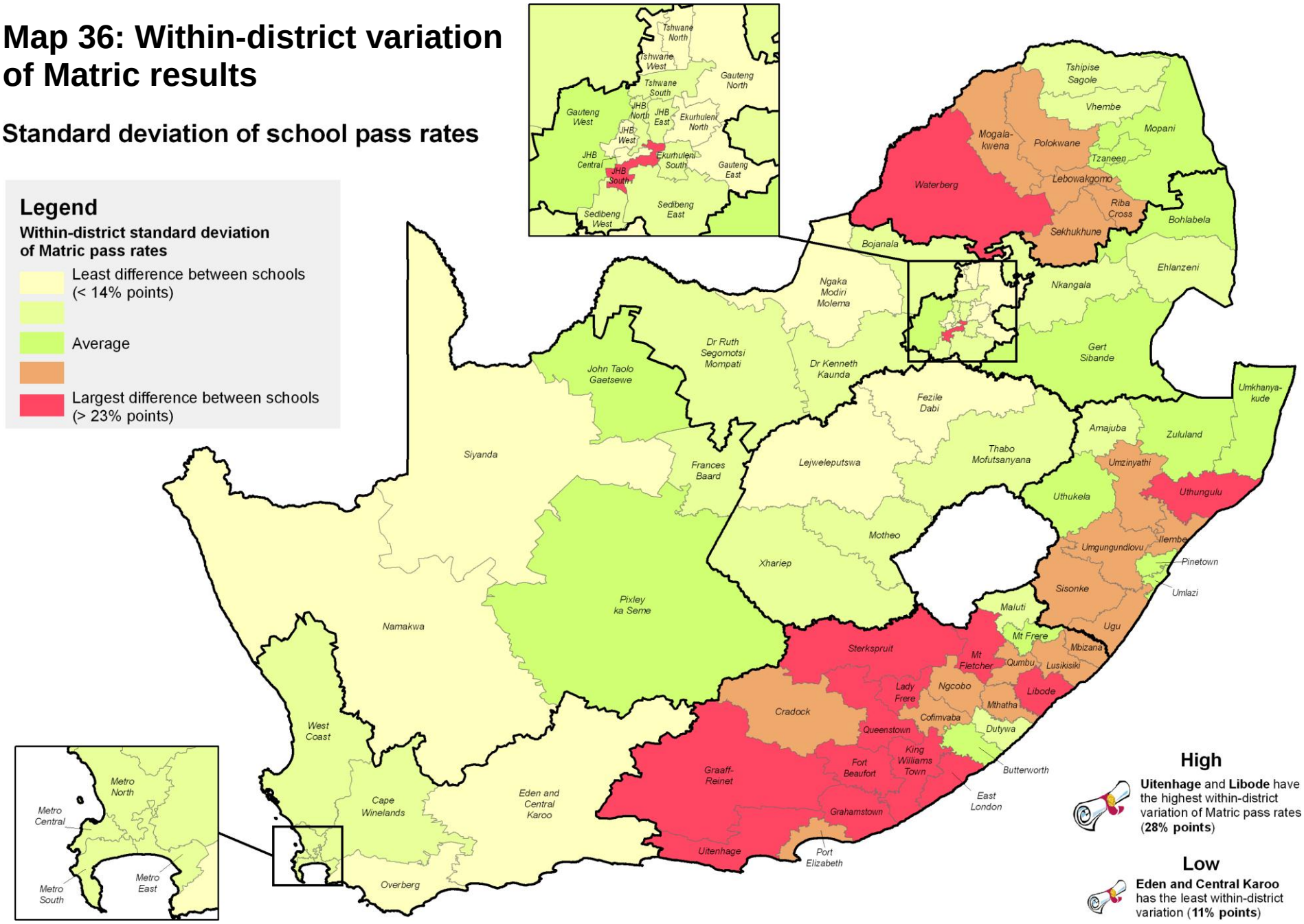
Province	Education District	Matriculation Pass Rate 2012				Population with Grade 12 or higher (2011 Census)			
		Total Secondary Schools	Matriculation Pass rate	Standard Deviation of Matriculation Pass rate in District	Deviation Rank (1 = least deviation) worst 10 highlighted	Number of Local Govn Wards	% Population aged 20 years and older with Grade 12 education or above	Standard Deviation of Population aged 20 years and older with Grade 12 education or above	Deviation Rank (1 = least deviation) worst 10 highlighted
GT	Ekurhuleni North	63	88%	12%	**3**	34	59%	15%	**53**
GT	Ekurhuleni South	59	82%	15%	**22**	39	50%	15%	**55**
GT	Gauteng East	44	81%	14%	**14**	29	42%	10%	**18**
GT	Gauteng North	16	89%	14%	**12**	13	54%	17%	**68**
GT	Gauteng West	42	85%	18%	**42**	100	41%	17%	**66**
GT	Johannesburg Central	51	81%	13%	**7**	26	51%	12%	**26**
GT	Johannesburg East	56	85%	15%	**16**	34	61%	16%	**64**
GT	Johannesburg North	53	84%	17%	**38**	25	59%	18%	**72**
GT	Johannesburg South	54	79%	24%	**78**	20	47%	14%	**42**
GT	Johannesburg West	32	85%	13%	**8**	25	56%	16%	**65**
GT	Sedibeng East	23	86%	17%	**35**	35	48%	16%	**63**
GT	Sedibeng West	44	80%	15%	**18**	35	44%	14%	**48**
GT	Tshwane North	35	88%	12%	**2**	20	54%	18%	**71**
GT	Tshwane South	75	87%	17%	**32**	47	67%	19%	**80**
GT	Tshwane West	46	86%	13%	**5**	26	52%	16%	**62**
KZ	Amajuba	67	78%	17%	**35**	46	40%	15%	**51**
KZ	Ilembe	121	70%	21%	**58**	74	32%	13%	**39**
KZ	Pinetown	160	77%	19%	**44**	52	47%	13%	**37**
KZ	Sisonke	84	69%	20%	**56**	55	25%	12%	**27**
KZ	Ugu	127	72%	21%	**57**	84	30%	15%	**52**
KZ	Umgungundlovu	152	75%	22%	**64**	84	39%	16%	**61**
KZ	Umkhanyakude	145	65%	18%	**41**	68	31%	10%	**20**
KZ	Umlazi	167	80%	20%	**51**	51	54%	12%	**29**
KZ	Umzinyathi	130	72%	22%	**65**	53	25%	11%	**24**
KZ	Uthukela	132	73%	20%	**53**	73	33%	12%	**30**
KZ	Uthungulu	191	67%	23%	**76**	99	36%	17%	**67**
KZ	Zululand	207	72%	20%	**52**	89	33%	13%	**40**
LP	Lebowakgomo	104	66%	22%	**63**	32	32%	15%	**49**
LP	Mogalakwena	105	55%	23%	**71**	37	28%	12%	**28**
LP	Mopani	193	63%	19%	**47**	102	29%	14%	**41**
LP	Polokwane	258	66%	21%	**62**	86	34%	17%	**69**
LP	Riba Cross	92	60%	21%	**61**	29	29%	7%	**3**
LP	Sekhukhune	242	64%	22%	**67**	91	26%	8%	**8**
LP	Tshipise Sagole	56	79%	17%	**37**	26	29%	9%	**16**
LP	Tzaneen	55	63%	19%	**46**	26	30%	14%	**47**

Province	Education District	Matriculation Pass Rate 2012				Population with Grade 12 or higher (2011 Census)			
		Total Secondary Schools	Matriculation Pass rate	Standard Deviation of Matriculation Pass rate in District	Deviation Rank (1 = least deviation) worst 10 highlighted	Number of Local Govn Wards	% Population aged 20 years and older with Grade 12 education or above	Standard Deviation of Population aged 20 years and older with Grade 12 education or above	Deviation Rank (1 = least deviation) worst 10 highlighted
LP	Vhembe	247	76%	16%	**27**	69	32%	9%	**13**
LP	Waterberg	50	70%	25%	**83**	45	35%	15%	**57**
MP	Bohlabela	128	61%	19%	**43**	45	34%	7%	**6**
MP	Ehlanzeni	128	75%	16%	**26**	87	41%	14%	**43**
MP	Gert Sibande	117	69%	19%	**50**	127	37%	15%	**54**
MP	Nkangala	145	73%	17%	**40**	143	39%	14%	**44**
NC	Frances Baard	39	76%	15%	**21**	52	36%	15%	**59**
NC	John Taolo Gaetsewe	23	58%	19%	**49**	33	27%	16%	**60**
NC	Namakwa	21	86%	13%	**10**	30	26%	10%	**17**
NC	Pixley ka Seme	25	71%	19%	**45**	38	27%	10%	**21**
NC	Siyanda	21	82%	13%	**9**	41	28%	13%	**36**
NW	Bojanala	130	80%	17%	**33**	128	36%	12%	**32**
NW	Dr Kenneth Kaunda	73	83%	17%	**29**	85	38%	20%	**81**
NW	Dr Ruth Segomotsi Mompati	79	72%	17%	**31**	82	22%	11%	**22**
NW	Ngaka Modiri Molema	92	82%	13%	**6**	88	31%	15%	**58**
WC	Cape Winelands	59	85%	15%	**15**	98	38%	20%	**82**
WC	Eden and Central Karoo	46	87%	11%	**1**	96	39%	18%	**74**
WC	Metro Central	81	83%	17%	**34**	24	51%	24%	**86**
WC	Metro East	49	77%	15%	**20**	29	47%	18%	**73**
WC	Metro North	66	86%	15%	**19**	31	50%	23%	**85**
WC	Metro South	57	78%	16%	**25**	27	45%	19%	**76**
WC	Overberg	21	86%	12%	**4**	36	37%	19%	**77**
WC	West Coast	21	87%	15%	**17**	46	33%	14%	**46**

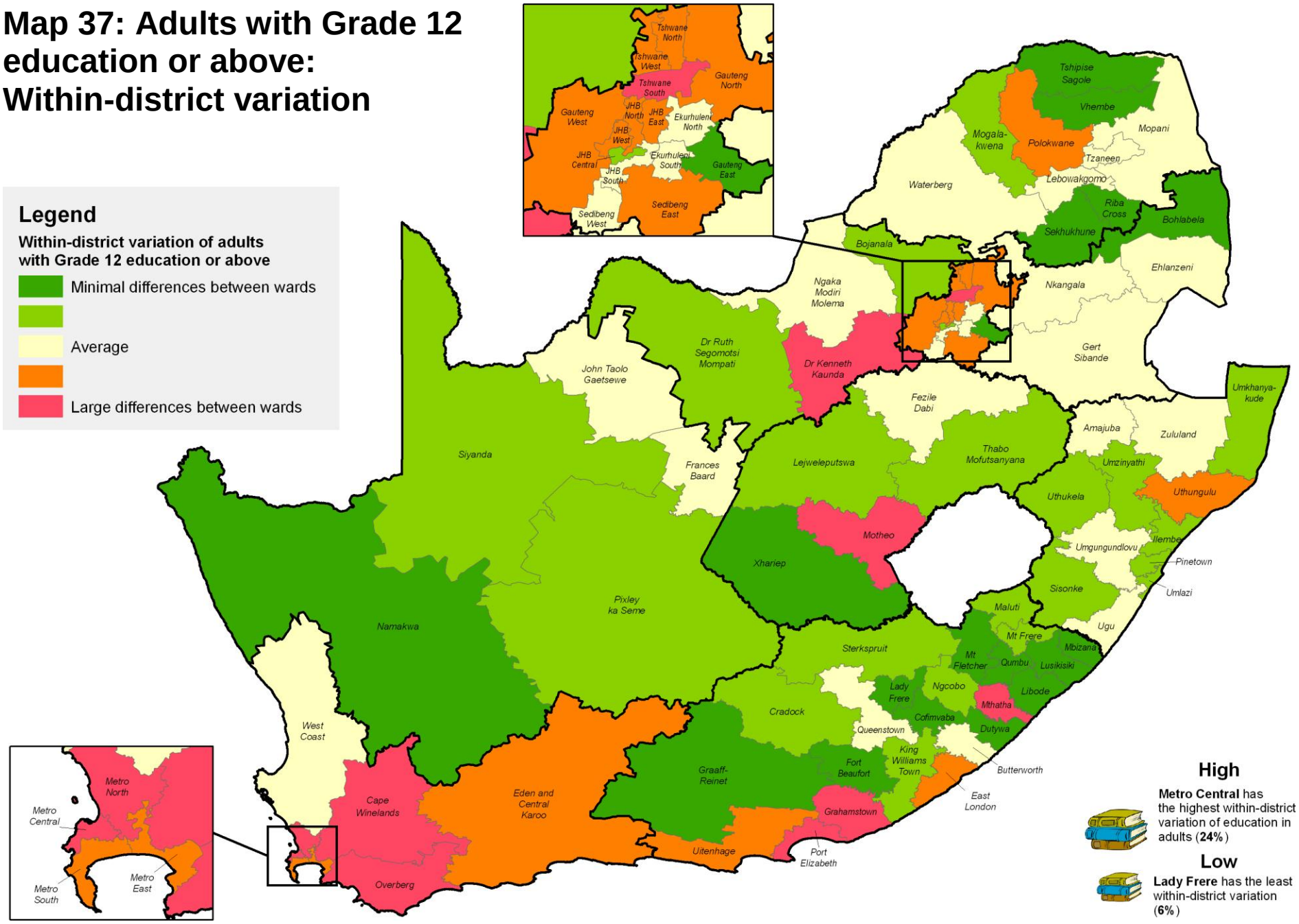
Table 41: Within-district variations in terms of Matriculation Results and Proportion of Population with Grade 12 and above

Map 36: Within-district variation of Matric results

Standard deviation of school pass rates



Map 37: Adults with Grade 12 education or above: Within-district variation



8.2 Within-district variation of ward-based poverty scores

In *Section 5: The Poverty Profile of Districts*, the issue of poverty in education districts was reviewed. A socio-economic deprivation index was created for each district by combining data on functional literacy, per capita income and households with electricity. The resulting index scores ranged from 0 (most poor) to 1 (least poor) and were used to measure the relative disadvantage between districts in South Africa.

In this section we have created the same index, but for local government wards in South Africa. There are 4 277 wards defined in the 2011 Census with an average of 50 wards per education district, so by comparing wards it is possible to assess within-district variation in poverty quite effectively.

Table 42 shows the variation of ward-based poverty scores by education district. The lowest and highest poverty scores are shown together with the standard deviation, which shows how much variation there is in poverty for each education district. A high standard deviation indicates districts where there is a large difference between wards in terms of their poverty profile.

The highest within-district variation was in Dutywa district in the Eastern Cape. The poverty score for the poorest ward in this district was 0.08 (where 0 = most poverty and 1 = least) and for the most well off 0.559. The standard deviation of 0.17 indicates that there was a wide spread of very poor wards and of wards of average to middle income. This district did not have the most affluent wards by any means (those are found in Gauteng) but it did have the largest within-district variation.

Other districts with high levels of within-district variation in poverty levels were Ilembe, Uthungulu and Mthatha. These districts have established towns with employment opportunities and good services provision as well as large rural areas that are considerably worse off.

The least within-district variation in poverty was in Xhariep in the Free State and Bohlabela in Mpumalanga. They both had an average district poverty score of 0.45, which places them just outside the poorest third of districts in South Africa. There was little ward-based deviation from this average, which indicates the wards in these districts are very similar to one another in terms of their poverty levels.

Province	Education District	Lowest Poverty Index (0 = most poor)	Highest Poverty Index (1= least poor)	Standard Deviation of Poverty Index highest 10 highlighted	Deviation Rank (1 = most within-district variation)
EC	Butterworth	0.18	0.66	**0.136**	13
EC	Cofimvaba	0.15	0.55	**0.127**	21
EC	Cradock	0.45	0.72	**0.067**	69
EC	Dutywa	0.08	0.56	**0.174**	1
EC	East London	0.40	0.83	**0.100**	35
EC	Fort Beaufort	0.37	0.65	**0.061**	77
EC	Graaff-Reinet	0.45	0.64	**0.044**	84
EC	Grahamstown	0.46	0.81	**0.091**	41
EC	King Williams Town	0.26	0.68	**0.074**	60
EC	Lady Frere	0.27	0.52	**0.067**	71
EC	Libode	0.08	0.60	**0.131**	17
EC	Lusikisiki	0.07	0.62	**0.156**	7
EC	Maluti	0.15	0.68	**0.147**	10
EC	Mbizana	0.08	0.58	**0.157**	6
EC	Mt Fletcher	0.12	0.52	**0.149**	9
EC	Mt Frere	0.18	0.60	**0.116**	27
EC	Mthatha	0.08	0.74	**0.162**	4
EC	Ngcobo	0.10	0.59	**0.140**	12
EC	Port Elizabeth	0.42	0.81	**0.088**	43
EC	Queenstown	0.39	0.69	**0.061**	76

Province	Education District	Lowest Poverty Index (0 = most poor)	Highest Poverty Index (1= least poor)	Standard Deviation of Poverty Index highest 10 highlighted	Deviation Rank (1 = most within-district variation)
EC	Qumbu	0.15	0.56	**0.110**	29
EC	Sterkspruit	0.35	0.64	**0.057**	80
EC	Uitenhage	0.42	0.80	**0.074**	62
FS	Fezile Dabi	0.36	0.79	**0.082**	51
FS	Lejweleputswa	0.44	0.72	**0.061**	78
FS	Motheo	0.48	0.80	**0.078**	58
FS	Thabo Mofutsanyana	0.33	0.73	**0.068**	68
FS	Xhariep	0.48	0.59	**0.033**	86
GT	Ekurhuleni North	0.40	0.84	**0.120**	26
GT	Ekurhuleni South	0.32	0.81	**0.105**	32
GT	Gauteng East	0.40	0.70	**0.074**	61
GT	Gauteng North	0.52	0.88	**0.121**	24
GT	Gauteng West	0.22	1.00	**0.133**	16
GT	Johannesburg Central	0.51	0.79	**0.062**	75
GT	Johannesburg East	0.54	0.98	**0.134**	14
GT	Johannesburg North	0.41	0.92	**0.128**	19
GT	Johannesburg South	0.36	0.83	**0.093**	39
GT	Johannesburg West	0.42	0.87	**0.103**	34
GT	Sedibeng East	0.32	0.81	**0.099**	36
GT	Sedibeng West	0.43	0.79	**0.067**	70
GT	Tshwane North	0.54	0.81	**0.087**	47
GT	Tshwane South	0.45	0.88	**0.130**	18
GT	Tshwane West	0.44	0.77	**0.078**	57
KZ	Amajuba	0.17	0.76	**0.109**	30
KZ	Ilembe	0.09	0.82	**0.169**	2
KZ	Pinetown	0.47	0.86	**0.073**	63
KZ	Sisonke	0.15	0.68	**0.128**	20
KZ	Ugu	0.12	0.74	**0.150**	8
KZ	Umgungundlovu	0.13	0.84	**0.120**	25
KZ	Umkhanyakude	0.06	0.68	**0.142**	11
KZ	Umlazi	0.49	0.80	**0.072**	66
KZ	Umzinyathi	0.04	0.67	**0.160**	5
KZ	Uthukela	0.14	0.74	**0.127**	22
KZ	Uthungulu	0.09	0.78	**0.166**	3
KZ	Zululand	0.16	0.73	**0.133**	15
LP	Lebowakgomo	0.45	0.67	**0.061**	79
LP	Mogalakwena	0.39	0.72	**0.064**	74
LP	Mopani	0.37	0.75	**0.066**	72
LP	Polokwane	0.40	0.84	**0.079**	55
LP	Riba Cross	0.26	0.58	**0.086**	49
LP	Sekhukhune	0.40	0.73	**0.047**	83
LP	Tshipise Sagole	0.31	0.65	**0.072**	65
LP	Tzaneen	0.42	0.70	**0.071**	67
LP	Vhembe	0.37	0.65	**0.050**	82
LP	Waterberg	0.27	0.75	**0.092**	40
MP	Bohlabela	0.44	0.62	**0.035**	85
MP	Ehlanzeni	0.37	0.80	**0.087**	48
MP	Gert Sibande	0.19	0.84	**0.121**	23
MP	Nkangala	0.33	0.82	**0.087**	46
NC	Frances Baard	0.31	0.80	**0.112**	28
NC	John Taolo Gaetsewe	0.36	0.76	**0.097**	38
NC	Namakwa	0.28	0.73	**0.089**	42
NC	Pixley ka Seme	0.37	0.71	**0.065**	73
NC	Siyanda	0.32	0.72	**0.085**	50
NW	Bojanala	0.21	0.79	**0.072**	64
NW	Dr Kenneth Kaunda	0.33	0.83	**0.109**	31
NW	Dr Ruth Segomotsi Mompati	0.26	0.68	**0.082**	52
NW	Ngaka Modiri Molema	0.20	0.73	**0.103**	33
WC	Cape Winelands	0.35	0.85	**0.080**	54
WC	Eden and Central Karoo	0.45	0.80	**0.076**	59
WC	Metro Central	0.59	0.88	**0.088**	44
WC	Metro East	0.46	0.83	**0.088**	45
WC	Metro North	0.51	0.88	**0.097**	37
WC	Metro South	0.50	0.88	**0.081**	53
WC	Overberg	0.42	0.81	**0.079**	56
WC	West Coast	0.49	0.74	**0.055**	81

Table 42: Within-district variations in terms of ward based poverty profile

8.3 Composite services index variation within education districts

The Composite Services Index (CSI) presented in Section 5.3 provides a measure of the services available in education districts. The services that were used to construct the CSI were (1) type of toilet, (2) water source, (3) refuse disposal method, and (4) the type of energy used for cooking. The CSI was calculated at education district level and, hence, masked differences in service provision inside the districts. In this section, the variation of the CSI *within* districts is explored.

Using Census 2011 data, Composite Services Indices were calculated for each ward in South Africa. These were aggregated to education district level and the results are presented in the table below.

Province	Education District	Wards	Minimum CSI	Maximum CSI	Average CSI	Std Deviation of CSI
EC	Butterworth	31	0.13	0.99	0.38	**0.23**
EC	Cofimvaba	27	0.14	0.56	0.32	**0.11**
EC	Cradock	14	0.59	0.99	0.83	**0.16**
EC	Dutywa	30	0.05	0.67	0.25	**0.14**
EC	East London	45	0.39	0.99	0.78	**0.17**
EC	Fort Beaufort	25	0.37	0.91	0.63	**0.18**
EC	Graaff-Reinet	21	0.66	0.98	0.86	**0.11**
EC	Grahamstown	24	0.68	0.99	0.85	**0.10**
EC	King Williams Town	45	0.18	0.97	0.58	**0.19**
EC	Lady Frere	16	0.23	0.69	0.44	**0.14**
EC	Libode	52	0.05	0.60	0.27	**0.14**
EC	Lusikisiki	50	0.06	0.69	0.23	**0.12**
EC	Maluti	26	0.14	0.97	0.38	**0.19**
EC	Mbizana	31	0.03	0.56	0.24	**0.11**
EC	Mt Fletcher	17	0.18	0.88	0.37	**0.19**
EC	Mt Frere	26	0.11	0.70	0.33	**0.14**
EC	Mthatha	35	0.13	0.97	0.47	**0.27**
EC	Ngcobo	25	0.13	0.76	0.37	**0.17**
EC	Port Elizabeth	50	0.67	0.99	0.92	**0.09**
EC	Queenstown	31	0.40	0.96	0.80	**0.19**
EC	Qumbu	25	0.10	0.54	0.34	**0.10**
EC	Sterkspruit	30	0.35	0.95	0.63	**0.21**
EC	Uitenhage	39	0.54	0.99	0.86	**0.12**
FS	Fezile Dabi	75	0.49	1.00	0.90	**0.12**
FS	Lejweleputswa	70	0.46	0.99	0.87	**0.13**
FS	Motheo	62	0.49	1.00	0.88	**0.11**
FS	Thabo Mofutsanyana	90	0.28	0.98	0.73	**0.18**
FS	Xhariep	20	0.69	0.97	0.85	**0.08**
GT	Ekurhuleni North	34	0.60	0.99	0.91	**0.12**
GT	Ekurhuleni South	39	0.46	0.99	0.91	**0.12**
GT	Gauteng East	29	0.64	0.99	0.88	**0.11**
GT	Gauteng North	13	0.61	0.98	0.81	**0.11**
GT	Gauteng West	99	0.33	1.00	0.87	**0.17**
GT	Johannesburg Central	26	0.76	1.00	0.96	**0.06**
GT	Johannesburg East	34	0.83	0.99	0.96	**0.04**
GT	Johannesburg North	25	0.77	0.99	0.95	**0.07**
GT	Johannesburg South	20	0.75	0.99	0.92	**0.07**
GT	Johannesburg West	25	0.73	0.99	0.95	**0.06**
GT	Sedibeng East	35	0.59	1.00	0.90	**0.11**
GT	Sedibeng West	35	0.55	1.00	0.94	**0.08**
GT	Tshwane North	20	0.44	0.99	0.85	**0.17**
GT	Tshwane South	47	0.47	0.99	0.91	**0.14**
GT	Tshwane West	26	0.47	0.99	0.85	**0.16**
KZ	Amajuba	46	0.15	1.00	0.69	**0.28**
KZ	Ilembe	74	0.09	0.99	0.51	**0.28**
KZ	Pinetown	52	0.43	0.99	0.84	**0.13**
KZ	Sisonke	55	0.16	0.97	0.42	**0.23**
KZ	Ugu	84	0.08	0.99	0.48	**0.24**
KZ	Umgungundlovu	84	0.14	1.00	0.66	**0.21**
KZ	Umkhanyakude	68	0.05	0.95	0.35	**0.17**
KZ	Umlazi	51	0.41	0.99	0.86	**0.12**
KZ	Umzinyathi	53	0.15	0.96	0.42	**0.21**
KZ	Uthukela	73	0.19	0.99	0.55	**0.24**
KZ	Uthungulu	99	0.09	0.99	0.48	**0.26**
KZ	Zululand	89	0.12	0.99	0.45	**0.24**
LP	Lebowakgomo	32	0.25	1.00	0.46	**0.21**
LP	Mogalakwena	37	0.26	0.99	0.49	**0.22**

Province	Education District	Wards	Minimum CSI	Maximum CSI	Average CSI	Std Deviation of CSI
LP	Mopani	102	0.12	0.99	0.42	**0.21**
LP	Polokwane	86	0.20	0.99	0.50	**0.21**
LP	Riba Cross	29	0.15	0.56	0.35	**0.10**
LP	Sekhukhune	91	0.15	0.96	0.37	**0.14**
LP	Tshipise Sagole	26	0.19	0.98	0.47	**0.25**
LP	Tzaneen	26	0.15	0.99	0.41	**0.21**
LP	Vhembe	69	0.23	0.80	0.40	**0.12**
LP	Waterberg	45	0.07	0.99	0.75	**0.21**
MP	Bohlabela	45	0.23	0.97	0.46	**0.18**
MP	Ehlanzeni	87	0.29	0.99	0.58	**0.19**
MP	Gert Sibande	127	0.18	1.00	0.72	**0.24**
MP	Nkangala	143	0.31	0.99	0.69	**0.21**
NC	Frances Baard	52	0.39	1.00	0.86	**0.14**
NC	John Taolo Gaetsewe	33	0.38	0.99	0.61	**0.19**
NC	Namakwa	30	0.53	0.99	0.88	**0.10**
NC	Pixley ka Seme	38	0.45	0.98	0.84	**0.12**
NC	Siyanda	41	0.43	1.00	0.81	**0.15**
NW	Bojanala	128	0.02	0.99	0.64	**0.19**
NW	Dr Kenneth Kaunda	85	0.43	0.99	0.86	**0.15**
NW	Dr Ruth Segomotsi Mompati	82	0.30	0.98	0.61	**0.18**
NW	Ngaka Modiri Molema	88	0.30	0.99	0.62	**0.21**
WC	Cape Winelands	98	0.61	1.00	0.91	**0.09**
WC	Eden and Central Karoo	96	0.62	1.00	0.90	**0.09**
WC	Metro Central	24	0.79	0.99	0.96	**0.05**
WC	Metro East	29	0.67	0.99	0.93	**0.08**
WC	Metro North	31	0.84	1.00	0.96	**0.04**
WC	Metro South	27	0.77	0.99	0.96	**0.05**
WC	Overberg	36	0.69	1.00	0.89	**0.08**
WC	West Coast	46	0.59	1.00	0.89	**0.11**

Table 43: Composite Services Index statistics for education districts, based on ward-level data reported in Census 2011. The 10 districts with the highest variation in services are shown in red

The variation of the Composite Services Index within districts is expressed as the standard deviation of the CSIs of the wards inside each district. When analysing the standard deviations it is illuminating to examine the distribution of standard deviation values versus the average CSI values for each district. This distribution is shown in the figure below where a 2nd order polynomial curve has been fitted to illustrate the trend. From this trend it can be seen that education districts with either low or high CSI values have a relatively small variation in CSI within the district, while districts with average CSI values (in the 0.4 to 0.8 range) tend to have more variation. This implies that education districts with mid-level average CSI values have large differences in ward-level service provision, districts with low average CSI values tend to have poorly-resourced wards throughout the district, while districts with high average CSI values comprise mostly well-resourced wards.

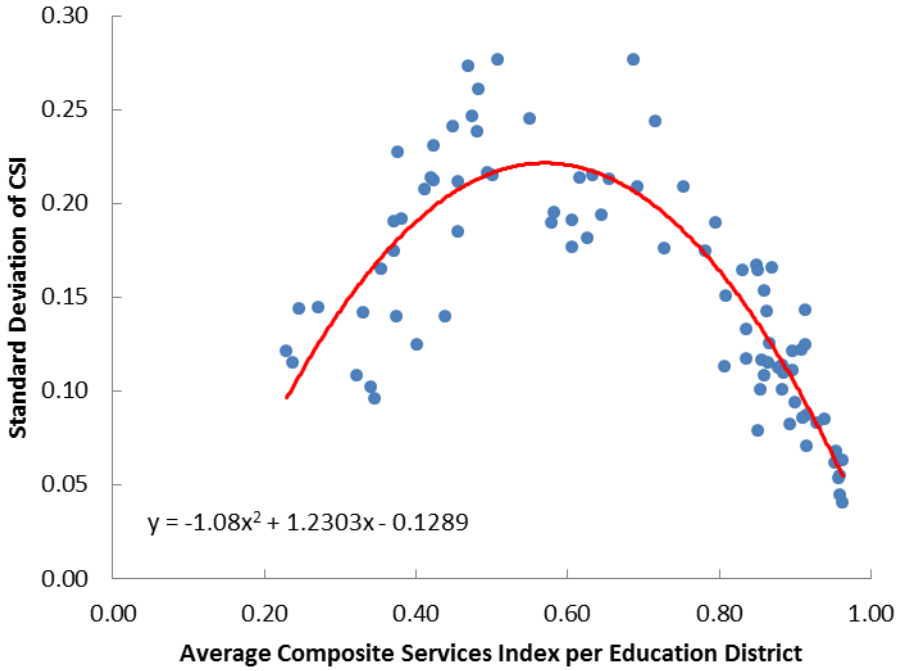


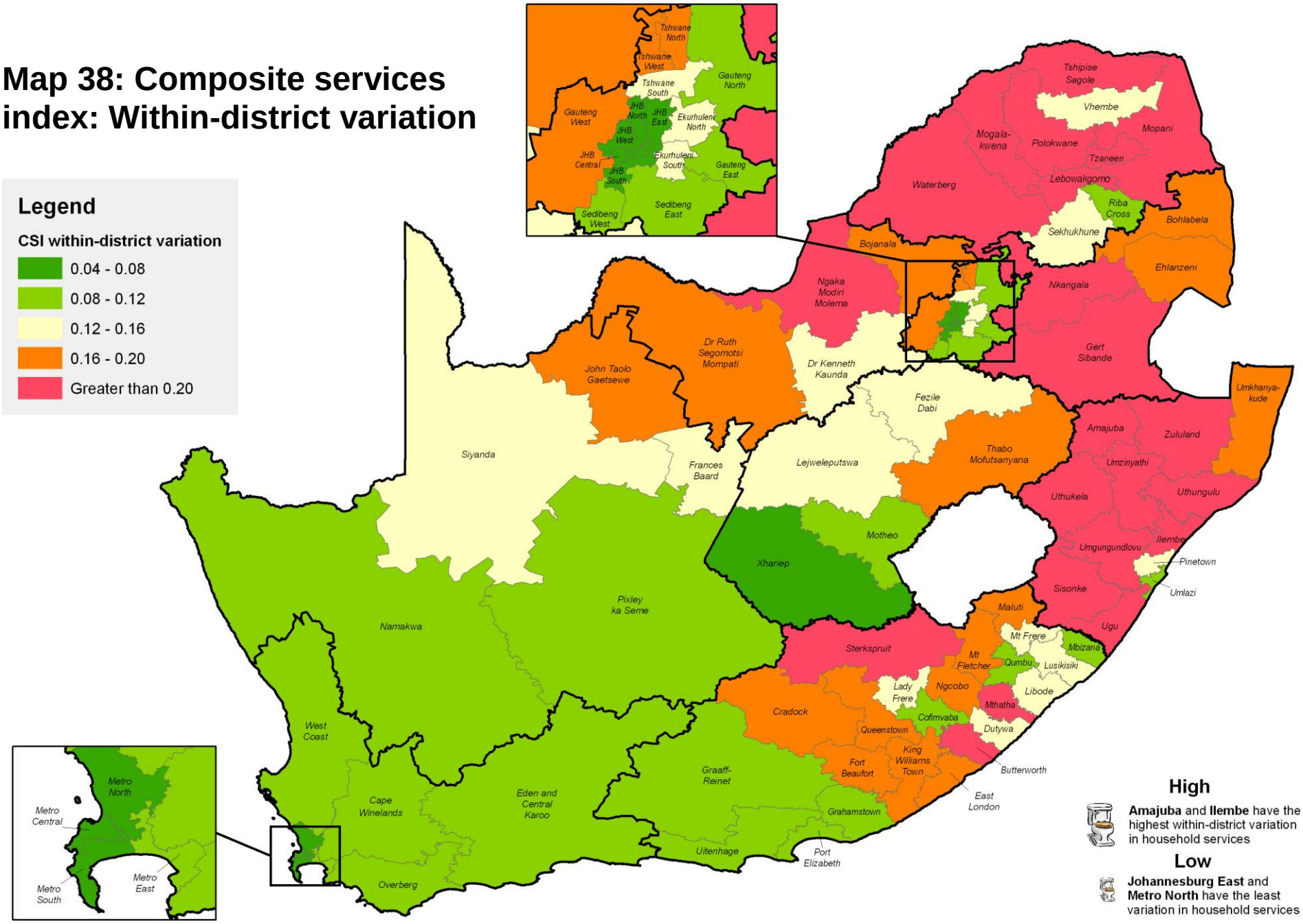
Figure 22: Average Composite Services Index versus Standard Deviation for education districts, based on ward-level data reported in Census 2011. A 2nd order polynomial curve has been fitted to the data

The districts with the highest variation in CSI are to be found in the KwaZulu-Natal and Limpopo provinces, as well as in parts of Mpumalanga,

North West and the Eastern Cape. These are areas where large discrepancies exist in service provision amongst different wards. Some wards have good access to services while other wards have very poor access to these services. Seven of the 10 districts with the highest service provision variation are in KwaZulu-Natal, showing that in this province, in particular, there are many poorly- and well-serviced wards in close proximity to one another within districts.

By contrast, there is very little overall variation in the CSI in most districts in Gauteng and the Western Cape. These are districts where access to services is very high and fairly consistent across the different wards. Districts where both the average CSI and the variation in CSI are low tend to be concentrated in the former Transkei areas of the Eastern Cape. In these areas (e.g. Lusikisiki, Mbizana, Dutywa) service provision is poor, and consistently so, across all the wards.

Map 38: Composite services index: Within-district variation



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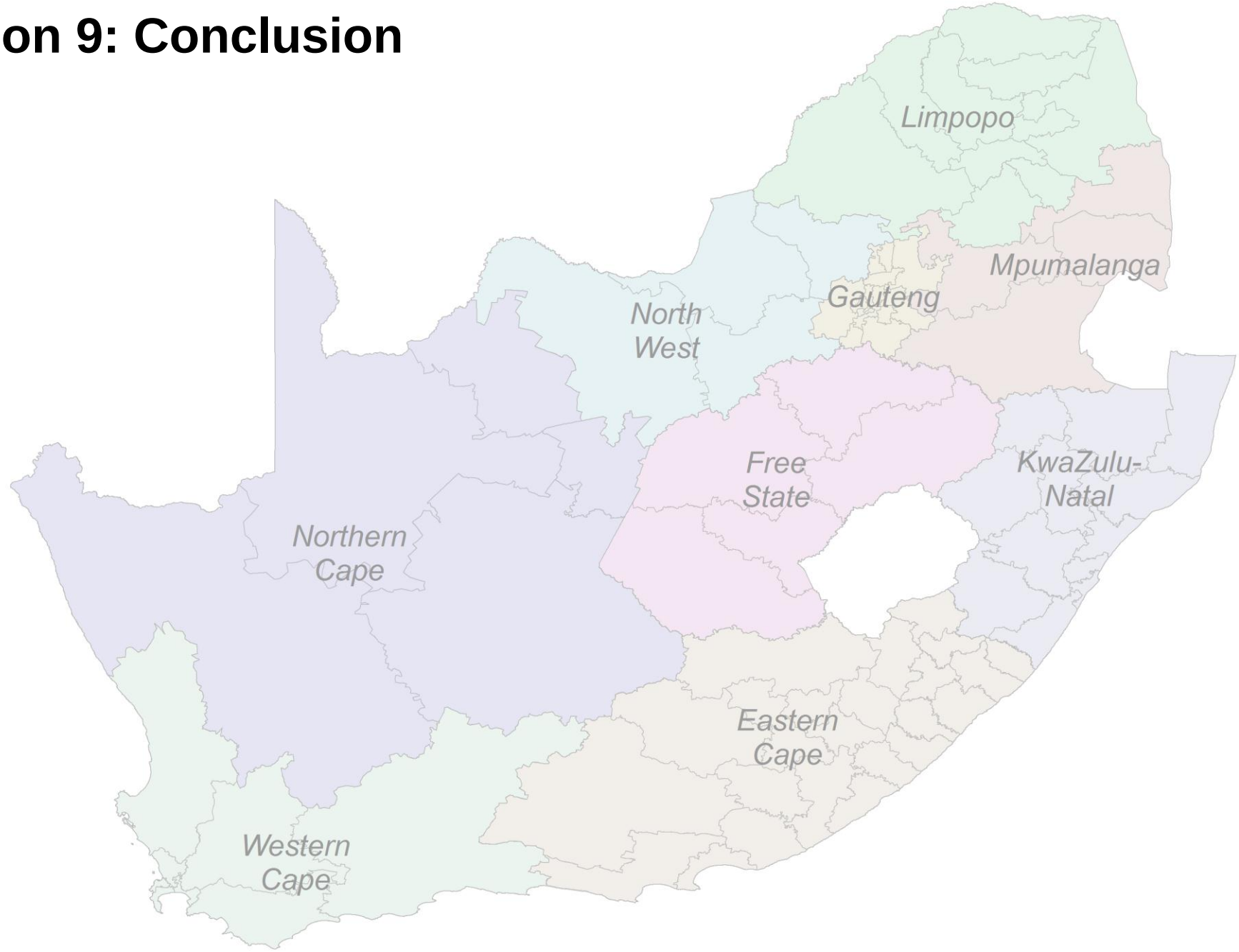

9.1 Concluding Comments

A wide range of education-related indicators have been commented on in this review. Data from the National Department of Basic Education (DBE), Statistics South Africa, the Demarcation Board and other key sources have been combined in a way that we hope will lend new insight into the dynamics of education in South Africa. We are grateful to the staff of the Chief Directorate: Strategic Planning, Research and Coordination at DBE for the wide range of data they have made available and for assistance they have provided.

The main unit of analysis has been the 86 education districts that exist in South Africa but provincial and within-district trends have also been highlighted. Many complex patterns have emerged. Some are strongly linked to the spatial distribution of poverty and disadvantage in the country. Others are linked to the effects of HIV, rural-urban migration trends, local language distribution and district effectiveness. Key patterns in each case have been illustrated with maps, figures and data tables. The Executive Summary highlights eleven key recommendations arising from the analysis. There is also an extensive discussion of the implications of the report which places it firmly in a policy context. We hope that decision-makers at all levels in the Department will interrogate the data critically and discuss its findings.

The new *Policy on the Organisation, Roles and Responsibilities of Education Districts* places great emphasis on the importance of education districts in improving the quality of education in South Africa. It is encouraging to note that their significance has been highlighted. To fulfil their intended role, there needs to be a frank acknowledgement of the challenges they face and a real effort to enhance the level of support provided to schools. We hope that this report will assist in making these challenges clear and will provide a benchmark against which district improvement can be measured.

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