CHAPTER 12

The Effectiveness of Transfers to Local Municipalities for Rural Development

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12.1 Introduction

The Constitution entrenches the developmental role of local government, which is further underscored in the National Development Plan (NDP). Section 152 of the Constitution mandates municipalities, among other things:

a. to provide democratic and accountable government for local communities;
b. to ensure the provision of services to communities in a sustainable manner;
c. to promote social and economic development;
d. to promote a safe and healthy environment; and
e. to encourage the involvement of communities and community organisations in the matters of local government.

According to Section 153 of the Constitution, each municipality is expected to:

a. structure and manage its administration, and budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community; and
b. participate in national and provincial development programmes.

In the NDP, rural local government in particular has a pivotal role to play in reducing poverty and inequalities through providing basic services and infrastructure. The Constitution provides for a Local Government Fiscal Framework (LGFF) that includes own revenue, borrowing and intergovernmental transfers as revenue instruments.

Ideally, increased resources to municipalities translate into improved delivery of basic services and thus development. However, this has not been the case, especially within rural municipalities that have difficulties in executing their constitutional obligations. Difficulties include limited revenue capacities, poor audit results and maladministration, under-spending on capital budgets, service delivery protests and backlogs in virtually all basic services. In addition, rural municipalities are failing to service their debt (to Eskom for bulk electricity and to water services boards for water services) and have been unable to attract and retain skilled managers, professionals, and technicians (COGTA, 2009). Given the persistence of these challenges, this chapter looks at how intergovernmental transfers can enable rural municipalities to drive rural development more efficiently and effectively.

The main aim of this study is to examine the effectiveness and efficient use of intergovernmental transfers in rural municipalities. To be specific, the study seeks:

- To assess the efficient use of local government equitable share (LGES) allocations and conditional grants in rural local municipalities
- To evaluate the effectiveness of intergovernmental transfers in rural municipalities
- To identify strategies through which the impact and utilisation of these grants can be improved.

The two main research questions that form the basis of this study are:

- Is the use of LGES (as block grant) optimal, and if not, should the emphasis shift to conditional grants?
- Where conditional grants are not sufficiently absorbed, should the emphasis shift to indirect grants?

12.2 Rural Municipalities within the Local Government Structure

12.2.1 Municipal structure

The Constitution of South Africa provides for three types of municipalities: Category A (have exclusive municipal executive and legislative powers in their jurisdictions); Category B (share executive and legislative authority in an area with a Category C under which they fall), and Category C (have executive and legislative authorities in an area that includes more than one municipality). As the Constitution does not distinguish between municipalities in urban and rural areas, the Department of Cooperative Governance has developed a methodology to classify municipalities (National Treasury, 2011: 192). This classification groups municipalities into seven categories using variables such as poverty levels and access to basic services, among others (Table 68).

Table 68. Municipal categories in South Africa

Class	Characteristics	Number
Metros	Category A municipalities	8
Secondary cities (B1)	All local municipalities referred to as secondary cities	19
Large towns (B2)	All local municipalities with an urban core. These municipalities have large urban dwelling populations, but the size of their populations vary hugely.	26
Small towns (B3)	Municipalities without a large town as a core urban settlement. Typically they have relatively small populations, of which a significant proportion is urban and based in one or several towns. Rural areas in this category are characterised by the presence of commercial farms because these local economies are largely agriculture-based. The existence of such important rural areas and agriculture sector explains why they are included the analysis of rural municipalities.	113
Mostly rural (B4)	Municipalities that contain no more than one or two small towns and are characterised by communal land tenure and villages or scattered groups of dwellings, and are typically located in former homelands.	68
Districts (C1 and non-rural)	District municipalities that are not water services providers.	9
Districts (rural C2 and some C1)	District municipalities that are water services providers.	35

Source: Author's compilation

In the Rural Development Framework of 1997 (DLA, 1997), rural areas are defined as the sparsely populated areas in which people farm or depend on natural resources, including the villages and small towns that are dispersed through these areas. These areas include large settlements in the former homelands, which depend on migratory labour and remittances as well as government social grants for their survival, and typically have traditional land tenure systems. Based on the characteristics indicated in Table 68, B3 and B4 are classified as rural municipalities.

12.2.2 Powers and functions

According to Section 156 of South Africa's Constitution, the local government sphere has executive authority, and the right to administer the provision, of social and basic services[48]. As provided for in the Municipal Structures Act (2009), these functions are divided between the three types of municipalities. Depending on the capacity to provide a particular service, Category B municipalities share the four major services[49] with category C (district) municipalities. Metropolitan municipalities on the other hand are responsible for all the services. In the case of rural local municipalities, the four basic services are shared between local and districts municipalities.

12.3 Intergovernmental Transfers and Expenditure in Rural Municipalities

12.3.1 Intergovernmental transfers

Compared to other types of municipalities, rural municipalities receive a larger share of their revenue from government transfers. Between 2008/09 and 2010/11, transfers accounted for more than 40% and more than 60% of the total revenue for B3 and B4 municipalities respectively.

Local governments receive two types of transfers: conditional grants and unconditional grants. Conditional grants are earmarked for specific types of expenditures and must be spent in accordance with prescribed processes. Unconditional grants have no such conditions attached but must be spent according to existing public expenditure standards and requirements (National Treasury, 2008). The primary unconditional grant is the local government equitable share (LGES), which is a constitutional entitlement to municipalities, as their share of national revenue. The LGES is transferred through an equitable formula that is designed to allocate funds according to expenditure needs. The formula comprises five components: the basic services component, institutional component, community services component, the revenue adjustment factor, and

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[48] Some of these services are concurrent, as local government shares with provincial and national government the responsibility of making policy, legislating, administrating and monitoring the performance of these functions.

[49] Water, electricity, refuse removal and sanitation.

the correction and stabilisation factor. Conditional grants can be direct or indirect. Direct grants are transferred directly to municipalities in the form of cash, while indirect grants are transferred in the form of assets or support services.

Conditional grants are used to finance capital projects, while unconditional grants are used for operational spending. Total allocations to local government have been increasing over the years, from R18.2-billion in 2006/7 to R101.3-billion in 2015/16 and are projected to increase to R128.4-billion in 2018/19. During this period, the unconditional portion of the total allocations has been higher than the conditional component. The share of local government allocations to the total nationally raised revenue has also increased, from 6.3% in 2006/7 to 9.0% in 2015/16, and is projected to reach 9.4% in 2018/19 (Table 69).

Table 69. Conditional and unconditional allocations to municipalities (2006/07–2018/19)

Financial year	Uncon-ditional allocations (R-billions)	Conditional allocations (R-billions)	General fuel levy sharing with metropol-itan (R-billions)	Total local government allocations (R-billions)	Local govern-ment's share of nationally raised revenue
2006/7	9.6	8.6	-	18.2	6.3%
2007/8	18.1	9.9	-	28.0	7.6%
2008/9	20.7	18.2	-	38.9	7.6%
2009/10	25.6	20.0	-	45.5	7.5%
2010/11	24.4	21.4	6.8	52.6	8.2%
2011/12	30.5	22.8	7.5	60.9	8.4%
2012/13	33.2	26.5	9.0	68.7	8.7%
2013/14	37.1	30.3	9.6	77.0	8.8%
2014/15	40.6	34.3	10.2	85.0	8.6%
2015/16	51.7	38.9	10.7	101.3	9.0%
2016/17	52.9	42.9	11.2	107.0	9.2%
2017/18	57.5	46.0	11.8	115.3	9.1%
2018/19	62.7	53.2	12.5	128.4	9.4%

Source; National Treasury (2013; 2014; 2015)

Between 2005/06 and 2012/13, rural municipalities[50] received 35% of the total unconditional allocations to local government. The new LGES formula, which came into effect in 2013/14, channels more funds to rural municipalities. Rural municipalities are currently receiving 36% of the unconditional grants allocated to municipalities. Figure 102 presents the adjustments from the old formula to the new formula.

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[50] Small towns and mostly rural municipalities

Figure 102. Implications of the new LGES formula on rural municipalities

Source; SALGA, Author & National Treasury, 2012

As indicated earlier, municipalities receive both conditional and unconditional grants. Over the past five years, the amount and number of conditional allocations to rural municipalities have increased (Table 70).

Table 70. Conditional allocations to municipalities (2008/09–2015/16)

	Allocated amount to rural municipalities				
Grants to Municipalities	2008-9	2009-10	2010-11	2011-12	2012-13
Equitable share and related	5 686 146	12 098 762	14 669 333	16 363 239	11 415 253
Equitable Share	5 616 053	7 434 153	9 165 183	10 331 555	11 365 010
Water Services Operating and Transfer Subsidy Grant (Augmentation to the Water Trading Account)		20.0	-	45.5	7.5%
70 093		21.4	6.8	52.6	8.2%
224 093		22.8	7.5	60.9	8.4%
151 958		26.5	9.0	68.7	8.7%
80 976		30.3	9.6	77.0	8.8%
50 243	40.6	34.3	10.2	85.0	8.6%
Infrastructure	3 649 860	5 331 584	6 244 496	7 955 952	8 864 073
Direct transfers			1 662 650	1 999 677	
Municipal Infrastructure Grant	2 355 497	3 239 286	1 934 450	2 326 573	5 260 324
Building for Sports and Recreation Programme Grant	-	-	232 471	245 803	-
National Electrification Programme (Municipal) Grant	149 527	487 207	387 837	453 400	722 953
Public Transport Infrastructure and Systems Grant	-	-	73 000	81 076	-
Neighbourhood Development Partnership Grant	31 500	100 598	154 500	196 092	279 692
2010 FIFA World Cup Stadiums Development Grant	-	-	48 600	-	-
Municipal Drought Relied funds (DWAF)	5 000	-	-	-	-
Disaster funds: dplg	-	-	-	470 000	-
Rural Transport Services and Infrastructure Grant	-	-	18 000	72 000	11 655
Electricity Demand Side Management (Municipal) Grant	-	12 000	-	-	-
Implementation of Water Services Projects (Capital)	-	-	-	-	-
Indirect transfers			168	-	-
Water Services Operating Subsidy Grant		42 065	32 247	-	270 870
Community Based Public Works Programme Grant (indirect grant)	-	-	193 400	176 601	164 800
Integrated National Electrification Programme (Eskom) Grant	888 054	1 096 238	1 248 834	1 287 229	1 156 541
Regional Bulk Infrastructure Grant	88 600	160 087	84 000	253 440	321 207
Backlogs in Water and Sanitation at Clinics and Schools Grant	11 752	16 793	-	-	5 371
Backlogs in the Electrification of Clinics and Schools Grant	87 600	148 950	10 690	8 050	-
Neighbourhood Development Partnership Grant (Technical assistance)	32 330	28 360	76 650	29 610	149 660
Electricity Demand Side Management (Eskom) Grant	-	-	-	54 400	-
Rural Households Infrastructure Grant (Schedule 7)	-	-	87 000	302 000	521 000
Capacity building	256 860	363 261	478 802	1 511 180	1 578 000
Direct transfers			86 550	91 300	
Municipal Systems Improvement Programme Grant	134 110	132 980	54 250	57 830	148 100
Local Government Restructuring Grant	-	-	160 700	154 350	161 250
Local Government Financial Management Grant	122 750	213 490	93 700	99 700	105 250
Expanded Pubic Works Programme Incentive Grant for Municipalities	-	16 791	83 602	1 108 000	1 163 400
Total conditional transfers	15 626 880	22 779 379	26 893 190	37 868 527	41 768 292

Source: National Treasury (2013)

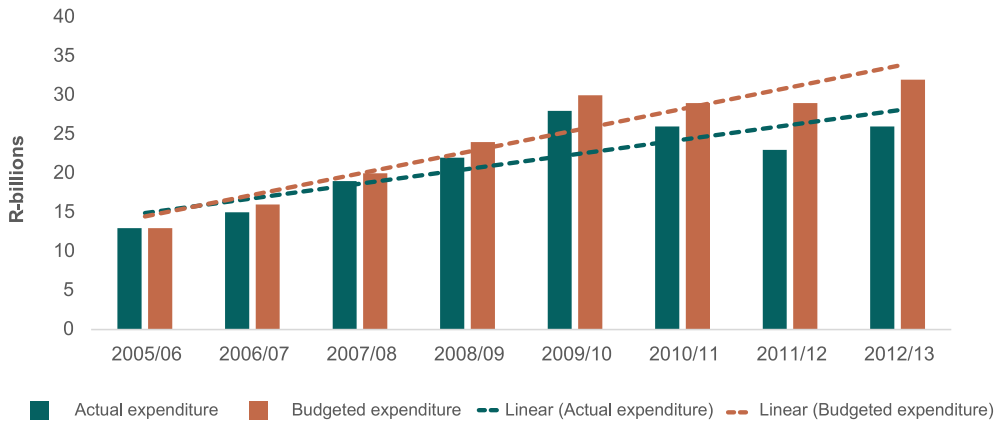
Between 2008/09 and 2012/13, the total amount of conditional allocations to municipalities increased from R15.6-billion to R41.7-billion, with grants for infrastructure accounting for a larger share.

12.3.2 Expenditure performance of rural municipalities

Rural municipalities are known for their lack of capacity to use funds allocated to them, which manifests in the under-spending of especially conditional grants.

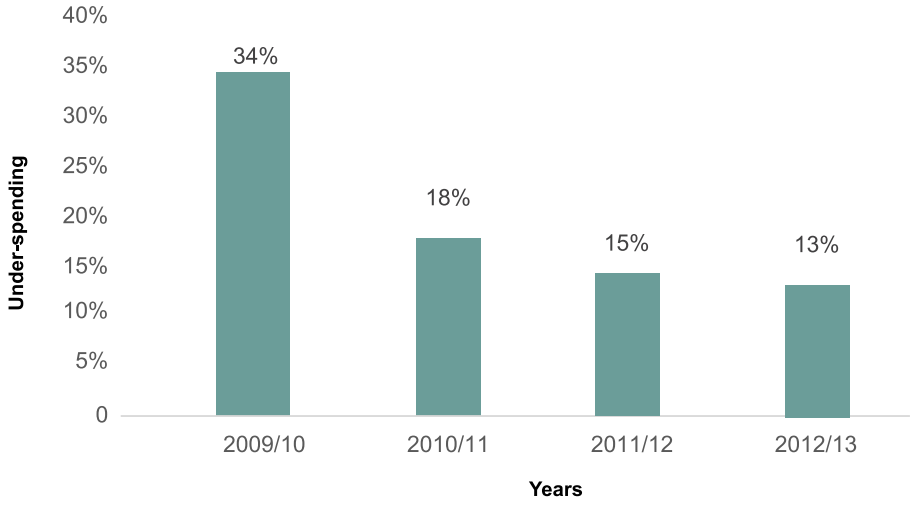
As Figure 103 shows, between 2005/06 and 2012/13, rural municipalities spent less than their budgeted amounts, especially since 2009/10. Municipal spending consists of operating expenditure and capital expenditure. Operating expenditure refers to the day-to-day costs for municipal operations and service delivery, and includes employee-related costs, and the repairs and maintenance of existing infrastructure. Capital expenditure includes spending on large municipal social and economic infrastructure projects, such as electricity connections, and water and sanitation infrastructure. In rural municipalities, capital budgets account for a larger portion of the under-spending (National Treasury, 2012). Capital projects in rural municipalities are largely financed through conditional grants, and so significant under-spending on capital budgets implies the low absorption of conditional grants. Figure 104 shows the magnitude of under-spending on conditional grants in rural municipalities.

Figure 103. Actual vs. budgeted expenditure in rural local municipalities (2005/06–2012/13)



Source; National Treasury (2012)

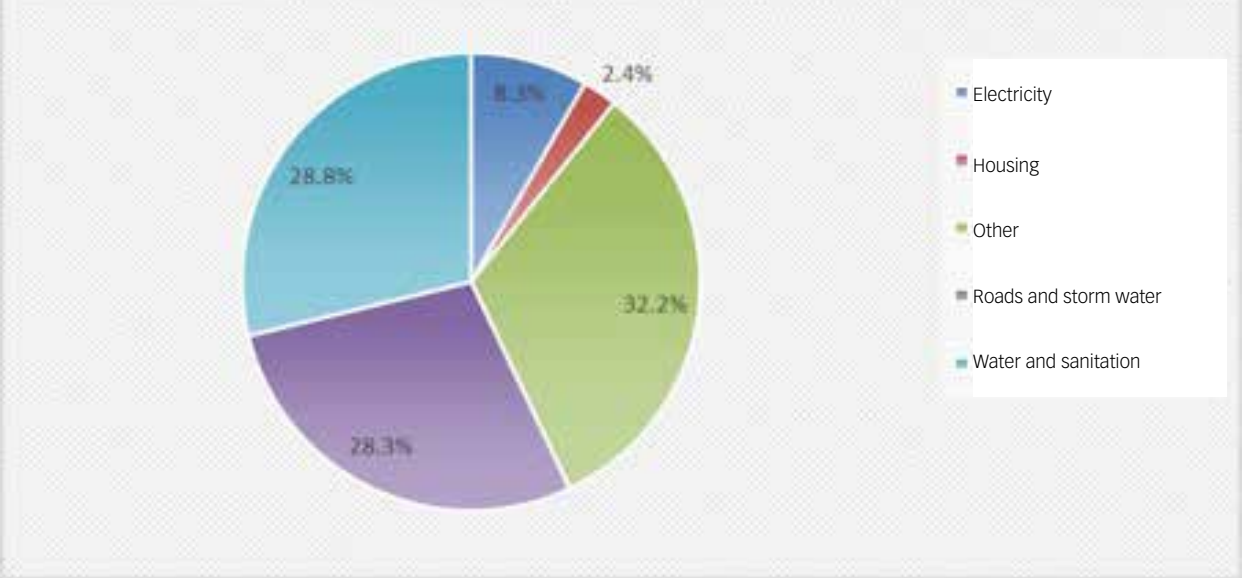
Figure 104. Under-spending on capital grants in rural municipalities (2008/09–2012/13)



Source: National Treasury (2012)

A worrying trend is the under-spending of capital budgets, given the infrastructure backlogs of about 30%. Although it has improved from 34% in 2009/10, under-spending in 2012/13 still amounted to 13%, which is significant for poor communities. Figure 105 shows capital spending by service for rural municipalities over the period 2005/6–2012/13.

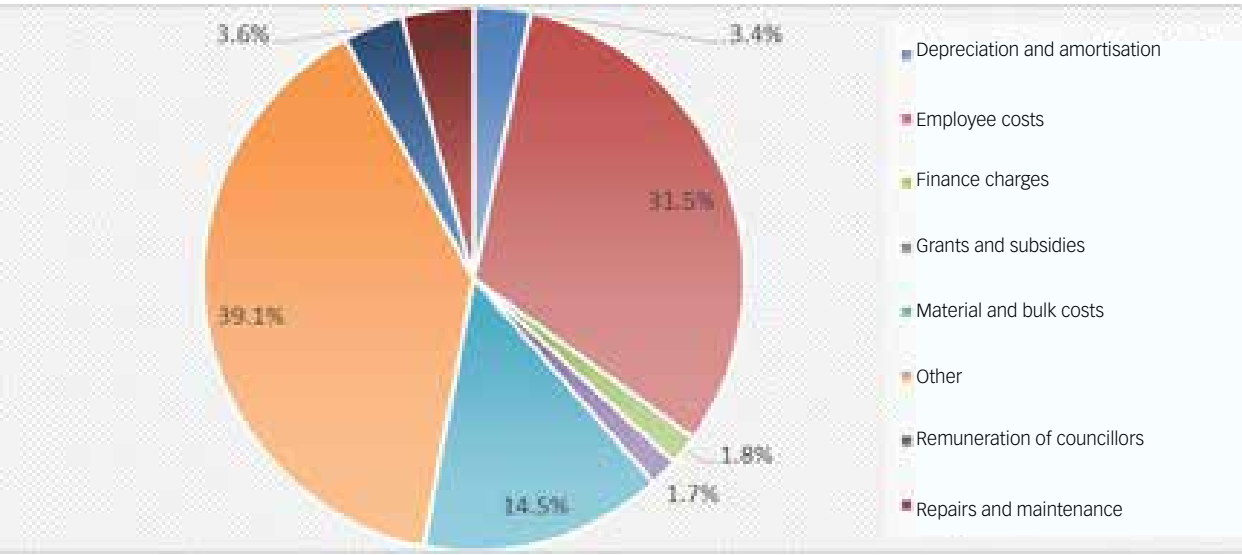
Figure 105. Capital spending in rural municipalities by service (2005/6–2012/13)



Source; National Treasury (2012)

Over the seven-year period, most capital expenditure was on "other" (32%), water and sanitation (28.8%), and roads and storm water (28.3%). The rural municipalities spent relatively little on electricity (8.2%), regardless of the increasing need for electricity infrastructure signified by the significant backlogs (more than 30%) in rural municipalities. Figure 106 shows operational spending in rural municipalities.

Figure 106. Operational spending in rural municipalities by expenditure item (2005/6–2011/12)

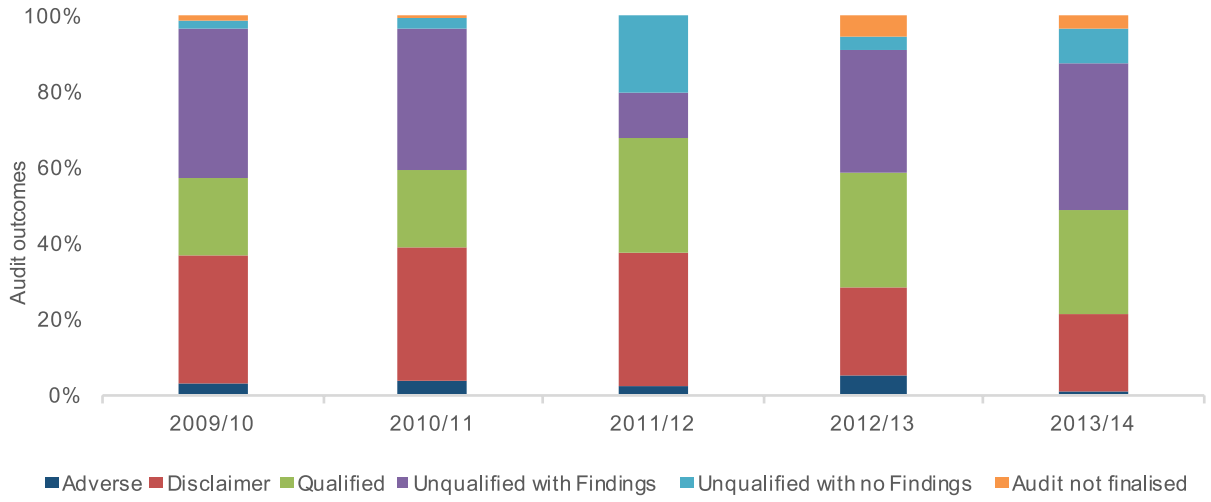


Source; National Treasury (2012)

Almost two-fifths (39.1%) of municipal operational spending is on "other", which is not disaggregated. However, the most notable issue is the employee-related costs. Although the National Treasury norm for salaries is between 25% and 40%, spending 31.5% of the operational budget on salaries is still a cause for concern, as items such as repairs and maintenance are not being prioritised, despite their importance for sustainable social and economic infrastructure. Rural municipalities spend only 4.3% of their operational budgets on repairs and maintenance, which is far below the national norm of 8%–10%.

Audit outcomes are another important indicator, as they measure the overall performance of municipalities in terms of operating and capital expenditure, unauthorised, irregular and fruitless expenditure, supply chain compliance and governance deficits, among other things. Figure 107 shows the audit outcomes for rural municipalities.

Figure 107. Audit findings for rural municipalities (2009/10–2013/14)



Source: AGSA (2009/10–2013/14)

Although audit outcomes have improved slightly, with unqualified audits increasing from 39% to 39.9% between 2009/10 and 2013/14, the majority of rural municipalities continue to receive poor audit results. In 2013/14, nearly half (49%) received adverse, disclaimer and qualified opinions. The Auditor-General (AGSA, 2013) attributes the persistence of poor audit results to the high levels of unauthorised, irregular, fruitless and wasteful expenditure. These findings confirm that rural municipalities are not using resources effectively and efficiently.

12.4 Review of Literature

This section presents a review of the literature on the effectiveness of intergovernmental transfers and spending efficiency in rural municipalities.

Numerous studies have looked at different types of efficiency at different levels of government, using parametric and non-parametric approaches. Findings reveal that a municipality's spending efficiency depends on a number of factors, and the size of a municipality is one of the key determinants. Table 71 summarises a few studies on this subject.

Table 71. Summary of empirical studies on spending efficiency in local government

Author	Description and findings
Afonso and Fernandes (2003)	The spending efficiency of a sample of 51 Portuguese municipalities in 2001 was assessed using a non-parametric free disposal hull (FDH) methodology. Input and output was measured by municipal per capita spending and total performance index respectively. The study found that, on average, Portuguese municipalities are inefficient, and that spending inefficiencies are more evident in non-metropolitan municipalities.
Geys and Moeson (2008)	The sources of government spending inefficiencies for 300 Flemish municipal governments in 2000 were assessed using the non-parametric approach. The study found that grants, historical debt and fiscal surplus, population size and density were the main determinants of spending efficiencies.
Sousa and Stosic (2005)	The study measured spending efficiency for 4796 Brazilian municipalities using non-parametric efficiency methods: data envelope analysis (DEA) and FDH efficiency measurements. Input and output were measured using municipal spending and municipal performance respectively. The study found that smaller municipalities in Brazil are less efficient than bigger municipalities.
Afonso and Scaglioni (2005)	The study assessed expenditure efficiency of a sample of 20 Italian municipalities for the year 2001 using the non-parametric approach called the DEA approach. To measure municipal performance, the study used general administration, access to energy, water, sewerage, solid waste collection, and transport services. Findings from this study revealed that inefficiencies are significant in Italian municipalities and improvements are possible across the municipalities in question.

12.5 Methodology

This section presents the methodology that the study uses to evaluate the spending efficiency and effectiveness of intergovernmental transfers in rural municipalities.

12.5.1 Techniques of measuring spending efficiency in rural municipalities

Efficiency[51] can be measured using parametric and non-parametric approaches, depending on the type of efficiency being measured. Parametric approaches measure economic efficiency, and methods include the stochastic frontier, thick frontier and distribution free approaches (Vincova, 2005). Non-parametric approaches are commonly used to measure technical efficiency in a decision-making unit and include two methods: data envelopment analysis (DEA) and free disposal hull (FDH).

This study uses DEA because this method (a) does not require any assumptions about the functional form of the regression function (Diggle et al., 2000); (b) allows the use of more than one input to produce a number of outputs (see Chovanec, 2005); and (c) requires the assumptions of convexity and does not require the price of inputs and outputs used.

A brief description of data envelopment analysis

DEA is a linear programming approach that involves enveloping the observed set of input/output vectors with a convex structure around a set of variables (Afonso and Fernandes, 2007; Kneip et al., 2015). Farrell (1957) introduced this approach, proposing a linear convex structure method to estimate the production frontier and assuming constant returns to scale. Charnes et al. (1981) suggested the assumption of variable returns to scale and an input-oriented approach with constant returns to scale. This method measures technical efficiency in a decision-making unit by calculating maximum efficiency scores for that particular unit and comparing with the performance of other similar units. In addition, it treats all observations as non-stochastic.

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[51] Technical (spending) efficiency can be defined as the effectiveness with which a given set of inputs is used to produce an output http://www.economicshelp.org/blog/glossary/technical-efficiency/

DEA can measure technical efficiency with output-oriented and input-oriented models. In the output model, inputs are kept constant but outputs change, while in the input model, inputs reduce and output levels remain the same. DEA can be carried out with the assumption of constant returns to scale (CRS) or variable returns to scale (VRS). With CRS, the relevant units are assumed to be scale-efficient, while with VTR they are assumed to be not operating at optimal scale. As it is not known whether or not rural municipalities in South Africa are operating at optimal scale, technical efficiency is estimated through VRS, which allows technical efficiency to be calculated without the effects of scale efficiency. The limitations of the DEA method include its sensitivity to measurement error, input and output specification and sample size (Haikos et al., 2005).

The output-oriented DEA model is applicable in South Africa because municipalities do not have much control over the amount of resources that are channelled to them, but do have control over the amount and quality of output produced with those resources.

The VRS output-oriented efficiency model is expressed as follows:

Max $n, m\ (n'x_j/m'y_j)$

S.T.

$$n'x_j/m'y_j \geq 1,\ j=1,2,3\ldots,\ldots\ldots\ldots L$$
$$m,n \geq 0$$
$$m'y_j = 1$$

Where:

X_j = output measure for municipality j
Y_j = input measures and
j = municipality in question
$'n'$ = weight for the output measure for municipality j
$'m'$ = weight for the input measure for municipality j
L = the number of municipalities in question

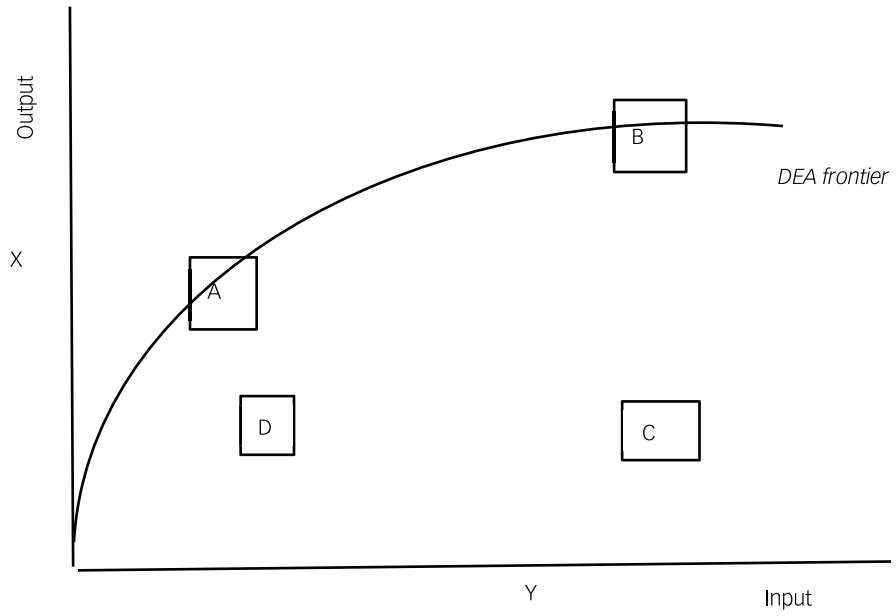
The model specifies three conditions: the first one is that the ratio of output to inputs is equal to one, the second is that the weights of each of these variables are not less than zero, and the third one is ensuring the efficiency scores are not more than one.

The linkage that the study attempts to test can be expressed as the following function:

$$Xj = f\,(Yj) \qquad (1)$$

Figure 108 expresses this graphically.

Figure 108. DEA frontier



In Figure 108, different units (municipalities A, B, C and D) are assumed to have the same amount of resources and expected to produce a certain level of output. The frontier line traces the maximum level of output that each municipality is expected to produce for a given amount of resources (input). For the municipalities on the frontier line, the ratio of output to input (efficiency score) is equal to 1, which is viewed as the best practice. Municipalities that fall below the frontier line have an output/input ratio of below 1 and are considered inefficient compared to the municipalities on the frontier line. Thus municipalities D and C are inefficient compared to municipalities A and B.

12.5.2 Definition of variables

Input and output variables are needed to measure spending efficiency in an organisation. Inputs measure the amount of resources used to produce a given amount of output. The type of variables used have a great influence on the type of results produced through DEA. The main limitation for studies looking at spending efficiency is the lack of standard and direct variables that can be used for efficiency estimation (see Ngomuo and Kipesha, 2015).

Input and output variables

The study used two input variables: per capita capital spending and operational spending (following Afonso and Fernandes, 2003; Sousa and Stosic, 2005). Capital spending refers to spending on long-term projects, such as infrastructure for basic services, while operational spending includes employee costs, maintenance of the existing infrastructure, material and bulk costs, remuneration of councillors and depreciation. As mandated by the Constitution, South African local municipalities spend the largest share of their resources providing four major basic services: water, electricity, sanitation and refuse removal. For this reason, access to these four services is used as an output measure in this study. Municipalities also provide general administrative services and other small services to their communities, but no direct measure exists for these services. Therefore, the study uses total population per municipality as a surrogate for the demand for these services. One major weakness of this proxy is that it does not provide information on whether the service was actually rendered but only gives an ideal picture of the services that a municipality should be providing.

In this study the access to the four basic services is defined as follows:

- Number of households with access to water (communal piped water: less than 200m from dwelling at RDP-level)
- Number of households with access to electricity (for lighting and other purposes)
- Number of households with access to sanitation (ventilation improved pits)
- Number of households with access to refuse removal (removed weekly by authority)

12.5.3 Determinants of technical efficiency

The different spending efficiency levels of municipalities could be attributed to their different characteristics. Therefore, the second stage of the analysis examines the factors that are likely to affect the technical efficiency of each municipality. To estimate the effect of these factors, most previous studies (e.g. Loikkanen and Susiluoto, 2005; Balaguer-Coll et al., 2002) used the censored Tobit regression analysis and ordinary list squares (OLS) approach. However, a criticism of these methods is the serial correlation that exists between the inputs and outputs used in the DEA and the potential explanatory variables, which results in invalid and biased conclusions (Simar and Wilson, 2007). The truncated regression approach eludes these problems and is based on a double bootstrap procedure (ibid). Therefore, the truncated regression approach is used to assess the determinant of the DEA efficiency scores in South African rural municipalities. This approach is also more applicable for this study, as the sample is selected systematically and does not include all rural local municipalities in South Africa. The truncated regression model is specified as follows:

$$\Pi j = \beta Xj + \varepsilon j \ldots \quad (2)$$

Where Π is a technical efficiency score for municipality j, and X is the potential determinant of technical efficiency in municipality j. β is the coefficient of X.

Potential explanatory variables

In selecting the potential determinants of technical efficiency, the study takes into account the characteristics of rural municipalities in South Africa and adopts some of the factors suggested in the reviewed literature. Fiscal, demographic and socio-economic factors are the major factors affecting spending efficiency in municipalities. Indicators for each of these categories are used and include: grant dependency; population size; poverty levels; share of vacant managerial posts in the organogram and indigents as a percentage of number of households (as an indicator for fiscal, demographic, socio-economic and institutional capacity and provision of free basic services respectively).

12.5.4 Data period and sources

The study measures spending efficiency in rural South African municipalities between 2008/9 and 2012/13. The choice of the study period is informed by the availability of municipal financial data. Data on municipal spending and other municipal budget variables was sourced from the National Treasury local government database. Non-financial data, such as access to basic services, was sourced from Stats SA and Global Insight databases. The study covers a sample of 87 local rural (B3 and B4) municipalities that provide all four municipal basic services.

12.6 Results

12.6.1 Output-oriented DEA efficiency results

Table 72 provides technical efficiency scores obtained from the DEA analysis of 87 local municipalities. These scores measure the ability of a municipality to achieve the maximum output given the set of resources at its disposal. A municipality with a score of 1 is regarded as efficient, while those with less than 1 are regarded as inefficient.

Table 72. Output-oriented DEA (VRS) efficiency results

Years	2008/9	2009/10	2010/11	2011/12	2012/13
Number of municipalities	87	87	87	87	87
Number of efficient municipalities	2	1	6	8	11
Share of the total sample	2%	1%	7%	9%	13%
Number of inefficient municipalities	85	86	81	79	76
Mean efficiency	0.31	0.32	0.40	0.37	0.38
Minimum efficiency	0.04	0.04	0.04	0.04	0.04
Maximum efficiency	1	1	1	1	1

Source: Author's computations

The number of efficient municipalities is low but increased between 2008/09 and 2012/13, from 2 (2%) to 11 (13%). Over this period, the mean efficiency scores for local municipalities ranged between 0.31 and 0.38. This implies that the municipalities could produce, on average, more than 60% additional output with the same resources. The minimum average efficiency score was 0.04 throughout the period. This implies that certain municipalities have high technical inefficiencies and could produce about 90% additional output if they used their resources properly. Furthermore, most of these rural municipalities produce less than 50% of their expected output, for example, on average 76% of the municipalities had efficiency scores below 50%. Table 73 shows the municipalities that were 100% efficient in each year.

Table 73. 100% efficient municipalities

Years	2008/9	2009/10	2010/11	2011/12	2012/13
Municipalities	Matzikama	Mohokare	Bushbuckridge	Albert Luthuli	Bushbuckridge
	Mohokare		Emthanjeni	Bushbuckridge	Dr JS Moroka
			Kou-Kamma	Hantam	Emalahleni
			Lephalale	Laingsburg	Hantam
			Mkhondo	Matzikama	Laingsburg
			Nkomazi	Mohokare	Mafube
				Ngwathe	Matzikama
				Thembisile	Mohokare
					Moretele
					Ngwathe
					Thembisile

Source: Author's computations

Matzikama, Mohokare and Bushbuckridge appear to have been efficient in most of the years. Mohokare was the most consistently efficient municipality (except in 2010/11 when its efficiency score was less than 1). Table 74 presents a list of the 10 most relatively efficient municipalities for each year in the period under review.

Table 74. Ten most efficient municipalities

Municipality	2008/9	Municipality	2009/10	Municipality	2010/11	Municipality	2011/12	Municipality	2012/13
Bushbuckridge	0.97	Albert Luthuli	0.69	Albert Luthuli	0.81	Dr JS Moroka	0.90	Albert Luthuli	0.94
Dr JS Moroka	0.70	Bushbuckridge	0.98	Emalahleni	0.92	Emalahleni	0.96	Emthanjeni	0.75
Emalahleni	0.90	Emalahleni	0.90	Hantam	0.89	Emthanjeni	0.74	Kamiesberg	0.63
Hantam	0.82	Hantam	0.85	Kamiesberg	0.81	Joe Morolong	0.72	Lephalale	0.76
Laingsburg	0.83	Laingsburg	0.88	Laingsburg	0.93	Mafube	0.95	Maluti a Pho-fung	0.65
Mafube	0.89	Mafube	0.87	Mafube	0.96	Maluti a Pho-fung	0.65	Modimolle	0.67
Maluti a Pho-fung	0.65	Matzikama	0.99	Matzikama	0.98	Moretele	0.79	Moses Kotane	0.95
Moretele	0.70	Moretele	0.71	Mohokare	0.89	Moses Kotane	0.81	Nala	0.78
Nkomazi	0.82	Nkomazi	0.81	Nala	0.74	Nkomazi	0.84	Nkomazi	0.87
Thembisile	0.92	Thembisile	0.87	Thembisile	0.87	Thabazimbi	0.71	Umjindi	0.60

Source: Author's computations

Between 2008/09 and 2012/13, Bushbuckridge, Matzikama, Mohokare and Mafube were the most efficient municipalities, with scores ranging from 0.97 to 1. This suggests that they can produce between 0% and 10% additional output with their existing resources. The performance of most of the top ten municipalities has been improving. For example, Emalahleni and Laingsburg had an efficiency score of 1 in 2012/13 compared to 0.90 and 0.83 in 2008/9 respectively. Table 75 presents a list of the ten least efficient municipalities for each year.

Table 75. Ten least efficient municipalities

Municipality	2008/9	Municipality	2009/10	Municipality	2010/11	Municipality	2011/12	Municipality	2012/13
Baviaans	0.06	Baviaans	0.06	Kannaland	0.07	Baviaans	0.07	Baviaans	0.06
Kareeberg	0.06	Kareeberg	0.06	Kareeberg	0.06	Kannaland	0.07	Kannaland	0.08
Karoo Hoogland	0.04	Karoo Hoogland	0.04	Kgatelopele	0.06	Karoo Hoogland	0.04	Kareeberg	0.06
Kgatelopele	0.05	Kgatelopele	0.05	Khâi-Ma	0.10	Prince Albert	0.04	Karoo Hoogland	0.04
Prince Albert	0.04	Prince Albert	0.04	Prince Albert	0.04	Renosterberg	0.11	Kgatelopele	0.08
Renosterberg	0.04	Renosterberg	0.04	Renosterberg	0.11	Richtersveld	0.05	Prince Albert	0.05
Richtersveld	0.04	Richtersveld	0.04	Richtersveld	0.04	Siyathemba	0.08	Richtersveld	0.05
Siyathemba	0.07	Siyathemba	0.07	Thembelihle	0.05	Thembelihle	0.05	Siyathemba	0.08
Thembelihle	0.05	Thembelihle	0.05	Tsantsabane	0.11	Ubuntu	0.06	Thembelihle	0.08
Ubuntu	0.06	Ubuntu	0.06	Umsobomvu	0.09	Umsobomvu	0.09	Ubuntu	0.06

Source: Author's computations

Most of these municipalities are consistently highly inefficient over the reviewed period. Prince Albert, Kareeberg and Richtersveld municipalities were relatively the worst performing municipalities, with efficiency scores ranging between 0.04 and 0.06. This means that, if resources were used properly, these municipalities could produce approximately 96% additional output without increasing the amount of resources. The performance of some municipalities has improved over the years. For example, Renosterberg municipality's efficiency score increased from 0.04 in 2008/9 to 0.11 in 2011/12.

12.6.2 Factors affecting spending efficiency in rural municipalities

The determinants of municipal efficiency used are the provision of free basic services (FBS), the vacancy rate for senior management, reliance on intergovernmental transfers, municipal size and municipal economic performance.

Table 76. Results from the truncated regression analysis

Independent variable	Coefficient	Standard-error	t-value
Water (FBS)	-7.9854	7.6169	0.9731
Electricity (FBS)	-1.2895	4.8399	6.2348
Refuse (FBS)	-3.8686	1.1599	-3.3353
Sanitation (FBS)	-3.7053	5.3851	-6881
Vacancy rate	-9.444	1.2041	-0.0784
Grant reliance	3.0733	8.269	0.3717
Population	2.5181	2.1086	11.9423
GVA	6.4299	2.70728	2.3789
Sigma	3.1037	2.0275	15.3081
Intercept	7.4123	7.6169	0.9731

Source: Author's computations

As Table 76 shows, the provision of FBS has a negative effect on municipal efficiency. This is because a municipality is unable to recover the cost of providing services to indigent households that receive FBS. High vacancy rates also result in municipal inefficiency, which concurs with the Auditor-General's report that highlights the lack of institutional capacity as a major cause of poor municipal performance (AGSA, 2014). Grant reliance, economic performance and the size of the municipality have a positive impact on municipal efficiency.

12.7 Conclusion and Recommendations

The main objective of this study was to assess the effectiveness and efficient use of intergovernmental transfers in South African rural municipalities. The study found that conditional grants are under-spent, and yet these municipalities have significant backlogs in almost all services. Rural municipalities are not prioritising their spending, as shown by the resources spent on employee costs compared to vital expenditure needs such as repairs and maintenance of existing infrastructure.

The analysis found that South African rural municipalities are least efficient at providing water, electricity, sanitation and refuse removal, with efficiency levels ranging from between 0.31 and 0.38. These levels imply that the municipalities are providing 31% to 38% of what they could provide given their resources. Therefore, the performance of rural municipalities can be improved without necessarily increasing the amount of resources, as they could provide over 60% additional services on average, with the same resources.

The provision of FBS and the lack of institutional capacity are the major causes of technical inefficiencies in rural municipalities, whereas economic performance, municipal size and grant reliance have positive effects on municipal efficiency.

In light of the observations and findings above, it is recommended that;

- National Treasury includes, as part of the principles underlying grants to rural municipalities, more stringent expenditure supervision, in order to minimise wastage and improve efficiency. The national and provincial governments should evaluate the effectiveness of existing supervision methods with a view to strengthening them.

12.8 References

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Appendix: Efficiency Scores

Municipalities	2008/9	2009/10	2010/11	2011/12	2012/13	Annual average
!Kai !Garib	0.14	0.14	0.14	0.14	0.14	0.14
!Kheis	0.16	0.14	0.18	0.16	0.16	0.16
Albert Luthuli	0.62	0.69	0.81	1.00	0.94	0.81
Baviaans	0.06	0.06	0.16	0.07	0.06	0.08
Beaufort West	0.17	0.17	0.17	0.17	0.18	0.17
Bela-Bela	0.20	0.20	0.21	0.23	0.22	0.21
Bergrivier	0.19	0.20	0.20	0.20	0.20	0.20
Bitou	0.17	0.18	0.19	0.19	0.20	0.19
Blue Crane Route	0.12	0.12	0.12	0.12	0.13	0.12
Bushbuckridge	0.97	0.98	1.00	1.00	1.00	0.99
Camdeboo	0.17	0.17	0.17	0.18	0.17	0.17
Cape Agulhas	0.12	0.12	0.12	0.12	0.12	0.12
Cederberg	0.15	0.15	0.15	0.15	0.16	0.15
Dikgatlong	0.12	0.12	0.35	0.12	0.13	0.17
Dipaleseng	0.15	0.44	0.45	0.16	0.16	0.27
Dr JS Moroka	0.70	0.63	0.68	0.90	1.00	0.78
Emalahleni	0.90	0.90	0.92	0.96	1.00	0.94
Emthanjeni	0.61	0.55	1.00	0.74	0.75	0.73
Gamagara	0.21	0.22	0.24	0.27	0.30	0.25
Ga-Segonyana	0.24	0.24	0.26	0.24	0.24	0.24
Hantam	0.82	0.85	0.89	1.00	1.00	0.91
Hessequa	0.13	0.13	0.27	0.13	0.13	0.16
Ikwezi	0.10	0.10	0.56	0.21	0.22	0.24
Joe Morolong	0.33	0.32	0.71	0.72	0.44	0.50
Kamiesberg	0.51	0.53	0.81	0.57	0.63	0.61
Kannaland	0.07	0.07	0.07	0.07	0.08	0.07
Kareeberg	0.06	0.06	0.06	0.21	0.06	0.09
Karoo Hoogland	0.04	0.04	0.12	0.04	0.04	0.06
Kgatelopele	0.05	0.05	0.06	0.15	0.08	0.08
Kgetlengrivier	0.13	0.12	0.13	0.13	0.13	0.13
Khâi-Ma	0.09	0.11	0.10	0.12	0.14	0.11
Kopanong	0.24	0.24	0.24	0.24	0.24	0.24
Kouga	0.27	0.27	0.27	0.27	0.28	0.27
Kou-Kamma	0.28	0.30	1.00	0.37	0.38	0.47
Laingsburg	0.83	0.88	0.93	1.00	1.00	0.93
Langeberg	0.17	0.18	0.18	0.18	0.18	0.18
Lekwa	0.34	0.34	0.34	0.35	0.36	0.35
Lephalale	0.56	0.58	1.00	0.62	0.76	0.70
Lesedi	0.30	0.31	0.34	0.40	0.49	0.37
Letsemeng	0.26	0.27	0.26	0.32	0.35	0.29
Mafube	0.89	0.87	0.96	0.95	1.00	0.93
Magareng	0.14	0.14	0.14	0.15	0.15	0.15
Maluti a Phofung	0.65	0.65	0.65	0.65	0.65	0.65
Mantsopa	0.32	0.36	0.36	0.39	0.41	0.37

Municipalities	2008/9	2009/10	2010/11	2011/12	2012/13	Annual average
Maquassi Hills	0.15	0.23	0.20	0.22	0.24	0.21
Masilonyana	0.27	0.30	0.33	0.38	0.45	0.34
Matzikama	1.00	0.99	0.98	1.00	1.00	0.99
Mier	0.22	0.24	0.25	0.26	0.28	0.25
Mkhondo	0.31	0.32	1.00	0.36	0.44	0.49
Modimolle	0.42	0.47	0.52	0.57	0.67	0.53
Mohokare	1.00	1.00	0.89	1.00	1.00	0.98
Mookgopong	0.21	0.23	0.25	0.31	0.36	0.27
Moretele	0.70	0.71	0.69	0.79	1.00	0.78
Moses Kotane	0.58	0.65	0.71	0.81	0.95	0.74
Nala	0.42	0.48	0.74	0.63	0.78	0.61
Naledi	0.21	0.19	0.19	0.18	0.18	0.19
Nama Khoi	0.19	0.18	0.18	0.18	0.18	0.18
Ndlambe	0.23	0.21	0.21	0.21	0.21	0.21
Ngwathe	0.51	0.61	0.67	1.00	1.00	0.76
Nketoana	0.14	0.15	0.17	0.19	0.20	0.17
Nkomazi	0.82	0.81	1.00	0.84	0.87	0.87
Phokwane	0.32	0.33	0.29	0.54	0.51	0.40
Phumelela	0.17	0.16	0.41	0.17	0.17	0.22
Pixley Ka Seme	0.24	0.23	0.47	0.22	0.22	0.27
Prince Albert	0.04	0.04	0.04	0.04	0.05	0.04
Renosterberg	0.04	0.04	0.11	0.11	0.11	0.08
Richtersveld	0.04	0.04	0.04	0.05	0.05	0.04
Setsoto	0.37	0.36	0.35	0.35	0.35	0.36
Siyancuma	0.13	0.12	0.26	0.12	0.12	0.15
Siyathemba	0.07	0.07	0.19	0.08	0.08	0.10
Sundays River Valley	0.20	0.16	0.16	0.19	0.22	0.19
Swartland	0.34	0.35	0.38	0.39	0.39	0.37
Swellendam	0.12	0.12	0.12	0.12	0.13	0.12
Thaba Chweu	0.32	0.31	0.31	0.33	0.32	0.32
Thabazimbi	0.25	0.26	0.70	0.71	0.46	0.48
Theewaterskloof	0.42	0.37	0.40	0.37	0.41	0.39
Thembelihle	0.05	0.05	0.05	0.05	0.08	0.06
Thembisile	0.92	0.87	0.87	1.00	1.00	0.93
Tokologo	0.13	0.13	0.13	0.14	0.15	0.13
Tsantsabane	0.11	0.10	0.11	0.17	0.11	0.12
Tswelopele	0.18	0.16	0.16	0.17	0.17	0.17
Ubuntu	0.06	0.06	0.13	0.06	0.06	0.08
Umjindi	0.23	0.22	0.58	0.60	0.60	0.44
Umsobomvu	0.09	0.09	0.09	0.09	0.10	0.09
Ventersdorp	0.24	0.25	0.25	0.27	0.29	0.26
Victor Khanye	0.23	0.24	0.57	0.25	0.26	0.31
Witzenberg	0.32	0.33	0.34	0.35	0.36	0.34
Average	0.31	0.32	0.40	0.37	0.38	0.35