

South Africa Local Government Financial Reform Project

Final Report

10 September 2001

**Task 2: The Role of the Equitable Share in the Financing of
Local Government**

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SA LOCAL GOVERNMENT FINANCIAL REFORM PROJECT:
Task 2: The Role of the Equitable Share in the Financing of Local Government

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THE ROLE OF THE EQUITABLE SHARE IN THE FINANCING OF LOCAL GOVERNMENT

10 September 2001

1 INTRODUCTION

The role of local government in South Africa has been rapidly changing over the past decade. Prior to 1996, well established local governments existed in the nation's urban areas. These governments provided a wide range of municipal services to their primarily white residents financed largely by local taxes and tariffs on tradeable services. Some Black townships and other nonwhite communities surrounding urban centres provided a limited set of public services financed by tariffs and by grants from the central governments. Local government was largely nonexistent in rural South Africa. With the passage of the constitution in 1996, local government was recognized as one of the three independent spheres of government. Following the enactment of the constitution, municipal governments were established throughout the country. The constitution sought not only to create democratic institutions at the local level, but to create viable local governments with the capacity to deliver municipal services, financed in large part by local residents.

The constitution and subsequent legislation have given local governments responsibility for the provision of a substantial number of services, some of which are their exclusive responsibility and others which are shared with the others spheres of government. Local governments are mandated by the constitution (Section 153a) to give priority to fulfilling the "basic needs" of their communities. Furthermore, the Bill of Rights explicitly defines access to some municipal services as a basic right of all citizens.

To meet these responsibilities, local governments are granted a number of sources of revenue by the Constitution and by legislation. The main sources of revenues authorized by the Constitution are rates on property and fees for tradeable services such as water and electricity. Although these locally-raised revenues are expected to play an important role in the financing of local government services, the Constitution specifies that local government is entitled to an *equitable share* of nationally-raised revenue (Section 214). An equitable division of nationally-raised revenues among national, provincial, and local government, and a division of the local government share amongst individual local governments must be determined by an Act of Parliament.

Although the basic constitutional and statutory building blocks of local government are now in place, the development of local government in South Africa remains very much an on-going and developing process. A major, though far from final step in that process has been the redrawing of municipal government boundaries recently completed by the Municipal Demarcation Board. With the completion of the December 2000 municipal elections, functioning democratic institutions exist in all local governments. For many communities, the main challenge facing the newly-elected local officials will be to improve the delivery of services and to develop permanent and reasonably stable sources of locally-raised revenues. The Task 4 report documents the fact that a large number of South Africans do not yet receive basic municipal services.

Local government in South Africa is still in the process of maturing. Although local governments are dynamic institutions, they will reach a stage of maturity when they are capable of providing basic services and have developed the institution of governance that allows them to raise revenue.

The primary purpose of this paper is to explore the role that the local government equitable share should play in a mature system of local government finance in South Africa. The current allocations of the equitable share for local government are doing a good job of serving the needs of a system of local governments in transition. However, the system of intergovernmental finance will need to evolve as the rest of the system of local government matures. **The goal of this report is to construct a framework for the determination of the vertical and horizontal division of the equitable share in a mature system of local governments.**

2 DEFINING THE ROLE OF THE EQUITABLE SHARE IN MATURE SYSTEM OF LOCAL GOVERNMENT FINANCE

The starting point for a discussion of the role of the equitable share in the financing of local government is an understanding of both the responsibilities and obligations of local government and their capacity for meeting these responsibilities. Section 214 of the Constitution makes it quite clear that the distribution of the equitable share to local government must take into account “the need to ensure that ...municipalities are able to provide basic services and the functions allocated to them,” (subsection (2)(d)), “the fiscal capacity and efficiency of municipalities,” (subsection (2)(e)), and the “developmental and other needs of ... municipalities” (subsection (2)(f)). These constitutional provisions would be met by any allocation of nationally-raised revenues that assured that every local government has sufficient revenue to meet its responsibilities for the provision of basic services without placing undo financial burden on its residents and/or discouraging the economic development of the community.

The constitution thus clearly points towards a system of unconditional grants to municipal governments. To meet constitutional requirements, the size of each municipality’s grant allocation would be determined by an estimate of the minimum amount of money needed to provide basic services and other municipal functions assigned to that government minus the amount of money each government could be expected to raise from local sources at a common rate of revenue effort. With the implementation of such a system, the local government equitable share would play a crucial role in guaranteeing that all municipal governments in South Africa would have sufficient resources available to them to meet their basic responsibilities without having to place extraordinary fiscal burdens on their residents.

One can formalize the description of this system of allocating the equitable share by using well-known concepts in the academic literature on intergovernmental fiscal relations. The basis for distributing the equitable share is an objective measure of the fiscal condition of local governments known as the *needs-capacity gap*. For each municipal government, denoted by the subscript i , we can define the gap as follows:

Needs-capacity gap $_i$ = Expenditure needs $_i$ - Revenue-raising capacity $_i$,

where *expenditure needs* is a measure of the minimum amount of money necessary to provide basic municipal services and any other functions assigned to local government, and *revenue-raising capacity* measures the amount of revenue a local government can raise from local sources by applying a uniform set of tax and tariff rates. Once the need-capacity gap for each local government has been determined, equitable share grants could be defined to be either equal or proportional to the size of all positive value gaps. Any local government whose revenue-raising capacity is greater than its expenditure needs would not be eligible for this type of fiscal equalisation grant.

A detailed discussion of the issues involved in implementing an equitable share allocation along the lines described in the previous paragraph will follow later in the paper. It is however, important to emphasize two critical aspects of this approach.

1. Estimates of the amount of money any local government needs to finance basic needs (expenditure needs) must reflect **only** factors that are outside the control of individual local governments. This means that equitable share funds should not be used to in any way subsidize inefficient public service provision on the part of local governments. Likewise, estimates of the revenue that a local government can raise from local sources must reflect an objectively determined measure of the local government's capacity to raise revenue, and not the actual collections achieved by local government officials.
2. The composition and the level of public services that each local government is expected to provide must be determined by the national government. In other words, the "norms and standards" for municipal government services must be determined by Government. Also, average revenue burdens must be determined nationally.

By summing up the need-capacity gaps of all local governments, it is possible to determine the extent to which, in aggregate, the expenditure needs of local government exceed their revenue-raising ability.¹ The resulting aggregate gap provides a measure of the *fiscal imbalance* that exists in the financing of local government. Eliminating any existing fiscal imbalance is an important purpose of the local government equitable share. It is important to emphasize, however, that the size of the aggregate gap is determined through the process of setting national norms. And conversely, defining a vertical split for local government has implications for the norms and standards that can be achieved.

Without the receipt of grant revenue from the national government, some local governments will be unable to provide their residents with basic public services. Or, the provision of services will be possible only by levying local taxes and fees at such high rates that they will be seriously detrimental to economic growth. The fiscal health of local governments varies tremendously, with some municipalities in strong fiscal health, with small or negative need-capacity gaps, while other municipalities are in weak fiscal condition with large expenditure needs and very limited capacity for raising revenues. These differences in the fiscal conditions of local governments are referred to as *fiscal disparities*. The allocation of

¹ Unless local governments with negative need-capacity gaps are required to pay money directly to the national government to fund equitable share grants to other local governments, in adding up the sum of the gaps of all local governments all need-capacity gaps below zero are counted as zero.

equitable share grant in proportion to need capacity gaps can go a long way in reducing these fiscal disparities.

The reduction of fiscal disparities is an important objective of intergovernmental fiscal relations in many countries throughout the world. For example, in Canada, the constitution provides for an equalizing fiscal transfer to poor provinces. The Canadian constitution explicitly states that the purpose of the transfer is to assure that each province is able to provide "...reasonably comparable levels of public services at reasonably comparable rates of taxation."

There are two reasons why the reduction of fiscal disparities among local governments is important goal of any system of intergovernmental finance. First, the fact that the residents of some communities can enjoy much higher quality public services than the residents of other communities even when they all face similar local government tax or revenue burdens is considered to be inequitable or unfair by many people. Second, the existence of fiscal disparities can lead to locational inefficiencies if decisions by individuals and businesses about where to live or operate a business are influenced by local government fiscal conditions. Fiscally motivated moves not only tend to exacerbate existing fiscal disparities, but may lead to patterns of residential and business location that generate higher social costs. These costs may take the form of degradation of environmental quality, increased congestion, or increased racial segregation.²

As democratic local government in South Africa become more fully established and takes on a larger roles in the provision of services, the residents of individual jurisdictions will play an increasingly more important role in determining the level of public services that are provided. This is a healthy development; one that will on the whole lead to a more efficient provision of public services. However, when the provision of services, or the lack of provision of services, has impacts on the residents of neighboring communities, then public decision making by municipal residents can lead to the under-provision of some public services. The argument is as follows. Local voters make public financing decisions based only on the costs and benefits of any decision on residents of their own municipality. No account is taken of the fact that the provision of services to residents may also confer benefits on residents of neighboring communities. The result is that from the national standpoint, some local public services may be underprovided. A solution to this problem is for a higher level government to allocate *matching grants* to local governments that provide local public goods with benefit spillovers. The matching rate should be set equal to the proportion of the benefit that accrues to non-residents of the municipality receiving the grant.

The importance of spillovers is generally related to the spatial proximity of local governments. Thus, spillovers and the resulting under-provision of public goods is most likely to occur in urban and metropolitan areas. For example, the dumping of raw sewage into a river by a municipal government will have a detrimental impact on down-river jurisdictions, with the most severe impact probably felt by the adjacent municipality. In the nation's largest metropolitan areas, the recent establishment of unicity governments will

² While there are good reasons to reduce fiscal disparities, economists generally argue that completely eliminating fiscal disparities among local governments would lead to economic inefficiencies, in part, because it would reduce the incentive of individuals and businesses to move to more productive locations within the country. It should be emphasized that a policy of using equitable share grants to reduce or eliminate need-capacity gaps would only partially eliminate the differences in fiscal conditions among local governments.

mitigate the need for spillover grants as long as most of the spillovers occur within the boundaries of the unicity. Nevertheless, it may be appropriate to use the equitable share to finance a well-designed system of matching grants to deal with spillover problems within smaller urban areas.

Before we discuss the issues involved in implementing the equitable share grant system outlined in this section, it will be important to briefly describe the current local government equitable share program and assess its effectiveness.

3 THE CURRENT LOCAL GOVERNMENT EQUITABLE SHARE PROGRAM

In April 1998, the Department of Finance (now renamed the National Treasury) issued *The Introduction of an Equitable Share of Nationally Raised Revenue for Local Government*. This publication, which since its release has been referred to as the *Green Book* (after the colour of its cover), announced a new system of fiscal transfers to municipalities. The major focus of the *Green Book* was on the horizontal allocation of the equitable share to local government. The Department of Finance proposed that the equitable share to local government be made up of four separate transfer programmes, with the amounts allocated to each local government determined by four separate formulas. These programmes are:

- The **municipal basic services (S)** grant is set equal to the cost of providing basic municipal services to the members of all the poor households in each municipality.
- The **tax base equalisation (T)** grant was designed to reduce fiscal disparities among the substructures within each metropolitan area. Although the T grant was never implemented, it was intended to equalize tax bases within each metropolitan area. The Department of Finance indicated that if the “unicity” approach to the governance of metropolitan areas was adopted, there would be no need for tax base equalisation grants.
- The **municipal institution (I)** grant is designed to help finance the basic institutions of democratic local government.
- The **matching (M)** grant is designed to encourage the provision of local public goods that generate substantial economic and social benefits to the residents of neighbouring jurisdictions. In part, because of the difficulties in identifying the extent of external benefits, the M grants have not been implemented.

The Department of Finance came to the decision that, at least in the short run, neither the T nor the M grants would be implemented. As a result of this decision, starting in the 1998/99 financial year, the equitable share to local government was allocated using two formulas, the S grant and the I grant.

In order to safeguard local governments from the potential of large year to year drops in their equitable share allocations, the decision was made to guarantee every local government that they would be entitled to the larger of the sum of their formula-generated S and I grants or 70 percent of their equitable share allocation in the previous year. This system provided a way to gradually phase-out the old system of intergovernmental grants developed under the apartheid government.

A number of technical changes were made in the S and the I grant formulas between financial years 1998/99 and 2000/2001. For a full description of the formulas used to allocate the equitable share to local governments in 2000/2001, see the Project memorandum entitled “Issues Surrounding the Horizontal Allocation of the Local Government Equitable Share for Financial Year 2001/02.” Despite the formula changes since 1998/99, the basic system described in the *Green Book* has been retained.

In financial year 2001/02, the number of local governments receiving equitable share allocations fell from nearly 800 to approximately 240 reflecting the new municipal boundaries drawn by the Municipal Demarcation Board. The newly defined boundaries necessitated several further changes in the S and I grant formulas. Again, however, these changes were rather minor and the local government equitable share system in place for the 2001/02 to 2003/04 MTEF period is very similar to the system spelled out in the *Green Book*.

As shown in Table 1, the total local government equitable share allocation has more than doubled since 1998/99 in nominal terms. Relative to gross domestic product (GDP) and total government spending, the total local government equitable share grew by about 80 percent in the three years between 1998/99 and 2001/02. Although the amount of money allocated to the I grant has increased from R175 million to R260 million, its share of the total local government equitable share has fallen from over 17 percent to under 12 percent. At the same time the “guaranteed allocations” have dropped from 40 percent of the total in 1998/99 to just 7 percent of the total in 2001/02.

4 EVALUATING THE CURRENT STRUCTURE OF THE LOCAL GOVERNMENT EQUITABLE SHARE

4.1 The S Grant

Within a few years, as the historical allocation diminishes to zero, almost the entire local government equitable share will be distributed through the S grant formula. Current projections indicate that in financial year 2003/04, S grant allocations will equal 92.1 percent of total local government equitable share transfers. In that year, less than five million rand will be paid through the historical allocation (0.1 percent of the total).

As can be seen in Table 2, the current per capita S grant allocations generally favour both smaller and poorer municipalities. In the top panel of Table 2, the 237 municipalities that are eligible for S grant transfers in 2001/02 are divided into 10 equally sized groups ranked from smallest (population decile 1) to largest (population decile 2).³ As can be clearly seen, S grants per capita are largest in relative small municipalities. The fact that the smallest average per capita S grants are in the eighth decile rather than the tenth decile reflects the fact that S grants to urban and metropolitan municipalities are being phased in faster than grants to rural municipalities.

In the bottom panel of Table 2, municipalities are ranked by average income (measured using average expenditures per capita). Although the pattern across deciles is mixed, on average the largest per capita S grants go to the poorest municipalities (those in the bottom decile) and

³ Because 237 is not equally divisible by 10, three deciles include 23 instead of 24 municipalities.

**Table 1:
Local Government Equitable Share by Type of Grant***

Financial Year	S Grant		I Grant		Historical Allocation		Total Equitable Share Allocation		
	Amount in Rand	Percent of Total	Amount in Rand	Percent of Total	Amount in Rand	Percent in Total	Amount in Rand	Percent of GDP	Percent of Gov't Expenditures
1998/1999	428,471,492	42.3%	175,009,019	17.3%	408,469,489	40.4%	1,011,950,000	0.13%	0.50%
1999/2000	870,343,770	68.0%	205,955,624	16.1%	203,450,607	15.9%	1,279,750,001	0.16%	0.59%
2000/2001**							1,883,506,539	0.21%	0.81%
2001/2002	1,832,480,621	81.1%	260,000,000	11.5%	167,519,379	7.4%	2,260,000,000	0.24%	0.90%

*Excludes allocations for R293 town staff transferred to municipalities.

**Detailed data for 2000/2001 are not available.

Table 2:
Per Capita Equitable Share Allocations, Financial Year 2001/02*
 by Population and Average Per Capita Monthly Household Expenditure Deciles

Population Decile		Number of Municipalities**	Population	Percent of Total Population	Average Per Capita I Grant	Average Per Capita S Grant	Average Per Capita Equitable Share	Percentage Change from '00/'01
Number	Top of Decile							
1	21,439	24	341,884	0.78%	97.6	67.2	165.3	79.5%
2	37,770	24	733,669	1.67%	50.2	62.1	115.6	64.9%
3	49,300	24	1,024,535	2.33%	25.8	60.3	91.0	8.3%
4	66,250	23	1,331,836	3.03%	13.5	57.8	73.5	6.5%
5	97,450	23	1,778,303	4.05%	10.7	49.5	61.9	5.8%
6	115,864	23	2,448,981	5.57%	11.2	37.5	51.0	6.2%
7	151,787	24	3,180,486	7.23%	10.7	49.7	61.2	8.4%
8	213,170	24	4,436,190	10.09%	7.0	36.1	52.8	8.0%
9	322,920	24	6,282,778	14.29%	4.2	43.2	55.8	8.1%
10	2,937,475	24	22,402,890	50.96%	0.3	38.2	40.8	4.0%
Total/Average		237	43,961,552	100.00%	5.9	41.7	51.4	17.7%
Expenditure p.c. Decile		Number of Municipalities**	Population	Percent of Total Population	Average Per Capita I Grant	Average Per Capita S Grant	Average Per Capita Equitable Share	Percentage Change from '00/'01
Number	Top of Decile							
1	373	24	4,751,879	10.81%	16.5	75.8	92.3	75.0%
2	446	24	2,910,784	6.62%	17.2	48.5	67.0	34.4%
3	501	24	3,304,878	7.52%	9.7	35.1	52.4	11.6%
4	582	23	3,133,355	7.13%	8.8	35.2	52.5	-8.2%
5	655	23	3,070,340	6.98%	7.1	34.9	53.3	-7.0%
6	740	23	2,883,626	6.56%	7.1	64.5	74.8	117.0%
7	866	24	2,626,651	5.97%	6.8	49.9	62.3	-8.8%
8	997	24	2,947,176	6.70%	1.5	39.5	47.9	14.6%
9	1,181	24	7,255,664	16.50%	0.7	38.8	43.4	2.8%
10	5,253	24	11,077,199	25.20%	0.2	25.5	26.1	37.4%
Total/Average		237	43,961,552	100.00%	5.9	41.7	51.4	17.7%

*Excludes allocations for R293 staff transferred to municipalities.

**Includes only Category A and Category B municipalities. Excludes District Management Areas.

Total S Grant allocation R 1,832,480,621

Number of municipalities receiving an I grant allocation = 153

Total I Grant allocation R 260,000,000

Number of municipalities receiving "guaranteed amounts" = 25

Total historical allocation R 167,519,379

the smallest per capita grants go on average to the richest municipalities (those in the top decile).

Given that local government in South Africa has been in transition over the past few years, and especially, given the limited availability of data, the current formulation of the S grant has served South Africa very well. This being said, as a mechanism for reducing fiscal disparities among municipal governments and reducing fiscal imbalance in the structure of local government finance, the S grant formula is deficient in a number of ways. A mature system of local government in South Africa will thus require a major reformulation of the S grant formula.

As explained earlier in this report, the major goals of an intergovernmental fiscal system can be achieved by allocating grants to local governments so as to fill the gap between each local government's expenditure needs and the revenue-raising capacity. In assessing the long-run viability of the current S grant formula, we want to ask how closely the current formula allocations are correlated with need-capacity gaps.

Once the S grants are fully phased in, each municipality's S grant allocation will be a fixed proportion of the number of poor households within its boundaries. Recall that the purpose of the S grant formula is to finance the cost of basic municipal services for poor households. In order to reconcile the current S grant formula with the need-capacity gap framework, it is necessary to make the following assumptions:

1. The cost per household of providing basic municipal services to poor households is identical across all local governments in South Africa.
2. The actual cost per poor household of basic municipal services is accurately reflected by the size of the S grant per poor household.
3. All households classified as poor have no capacity to pay for basic municipal services.
4. In every municipality, households classified as non-poor have sufficient capacity to pay local government taxes and fees to cover the costs of providing these households with basic municipal services.

If these four assumptions are valid, the current S grants are equal to the expenditure needs for each local government's poor households and poor households have no revenue-raising capacity. Meanwhile, in every community throughout the country, the expenditure needs of all non-poor households are smaller than the revenue-raising capacity of these households. This implies that every local government has sufficient revenue-raising capacity (defined at a reasonable revenue burden) to provide basic municipal services to its non-poor residents, thus mitigating the need for equitable share grants to provide municipal services for the non-poor.

In the following paragraphs we suggest that these four assumptions are probably not justified and are unlikely to be valid in the future.

Assumption 1 suggests that in terms of local government finance, the expenditure needs of poor households are the same throughout the country. As we will explain in more detail in the next section, the amount of money necessary to provide basic municipal services in each

local government depends both on how basic services are defined in each community and on the costs of delivering these basic services. On both conceptual and empirical grounds, there is strong reason to believe that expenditure needs will vary across local governments. First, basic services will need to be defined in different ways in rural and urban settings. While, pit toilets may be perfectly adequate in rural settings, water-borne sewage systems are a necessity in dense urban areas. Second, topographical, geological, demographic, and social characteristics of communities can influence the amount of money required to provide any given municipal service. Thus, the assumption that the cost per household of providing basic services is constant across communities will result in an overestimate for some local governments and an underestimate for others.

The formula used to allocate S grants for the 2001/02 financial year assumes that per household monthly cost of providing basic services to poor households is equal to R135. This number is calculated by multiplying R86 per household by a “budget adjustment parameter.” The R86 comes from the *Green Book*, where it is described as the monthly amount sufficient to purchase a package of basic services. The R86 figure comes from a study of the user costs of four basic services, water, electricity, refuse, and sanitation. The study, based on data from 20 towns, was conducted by the Development Bank of South Africa (DBSA).

It is important to ask whether R86 is a reasonable estimate of the average cost of purchasing basic municipal services. Two issues need to be addressed. First, is it appropriate to restrict the definition of basic municipal services to water, electricity, refuse, and sanitation? And second, does a cost estimate generated from a single study in the mid 1990s still provide an accurate estimate of the costs of purchasing four basic services?

Later in this report, we present estimates of monthly per household costs of providing basic municipal services in 10 municipalities (in 1999 rand). For the four services considered in the DBSA study, we estimate that monthly per household costs in the municipality with the lowest costs range from R110 to R182 and the costs in the municipality with the highest costs range from R185 to R308. Although not definitive, our estimates do suggest that the R86 figure used in the S grant formula is too low.

While it is undoubtedly true that poor households have very limited ability to pay for basic services such as water, sewage, solid waste removal, and electricity, this does not mean that, as indicated by the third assumption, they are incapable of contributing even small amounts of money towards the provision of these municipal services. In fact, estimates of the “willingness to pay” for water, electricity, sanitation, and solid waste services by households with monthly incomes below R800 have been made by the Palmer Development Group and are reproduced in Table 10 of this report.

Local governments provide services to all residents. Despite this fact, the current S grant formula takes no account of municipal residents who are not classified as poor. The implicit assumption is made that as a group, every local government’s non-poor residents are capable of raising sufficient amounts of local revenue in order to finance basic local services. This is an empirical assertion that has not been tested. Our initial assessment of available data suggests that a gap probably exists between the costs of providing basic services to local government’s non-poor residents and the amount of revenue these residents are capable of raising at reasonable rates of taxation. These gaps may well be quite substantial in heavily

urbanized communities. As we will discuss in more detail below, the definition of basic municipal services will be broader in more urbanized areas. Services such as street lighting and storm water management, are essential in urban areas, but usually unnecessary in less dense areas. At the same time, many urban communities contain large populations of “near-poor” households. Although these households’ income is above the poverty threshold, they have limited financial ability to support municipal public services. In the 2001/02 S grant formula, a household is defined as poor if its monthly expenditures are below R1,100. We can somewhat arbitrarily define the “near poor” as households with monthly expenditures between R1,101 and R1,500. With this definition, non-metropolitan, yet heavily urbanized local governments such as East London, Bloemfontein, Pietermaritzburg, Welkom, and Nelspruit all have populations with large concentrations of “near-poor.”⁴ Although further research is required, initial indications suggest that these local government’s revenue-raising capacity is insufficient to finance the provision of basic municipal services for their non-poor residents. If this is true, the existing S grant formula fails to provide these governments with adequate resources to allow them to provide all their residents with basic services.

4.2 The I Grant

The purpose of I grants is to guarantee that every eligible municipality has available sufficient funds to finance the basic operations of a local government. The I grant is thus an institution building grant for newly created democratic local governments. In the words of the *Green Book*, the I grants are designed so that they will fill in the gap between the funds needed to “...provide and maintain basic facilities for the operation of local government” (Department of Finance, 1998; p. 13) and the amount of money each local jurisdiction is expected to raise from local resources. Although local government are not permitted to tax the income of residents, average per capita income within each municipality is used as a measure of the revenue-raising capacity of municipalities. Among municipalities of any given population size, municipalities with higher levels of average income receive smaller I grants. Relatively high-income municipalities are considered to have sufficient revenue-raising capacity to finance the basic operations of government on their own, and hence they do not receive an I grant. Prior to the demarcation process, municipalities with populations below 2,000 were considered too small to provide efficient public services, and thus were ineligible for I grants. Post demarcation, only a few District Management Areas have populations below 2,000. The smallest category B local government is Laingsburg in the Western Cape, with an estimated population in 2001 of 6,336.

It is important to emphasize that the I grant is a small grant program, with the 2001/02 allocation equal to R5.9 per person. As illustrated in Table 2, the per capita allocations are targeted to small local governments, with an average allocation to local governments with populations under 10,000 equalling R141, an average per capita allocation to municipalities with populations between 10,000 and 25,000 of R86, and an average allocation of R35 in places local governments with populations between 25,000 and 50,000. Per capita I grant allocations are also targeted to low-income municipalities. As illustrated by the data in Table 2, per capita I grants falls as municipal income (measured by average per capita expenditures) rises. In the current financial year, the average per capita I grant allocation is about R17 in the bottom two expenditure deciles and under R2 in the top three deciles.

⁴ By “large concentration” we mean that in each of the listed local governments, the number of “near poor” households total about half the number of poor households.

As indicated above, the I grants are designed to provide financial assistance to help local governments establish the basic institutions of democratic governance and financial management. The Municipal Demarcation Board gathered some data on the institutional capability of local governments. These data may prove useful in assessing whether the I grants are well targeted to municipalities that are currently in the throes of establishing the institutions of government. An initial review suggests, however, that by targeting grants to small and low-income local governments, the I grant is effectively targeted to the jurisdictions with the greatest need for institution building. Further work on this issue is clearly needed.

As a result of demarcation, most of the municipalities currently receiving I grants will be merged with larger, more established municipalities. Although, this suggests that the need for I grants may thus be reduced, in the next few years substantial amounts of institutional building will still be necessary, especially in newly demarcated local governments that include substantial numbers of residents who are not currently served by well-functioning local governments. In these jurisdictions, I grants could be used to expand the political institutions and infrastructure necessary for the delivery of services to the entire municipal population. Over time however, as local governments become well established, I grant in its current form will probably no longer be needed.

Even after the institutions of municipal government are well established, all municipal governments will have ongoing expenditures associated with governance and general administration. International experience in a large number of countries indicates that substantial economies of scale exist in the provision of general governance and administration for local governments. It is thus likely that in the long run, the recently completed demarcation process, by increasing the size of the average municipal government, will reduce the average per capita cost of governance. Once the new governments are well established, it is probably preferable to include the costs associated with governance and administration in the calculation of each municipality's expenditure needs, and then to allocate equitable share transfers using a single formula that accounts for both the expenditure needs and revenue raising capacity of each municipal government.

5 MEASURING EXPENDITURE NEED

Earlier in this report we suggested that the current S grant formula is not appropriate for achieving the goals of a mature intergovernmental system. A formula that allocates grants to municipal governments in proportion to their fiscal condition as measured by their need-capacity gap would be effective in providing municipalities with adequate resources to provide their residents with basic services while simultaneously accounting for their ability to raise their own revenues.

In this section we focus on the conceptual issues involved in measuring the expenditure need of each municipal government. Recall that the expenditure need of any given municipality is the minimum amount of money that municipality must spend to provide basic services. The measurement of expenditure needs thus requires a determination of exactly how basic services are defined in each municipality and an estimate of the costs of delivering this mix and level of public services. The starting point for the measurement of expenditure needs is thus determining a definition of *basic municipal services*.

The Government has the responsibility for defining both which services and which levels of those services are to be considered as basic. The process of defining basic services is quite complex. As we shall explain in more detail below, different types of municipalities and different parts of single municipalities may require different sets of services and different levels of the same service. This point can be seen most clearly by the use of several examples. Thus, for example, in rural areas ventilated improved pit latrines are a quite adequate means of providing basic sanitation services. At the same time, in cities and dense urban areas, waterborne sewer systems are essential to prevent the spread of diseases, and therefore in those settings, these systems define basic sanitation services. Even in countries that are far richer than South Africa, one does not find the use of waterborne sewer systems in rural settings, as they would be prohibitively expensive.

For reasons of public health and public safety, the list of basic municipal services in urban municipalities will probably be more extensive than the list of basic services in rural areas and in villages. For example, storm water management and street lighting should probably be considered basic municipal services in most dense, urban areas, while both of these services would be either unnecessary or categorized as luxuries in most rural scattered settlements and villages.

The Government has yet to make a definitive decision about which services are to be considered *basic*. It may well be politically difficult to decide that some services are basic in urban areas, but not required in rural areas. Nevertheless, unless the government recognizes the very real differences in municipal needs among different types of municipalities, it is likely that national resources will be allocated in an inefficient manner. Although there is no consensus about which services are to be considered basic (at least in some municipalities), strong arguments have been made in support of categorizing the following services as basic:

- Potable water
- Sanitation
- Solid waste removal
- Electricity
- Roads
- Municipal (primary) health
- Storm water management
- Firefighting and emergency services
- Street lighting

In determining both which services are basic and what level of each service is basic in different types of communities, the government can turn both to the constitution and to existing policies and legislation. As part of the Financial and Fiscal Commission's June 2001 submission to Parliament, the Commission discusses in considerable detail the specific constitutional and legislative foundations for categorising various public services as basic.

An important objective of this report is to develop a methodology for calculating the local government equitable share in a mature system of local government. The local government sector will be mature when most municipalities have developed the capacity to provide their residents with a set of basic services and to collect necessary revenues. Although it is

impossible for us to predict how long it will take for all municipalities to reach maturity, for the purpose of this analysis, we have chosen the year 2009. That year is also the 10th year of the Palmer Development Group's District Services Models that are discussed in the Task 4 reports. Those models assume that by 2009, the category B municipalities in their models will be able to provide basic services to all their residents.

In Table 3, we present a set of possible definitions of basic municipal service levels for five different types of settlement areas and for five services: water, sanitation, electricity, solid waste removal, and roads. Table 4 lists the definitions of the five settlement types: urban, dense settlements, villages, scattered settlements, and farmland. The constitutional or policy/legislative basis for considering these five services as basic can be found in the Financial and Fiscal Commission's June 2001 submission to Parliament. It is important to emphasize that basic service levels listed in Table 3 are for the year 2009. It is the role of the government to determine the appropriate definitions of basic municipal services.⁵ Over time, as the economy of South Africa develops, the definition of what is acceptable as a basic level of service will undoubtedly change.

In choosing the particular definitions of basic service levels found in Table 3, we tried to reflect existing government policies and also our judgement about levels of service that may be obtainable by 2009, given current economic conditions and existing levels of public service provision. It is important to emphasize that the service levels in Table 3 reflect one possible set of definitions of basic services; other choices can be made.

We'll make a few comments on specific basic service definitions. For reticulated water service, we have defined the basic level of service in urban areas as in-house water supply. This choice reflects the fact that in-house service is already the norm in many urban cities and towns in South Africa. Data from the case studies produce by the Palmer Development Group as part of Task 4 indicate that in the urban portion of category B municipality Buffalo City (EC125), 64 percent of households currently have in-house water supply. The corresponding percentages for Thaba Chweu (MP321), Mbombela (MP322), and Pietermaritzburg (KZ225) are 67 percent, 71 percent, and 58 percent, respectively. A similar argument is made for defining the basic service level for sanitation in urban areas as a full waterborne sewage system. In the urban portion of Buffalo City, 68 percent of households currently enjoy waterborne sewage, with the percentages in Mbombela being 70 percent, and 67 percent in Buffalo City and 50 percent in Pietermaritzburg.

The next step in the process of calculating expenditure needs is to determine the *costs* of basic municipal services. Costs are not the same as actual spending. The costs of a public service provide a measure of the **minimum** amount of money needed to provide the service. Due to inefficiency or mismanagement, a municipality may spend more than average on the

⁵ In the Revised Municipal Infrastructure Investment Framework (MIIF), the government defines "basic service" levels for the five services listed in table 3 plus stormwater management. Their definitions do not explicitly vary by settlement type, although they describe four different levels of service: basic, intermediate, full (low income) and full (high income). The basic service levels in the MIIF are almost identical to the service levels listed in table 3 for farmland, scattered, and village settlement areas.

**Table 3:
Possible Definitions of *Basic Services* in Different Settlement Areas**

	Farmland	Scattered	Villages	Dense	Urban
Water	Communal standpipes within 200 meters of house	Communal standpipes within 200 meters of house	Communal standpipes within 200 meters of house	Yard taps and yard tanks	In-house
Sanitation	Ventilated Improved Pit (VIP) latrine or equivalent	Ventilated Improved Pit (VIP) latrine or equivalent	Ventilated Improved Pit (VIP) latrine or equivalent	Simple waterborne, including shallow sewers and septic tanks.	Full waterborne sanitation (fully sewerred systems).
Electricity	Solar panel or limited supply	Solar panel or limited supply	20 Amp supply)	20 Amp supply	20 Amp supply
Solid waste	Communal dumping site	Communal dumping site	Communal bins	Communal bins	Curbside
Roads	Graded roads	Graded roads	Graded roads	Gravel roads	Gravel roads

**Table 4:
Definition of Settlement Types**

- **Urban:** Typically densities of more than 15 households per hectare, often higher in the business districts. Relatively large proportion of multi-story development.
- **Dense settlements:** Large settlement size (over 5,000 people). Densities generally above 10 households per hectare. Generally no business district.
- **Villages:** Settlement size in range of 5,000 to 500 people. Densities within settlements typically over two households per hectare.
- **Scattered settlements:** Households in small groups. Density below two households per hectare; often much less. Little commercial activity.
- **Farmland:** Low density (below one household per hectare). Associated with commercial farming activity.

provision of a particular service. This higher than average level of spending should in no way be reflected in the calculation of the costs of delivering that service. If measured correctly, costs should only reflect factors that can not be directly influenced by individual municipal governments, such the technology available to provide the service and the environment in which the service is to be provided. Costs will be affected by the level of service to be provided. Thus, the costs of operating and maintaining a simple waterborne sewage system will be higher than the costs of a pit latrine. In addition, the topology of the land, and the density of the settlement patterns can have large impacts on the costs of delivering any given service to a household.

As part of the Municipal Infrastructure Investment Framework, estimates have been made of the average costs per household of providing different levels of basic services in different settlement types. These data have been updated to 1999 and are presented in a series of reports and in the District Service Models prepared by the Palmer Development Group (PDG) as part of Task 4 of this project. In this report, we use these data to provide estimates of expenditure needs for the ten category B municipalities that were analysed in the three PDG case studies.

Accurate measures of costs are difficult to obtain. It is thus important to emphasize that the cost estimates used in this report should be interpreted as rough, preliminary estimates of true costs. More detailed studies of the costs of service delivery in various environments will need to be conducted in order to improve knowledge concerning the costs of delivering local government public services. As there remains a considerable amount of uncertainty concerning the costs of delivering municipal services, in this report we present two alternative sets of cost estimates. The first set is labelled as *moderate estimates* and the second set as *higher estimates*. The estimates are presented in Tables 5 and 6. Each entry presents an estimate of the monthly cost per household of providing a municipal service such as potable water or sanitation in a specified type of settlement area. All numbers in Tables 5 and 6 are in 1999 rand.

Table 5:
Average Monthly Costs per Household for Selected Basic Municipal Services
 (Rand per household per month in 1999 rand)

Moderate Estimates

	Farmland	Scattered	Villages	Dense	Urban
Water	20	20	20	32	41
Sanitation	6	6	6	55	73
Electricity	39	36	70	71	66
Solid Waste Removal	1	1	12	13	17
Roads	3	3	3	5	7
TOTAL (5 services)	68	66	111	176	204
Municipal Health	35	35	35	35	35
Fire Protection*	8	8	5	4	3
TOTAL (7 services)	111	109	151	215	242

*Includes ambulance and other emergency services

Source: Author's calculations based primarily on information from Palmer Development Group, *Report on Financial Arrangements for Each Municipal Service Sector*, (South African Local Government Financial Reform Project, September 2000) and their District Service Models for the Amatola, Indlovu, and Lowveld and Escarpment District Councils.

Table 6:
Average Monthly Costs per Household for Selected Basic Municipal Services
 (Rand per household per month in 1999 rand)

Higher Estimates

	Farmland	Scattered	Villages	Dense	Urban
Water	29	29	29	45	75
Sanitation	6	6	6	85	105
Electricity	54	51	130	131	126
Solid Waste Removal	1	1	17	18	31
Roads	5	5	5	8	11
TOTAL (5 services)	95	92	187	287	348
Municipal Health	40	40	40	40	40
Fire Protection*	9	9	6	5	4
TOTAL (7 services)	144	141	233	332	392

*Includes ambulance and other emergency services

Source: Author's calculations based primarily on information from Palmer Development Group, *Report on Financial Arrangements for Each Municipal Service Sector*, (South African Local Government Financial Reform Project, September 2000) and their District Service Models for the Amatola, Indlovu, and Lowveld and Escarpment District Councils.

The cost numbers in Tables 5 and 6 are directly linked to the basic service definitions listed in Table 3. Thus, the per household cost listed for sanitation services in villages reflects an estimate of the costs of providing pit latrines, and the cost of solid waste removal in densely settled areas reflects the monthly per household cost associated with communal bins. The cost numbers in Tables 5 and 6 reflect only recurrent costs. In general, we have made the assumption that the capital investments associated with providing municipal services are funded primarily by grants from the national government. This implies that the cost numbers listed in Tables 5 and 6 do not account for recurrent costs associated with debt services. To the extent that municipal governments begin to utilize debt for the financing of the capital infrastructure, the cost estimates presented here will need to be substantially increased. In line with the DPG reports, we also assume that the real cost per household will remain unchanged between 1999 and 2009. Despite uncertainty about their accuracy, we use the estimated cost numbers in Tables 5 and 6 to calculate municipal expenditure needs for the year 2009.

The top panels of Tables 5 and 6 provide cost data for five core basic services—water, sanitation, electricity, solid waste removal, and roads. These five municipal services plus stormwater management make up the list of basic services in the government’s Revised Municipal Infrastructure Investment Framework.⁶ The data indicate that the monthly per household costs of basic services vary substantially by settlement type. In general, costs are lowest in rural farmland and in areas with scattered settlements and highest in urban areas. Using our moderate cost estimates, the monthly per household cost of the five core services ranges from R66 in scattered settlements to R204 in urban areas. With the higher cost estimates, the range of monthly costs is from R92 to R348. These cost differences across settlement types primarily reflect higher basic service levels in more urbanized areas. For some services, 20 amp electric supply and fire protection, in particular, economies of scale result in somewhat lower per household costs in urban compared to less dense areas.

The bottom panel of Tables 5 and 6 include monthly per household cost data for municipal health and fire protection and emergency services. There is a substantial amount of uncertainty concerning the costs of municipal health. The question of what health related services should be categorized as *municipal* health and how the responsibility for public health care in South Africa should be divided between municipal and provincial governments are questions that are currently being investigated by the national and provincial departments of health. In the absence of clarity on these issues, we assume that the definition of basic services and the cost per household are invariant across types of settlement areas. While local governments are responsible for firefighting, the constitution assigns responsibility for ambulance services to provincial governments. Municipal governments, however, often provide ambulance and emergency services on an agency basis for provinces. Separate cost data for firefighting and ambulance services are not available. The data in Tables 5 and 6 reflect the fact that costs per household decline as residential density increases.

In order to calculate the 2009 expenditure needs of each of the 10 category B municipalities in the PDG case studies, it is necessary to have an estimate of the distribution of households in 2009 in each municipality across the five settlement types. PDG’s District Service Models

⁶ For more information see *The Revised Municipal Investment Framework; A Framework for Delivering Water and Sanitation, Energy, Roads and Stormwater Drainage and the Disposal of Solid Waste*, 7 December 2001.

provide data on the household distributions for a base year of 1999. We assume (as does PDG) that the number of households in urban areas will grow at a rate of two percent per year between 1999 and 2009, and the number of households in the rest of the country will grow at a one percent annual rate during this time period. With these assumptions we can calculate the percentage of total households in each municipality that will reside in each type of settlement area in 2009.

With this information in hand, it is easy to calculate the amount of money each municipality will need in order to provide each basic municipal service in 2009. We will demonstrate the calculation using the example of potable water service in Nkonkobe (EC127), a small urban municipality in the Eastern Cape. First, we calculate that of the approximately 32,300 households that we project will live in Nkonkobe in 2009, 21 percent will live on farmland or in scattered settlement, 61 percent in villages, and 18 percent in urban areas. The second step is to calculate a weighted average of the monthly per household costs of water service, i.e. the numbers from the first row of Table 5. The weights are the percentage of households in each type of settlement. Thus, the average monthly per household cost of water service in Nkonkobe is R24, i.e. 21 percent of R20 plus 61 percent of R20 plus 18 percent of R41. This figure contrasts with a R34 average cost in Buffalo City (EC125), where nearly 70 percent of the households live in higher cost urban areas.

Tables 7 and 8 present the results of these calculations for seven municipal services in the 10 municipalities studied by the Palmer Development Group. It is important to emphasize that the numbers in these tables are estimates of what the per household costs of services will be in 2009. The estimates are based on a large number of assumptions and they will need to be refined as better data become available. These costs estimates reflect technological and economic considerations, and not funding arrangements. Thus, even in circumstances when District Councils provide services, expenditure needs are calculated on a Category B municipality basis reflecting the fact that only Category B municipalities receive equitable share transfers.

To convert these monthly per capita costs to total annual costs for each municipality, we merely multiply the monthly costs by 12 and by the number of resident households. Summing across the seven basic public services provides an estimate of the expenditure need for residential services for each of the ten municipalities. Municipal governments also provide public services for non-residential consumers. These include business establishments of all types--retail and wholesale commerce, services, and manufacturing. Defining basic service levels for this very diverse group of enterprises is difficult. Our approach is again to rely on information from the Palmer District Services Model. The model provides estimates of the monthly cost per non-resident consumer unit of the provision of services by settlement type. The model also provides an estimate of the number of non-residential consumer units by settlement type for each district council for 2009.⁷ We make the assumption that the number of non-residential consumer units for each settlement type in each Category B municipality is proportional to each municipality's share of the district council total of households by settlement type. For example, we estimate that in 2009, Indlovu District Council will have a population of nearly 230,000 households and 1,040 non-residential units living in villages. As Buffalo City (EC125) will have about 24 percent of the district council's total village-resident

⁷ Data on non-residential consumers are not available for the Loweveland and Escarpment District Council.

Table 7:
Average Recurrent Costs for Selected Basic Services
 (Rand per household per month in 1999 rand)

Moderate Estimates

Municipality			Water	Sanitation	Electricity	Solid Waste	Roads	Total for 5 Services	Health	Fire	Total for 7 Services
Name	Number	Type									
Pietermaritzburg	KZ225	Large urban	38	65	63	15	6	188	35	4	226
Mooi River	KZ223	Small urban	28	31	49	7	5	120	35	6	161
Impendle	KZ224	Rural	25	29	53	6	4	117	35	6	158
Mbombela	MP322	Large urban	33	53	65	12	5	168	35	4	207
Thaba Chweu	MP321	Small urban	27	29	55	8	4	123	35	6	164
Umjindi	MP323	Small urban	32	43	54	10	5	144	35	5	184
Nkomazi	MP324	Rural	29	42	66	11	5	153	35	5	192
Buffalo City	EC125	Large urban	34	52	66	15	6	173	35	4	212
Nkonkobe	EC127	Small urban	24	18	62	11	4	118	35	5	159
Mbhashe	EC121	Rural	20	8	69	12	3	113	35	5	153

Table 8:
Average Recurrent Costs for Selected Basic Services
 (Rand per household per month in 1999 rand)

Higher Estimates

Municipality			Water	Sanitation	Electricity	Solid Waste	Roads	Total for 5 Services	Health	Fire	Total for 7 Services
Name	Number	Type									
Pietermaritzburg	KZ225	Large urban	68	94	119	27	10	318	40	5	362
Mooi River	KZ223	Small urban	46	44	81	12	7	191	40	7	238
Impendle	KZ224	Rural	37	43	88	9	6	183	40	7	230
Mbombela	MP322	Large urban	52	78	118	20	8	276	40	5	322
Thaba Chweu	MP321	Small urban	44	41	94	14	7	199	40	7	246
Umjindi	MP323	Small urban	55	61	95	18	8	236	40	6	282
Nkomazi	MP324	Rural	42	64	119	16	7	249	40	6	294
Buffalo City	EC125	Large urban	60	73	125	26	9	294	40	5	339
Nkonkobe	EC127	Small urban	37	24	113	16	6	197	40	6	243
Mbhashe	EC121	Rural	30	9	129	17	5	190	40	6	236

households, we assume that it will have 250 (i.e., 24 percent of 1,040) non-consumer units in its villages in 2009. We then aggregate across settlement types to arrive at a total number of non-consumer units in Buffalo City.

The final step in estimating expenditure need for each of the ten Category B municipalities is to add together the residential and non-residential components. Again we will use Buffalo City as an example. First, for each settlement type, we multiply the monthly cost per household for the seven basic services (from the bottom line of Table 5) by the proportion of the municipality's population in each type of settlement. Thus, as 29 percent of Buffalo City's households are estimated to live in villages and 68 percent in urban areas, we multiply R151 by 0.29 and R242 by 0.68. Summing the results across the five settlement types, multiplying the sum by 12 and by the estimated number of households (approximately 189,000) yields an estimated expenditure need of approximately R479 million. We add to that our estimate of R7.3 million for non-residential consumer units, for a total of R486 million. This amount is equal to R2,579 per household. Table 9 summarizes the results for all 10 municipalities using both our moderate cost and higher cost estimates.

Not surprisingly, there is a wide range in expenditure needs, from under R2,800 to over R4,400. In each of the three district councils, per household expenditure needs are highest in the large urban municipalities. Although in the Eastern Cape and in KwaZulu Natal our rural municipality has the lowest per capita expenditure need, in our Mpumalanga case study, the expenditure need per household is actually lowest in the two small municipalities categorized as *small urban*.

Before we can use these estimates of expenditure need to assess whether a fiscal gap exists in these 10 communities, we must have an estimate of their capacity to raise revenues. We turn to this task in the next section.

6 MEASURING REVENUE-RAISING CAPACITY

In principle, the revenue-raising capacity of a municipality can be measured by the amount of revenue it can raise using the revenue instruments it has at its disposal and applying a standard set of rates. This definition implies that for property tax rates, capacity is proportional to the value of taxable property measured in a consistent manner across all municipalities. For tariffs applied to tradable services, revenue-raising capacity is probably best measured as proportional to total residential income plus an adjustment for non-residential consumers.

Unfortunately, the data necessary to accurately measure revenue-raising capacity are not currently available in South Africa. Thus, in the following paragraphs, we describe a methodology for estimating revenue-raising capacity that is based primarily on the measurement of tariff and rates revenues.

The only data source for which data for all 10 Category B municipalities were available is the municipal financial data set from the National Treasury. These revenue data are "estimates" rather than actual revenues for 1998-99. They are based on projections of total revenues a few months prior to the end of the fiscal year.

Table 9:
Expenditure Needs and Expenditure Needs per Household, 2009
(in 1999 rand)

Municipality			Based on Moderate Costs		Based on Higher Costs	
Name	Number	Type	Amount	Per Household	Amount	Per Household
Pietermaritzburg	KZ225	Large urban	392,878,824	2,790	622,461,512	4,420
Mooi River	KZ223	Small urban	10,670,749	1,968	15,707,805	2,897
Impendle	KZ224	Rural	13,070,398	1,913	18,973,481	2,776
Mbombela	MP322	Large urban	264,573,873	2,483	411,259,789	3,860
Thaba Chweu	MP321	Small urban	48,257,287	1,966	72,480,673	2,953
Umjindi	MP323	Small urban	29,697,855	2,209	45,567,308	3,389
Nkomazi	MP324	Rural	135,762,756	2,307	207,800,634	3,531
Buffalo City	EC125	Large urban	486,342,991	2,579	773,912,575	4,104
Nkonkobe	EC127	Small urban	62,020,586	1,919	94,779,376	2,933
Mbhashe	EC121	Rural	99,351,614	1,839	153,601,324	2,843

From these data we were able to aggregate revenues from all old TLCs that are amalgamated into the new Category B municipalities. We also checked the data and found that the old TRCs reported no tariff revenues in the base year (1999). Similarly, although there were budgeted revenue data for the district councils, no tariff revenues were reported for the districts in the base year. Therefore, the entire revenue base (consisting of both tariff revenues from water, sanitation, electricity, and solid waste services along with property rates) is assumed to be from urban areas.

In accord with the assumption made in the Palmer District Services Model, we also assumed a real economic growth rate of 3.5 percent per year that is constant over the projection period (through 2009). Likewise, we made no attempt to project inflation; instead, all numbers are in real rand. We also assumed the same population growth rates across settlement type as were used in projections of expenditure needs.

Since there is only a partial revenue base (tariff and property rate revenues in urban areas in the base year) available, an alternative method had to be used to project revenues in the settlements where, at present, no revenues are being collected. As is the case on the expenditure needs side, we used the number of households as the principal driver, i.e., determinant, of revenues (and implicitly revenue-raising capacity) for those areas.

It was also necessary to project the amount of tariff and property rate revenues that could be expected from each household. We anticipate that revenue collections will depend on household income; however, it is impossible to know exactly what an “appropriate” per household payment might be. For the purpose of this exercise we based our projections on assumptions built into the District Service Model (DSM) concerning how much a household at different levels of income would be “willing to pay” per month for different tariff-financed services. These assumptions are listed in Table 10.

The Palmer model also contains data on the distribution of households by income class (for *low-income* households, i.e., incomes < R3,500 per month) for each settlement type. These data are, however, available only at the district council level and not for municipalities. While the Palmer model also contains a projected distribution of households by income class for each settlement type in the final year of the projection period, we determined that this distribution is not necessarily consistent with the assumption that real incomes are growing by 3.5 per year. The household income distribution in the Palmer model is nearly identical to that in the base year. That is, approximately the same proportion of households is assumed to have monthly incomes less than R800 in 2009 as in 1999.

Rather than rely on this assumption, we devised a method to “shift” households from a lower income class into a higher class in response to the assumed growth in economic activity. The method entails the following:

- a. Assume that households are distributed uniformly within each income class. (We recognize that this is a rather unrealistic assumption.)
- b. Assume the each household’s income grows uniformly at the 3.5% annual growth rate.

Table 10:
“Willingness to Pay” Assumptions from the Palmer
Development Group’s District Services Models
 (Rands per month per household)

	Monthly Payments			
	Monthly Household Income			
Urban	0-800	801-1500	1501-2500	2501-3500
Water	16	34.5	50	60
Sanitation	6	13.8	20	30
Electricity	16	36.8	60	90
Solid Waste	4	9.2	12	15
Property Rates	4	12.0	20	30
Dense				
Water	16	34.5	50	60
Sanitation	6	13.8	20	30
Electricity	16	36.8	60	90
Solid Waste	6	17.25	20	30
Village				
Water	16	34.5	50	60
Sanitation	6	13.8	20	30
Electricity	16	36.8	60	90
Solid Waste	6	17.25	20	30
Scattered				
Water	16	34.5	50	60
Sanitation	6	13.8	20	30
Electricity	16	36.8	60	90
Solid Waste	6	17.25	20	30
Rural				
Water	16	34.5	50	60
Sanitation	6	13.8	20	30
Electricity	16	36.8	60	90
Solid Waste	6	17.25	20	30
Other	6	17.25	30	45
Total	50	119.6	180	255

- c. The previous assumption means that a household at R800/month income in the base year would have an income of R1,128 in 2009; a household at zero income in the base year would still be at zero. Since the incomes are assumed to be uniformly distributed in the base year, they will still be uniformly distributed in the final year; however, they are spread over a wider range, i.e., from zero to 1,128. For the households originally in the 0-800 group in the base year, 29 percent $(1,128-800)/1,128$, will lie in the second income group (801-1,500).

- d. The same procedure is followed for each of the other income classes. That is, some households originally in the second income group will shift up to the third group; similarly for the fourth and fifth income groups.
- e. The procedure is applied to each settlement type within each district.

Although it would have been feasible to estimate revenues by simply multiplying the adjusted distribution of households times the assumed household payments of tariffs and property rates, doing so would ignore the revenues observed in the TLCs during the base year. Thus, for the urbanized areas of each municipality another set of assumptions was used for tariffs and property rates.

For the existing tariff revenues, the Palmer model included an estimate of the proportion of total services (for each trading service and refuse collection) consumed by non-residential users. We assumed that this percentage was equal to the percent of tariff revenues raised in the TLCs in the base year. We then assumed that the non-residential tariff revenue base would grow over the projection period at a rate equal to the overall growth rate in the economy. This is equivalent to the assumption of a unitary income elasticity of demand for these services by non-residential users. For the residential component of revenues in the projection year we assumed that monthly household payments would be equal to the payments (willing to pay) estimates used in other settlement types as drawn from the Palmer work.

The assignment of per household tariffs not to exceed the assumed costs of services for the four low income groups (monthly incomes below R3,500 per month) implies that such households are not subsidizing the services for others. However, it is reasonable to expect that the high income category of households (monthly income >R3,500) will make payments in excess of the service costs. The question is what monthly household payments constitute a reasonable assumption for the purpose of our estimation of revenue-raising capacity.

We first determined the proportion of monthly household incomes that were assumed to constitute tariff (and property rate) revenues of the low income households by computing the ratio of assumed tariff payment to the mid-point of each household income category. Total payments for the four services considered here (water, sanitation, electricity, and refuse collection) were assumed to range from 6.5 to 10.5 percent in the urban areas and 7 to 11 percent in the non-urban settlements. (Interestingly, the assumed payments were found to be the highest proportion of income for the lowest (0 – 800 rand) income group.) For the purpose of our projections, we assumed that from 6.5 to 7 percent of incomes of the highest income group would be paid in the form of tariffs and property rates. (Specifically, the percentages used were: 2 for water, 1 for sanitation, 3 percent for electricity, 0.5 percent for solid waste removal, and 1 percent for property rates in urban areas.)

However, since no detailed data on household incomes are available for this highest income group, a single value of monthly household income had to be used. We (admittedly arbitrarily) chose that value to be R7,000 per month which is twice the value of household income of “poor” households.

It is important to mention that there were some potential inconsistencies between the “willingness to pay” assumptions shown in Table 10 and the monthly household costs used to

project expenditure needs. In quite a few instances, the Palmer willingness to pay estimates (for the households with monthly incomes less than R3,500) exceeded the monthly per household costs used to project expenditures. To increase the consistency between the expenditure needs and revenue capacity estimates, the following assumption was made: Where our monthly per household moderate cost estimates were less than the willingness to pay entries, the household cost estimates were substituted for the willingness to pay entries. The implication of each of these assumptions is that tariffs are imposed to cover costs of operation. (It should be emphasized that the cost estimates exclude any costs of financing the infrastructure associated with the service. Therefore, they understate the full costs of expanding services to the entire population.)

Estimating revenues from property rates also created challenges. For the urban areas already imposing and collecting property rate revenues, it was not possible to allocate base year revenues into residential and non-residential components and use a technique similar to that for the tariffs. Instead, we base our estimates of the growth in property rates revenue capacity in urban areas on the assumed growth in the real economy (3.5 percent per annum) and an assumption about the income elasticity of property rates revenues. In fact, we made two different assumptions – an optimistic assumption that the elasticity is unity (i.e. a one percent increase in income leads to a one percent increase in revenues) and a more pessimistic assumption that the elasticity is only 0.5.

Few countries are capable of achieving an income elasticity of one for the local property tax. This stems from long lengths of time between reassessments, undervaluation of property for taxing purposes, and failure to collect the taxes due on a timely basis. However, in the urbanized areas of the new municipalities there may be considerable room for expansion of the tax base over the next ten years so that the assumption of a unitary elasticity may not be too unrealistic.

For areas where property rates are currently not imposed, making estimates of future tax revenues is even more heroic! Much will depend on how quickly all the tasks associated with putting the necessary tax administration structure in place can be completed. Realistically it is unlikely that these tasks can be completed within the next five years; even ten years may be overly optimistic. We, therefore, made our projections under two sets of assumptions. Under the optimistic scenario we assume that property rates will, in ten years, be collected in settlements outside the urbanized areas and that the per household payments of those taxes will equal one-half the levels assumed in the Palmer model for each income group. The pessimistic assumption is that ten years is an insufficient period of time to put a property rates structure in place and that property rates revenues will be zero for all areas outside the urbanized portions of the municipalities.

The discussion in the previous paragraphs has focused on “own-source revenues,” meaning those revenues raised from levies on local residents and businesses. A municipality’s implicit revenue-raising capacity can also be increased if it receives resources from other governments or from governmental, non-profit, or private agencies in support of its concurrent (non-capital) costs of providing public services. The receipt of such funds by a municipality will have the impact of reducing that municipality’s need-capacity gap. Examples of non-equitable share transfers that could have a positive impact on municipalities’ revenue-raising capacity are poverty relief allocations from the LED fund, and direct expenditures or transfers by government ministries, such as the Department of

Water Affairs and Forestry (DWAF), or independent agencies, such as Eskom. None of these potential sources of municipal revenue are included in the revenue-raising capacity estimates that we make in this report.

We have summarized the full set of assumptions used for the revenue-raising capacity projections in Table 11.

**Table 11:
Assumptions Used to Estimate Revenue-Raising Capacity**

Revenues	Pessimistic	Optimistic
Tariffs		
Current users	Non-residential portion of tariffs in base year increase at the same rate as growth in the economy (3.5%/year); Tariff revenues from residents projected on a per HH basis using same assumption as for new users	Non-residential portion of tariffs in base year increase at the same rate as growth in the economy (3.5%/year); Tariff revenues from residents projected on a per HH basis using same assumption as for new users
New Users	HH below R800/mo income pay zero; HH at higher income levels willing/able to pay only ½ of what's assumed in the PDG model	Use the willingness to pay numbers in PDG model (amounts per month by settlement type and income level)
Property Rates		
Current base	Income elasticity of 0.5 times expected 3.5% annual real growth	Income elasticity of 1.0 times expected 3.5% annual real growth
Expanded base	Zero revenues (can't implement in ten years)	Use the willingness to pay data in PDG model but since the expanded base is in non-urban areas, use one-half the entries shown there.

7 “FREE BASIC SERVICES”

In recent months, the government has begun to articulate a policy of providing South Africans with "free" basic municipal services. These services include the supply of potable water and access to electricity service. The guaranteeing of “free” services has direct implications for the revenue-raising capacity of municipalities. For the policy to be meaningful, any promise “free” services implies that the capacity of local governments has correspondingly been reduced.

No estimate of the fiscal impact of “free basic services” on the revenue-raising capacity of municipal governments is feasible until the policy has been fully articulated. Great care must be taken in defining what is meant by “basic services.” As has been emphasized earlier in this report, a sensible definition of “basic services” should depend on local conditions such

as density and settlement type. For example, while access to potable water within 200 meters of one's home may be a reasonable definition of "basic" water services for those living in villages, this standard may be inappropriate (and certainly unaffordable) for households who live in very remote places removed from other settlements or in places, such as on the top of hills, where providing a centralized water supply would be technologically and economically prohibitive.

A recent policy proposal by DWAF would guarantee each household in South Africa, six kiloliters of potable water. While this proposal might sound straightforward, decisions about the details will have large fiscal implications. One immediate question concerns the treatment of household of different sizes. Would a single-person household be entitled to the same amount of water as a household with 10 members? In municipalities where water is provided from a communal tap, how does one limit a household's "free" consumption? Only after a detailed policy has been developed, will it be possible to begin measuring the policy's impact on the revenue-raising capacity and the need-capacity gaps of municipal governments.

8 THE CALCULATION OF NEED-CAPACITY (FISCAL) GAPS

As we have explained previously, the fiscal gap for any municipality is defined as the difference between the municipality's expenditure needs and its revenue-raising capacity. If expenditure need and revenue-raising capacity are measured correctly, both are completely independent of any fiscal choices made by municipal governments. Thus, the fiscal gap provides an independent estimate of the ability of each municipal government to provide basic public services.

In the previous two sections of this report, we have provided two sets of estimates for both expenditure needs and for revenue-raising capacity. This implies four alternative measures of the need-capacity gap. (For simplicity, we will use as a shorthand expression, the term *fiscal gap*). We start with the most optimistic scenario, moderate costs and optimistic revenue estimates and move to the most pessimistic, and as we shall argue, probably the most realistic scenario, higher costs and pessimistic revenue projections. The results of our fiscal gap calculations are provided in Tables 12 through 15.

Table 12 illustrates the results from our most optimistic scenario—expenditure needs based on moderate cost estimates and a set of optimistic assumptions concerning revenue capacity. If these assumptions were to hold, positive fiscal gaps would result in only 4 of the 10 sample municipalities. Even under these optimistic assumptions, large fiscal gaps would exist in the three rural municipalities. For example, in Mbhashe (EC121) in the Eastern Cape, expenditure needs exceed revenue-raising capacity by 27 percent. In Impendle (KZ224) in KwaZulu Natal, the gap is equal to 55 percent of its revenue-raising capacity. It is important to point out that negative fiscal gaps in the urban areas do not mean that those municipalities have an excess of revenue. It only means that they have more than sufficient revenue to provide *basic services*. Recall that our estimates of expenditure needs are based on the assumption that basic electric service in urban areas consists of 20-amp service and basic roads have gravel surfaces. In many urban municipalities there may well be strong political pressure to provide higher than basic levels of service. Meeting these demands will obviously require additional revenue.

Table 12:
Fiscal Gap Calculations for 2009
Assuming Moderate Costs and Optimistic Revenue Projections
 (in 1999 rand)

Municipality			Expenditure Needs	Revenue-Raising Capacity (RRC)	Fiscal Gap	Gap per Household	Gap as a Percentage of RRC
Name	Number	Type					
Pietermaritzburg	KZ225	Large urban	392,878,824	726,513,179	-333,634,355	-2,369	-45.9%
Mooi River	KZ223	Small urban	10,670,749	17,802,536	-7,131,787	-1,315	-40.1%
Impendle	KZ224	Rural	13,070,398	8,444,169	4,626,229	677	54.8%
Mbombela	MP322	Large urban	264,573,873	290,643,146	-26,069,273	-245	-9.0%
Thaba Chweu	MP321	Small urban	48,257,287	64,055,776	-15,798,489	-644	-24.7%
Umjindi	MP323	Small urban	29,697,855	39,219,357	-9,521,502	-708	-24.3%
Nkomazi	MP324	Rural	135,762,756	127,627,282	8,135,474	138	6.4%
Buffalo City	EC125	Large urban	486,342,991	674,214,956	-187,871,966	-996	-27.9%
Nkonkobe	EC127	Small urban	62,020,586	55,560,817	6,459,769	200	11.6%
Mbhashe	EC121	Rural	99,351,614	78,200,219	21,151,395	392	27.0%

Table 13:
Fiscal Gap Calculations for 2009
Assuming Moderate Costs and Pessimistic Revenue Projections
(in 1999 rand)

Municipality			Expenditure Needs	Revenue-Raising Capacity (RRC)	Fiscal Gap	Gap per Household	Gap as a Percentage of RRC
Name	Number	Type					
Pietermaritzburg	KZ225	Large urban	392,878,824	630,150,495	-237,271,671	-1,685	-37.7%
Mooi River	KZ223	Small urban	10,670,749	13,622,512	-2,951,763	-544	-21.7%
Impendle	KZ224	Rural	13,070,398	4,679,025	8,391,373	1,228	179.3%
Mbombela	MP322	Large urban	264,573,873	227,261,195	37,312,678	350	16.4%
Thaba Chweu	MP321	Small urban	48,257,287	38,358,905	9,898,382	403	25.8%
Umjindi	MP323	Small urban	29,697,855	26,480,856	3,217,000	239	12.1%
Nkomazi	MP324	Rural	135,762,756	85,944,992	49,817,763	846	58.0%
Buffalo City	EC125	Large urban	486,342,991	477,524,852	8,818,139	47	1.8%
Nkonkobe	EC127	Small urban	62,020,586	37,422,299	24,598,288	761	65.7%
Mbhashe	EC121	Rural	99,351,614	44,538,492	54,813,123	1,015	123.1%

Table 14:
Fiscal Gap Calculations for 2009
Assuming Higher Costs and Optimistic Revenue Projections
 (in 1999 rand)

Municipality			Expenditure Needs	Revenue-Raising Capacity (RRC)	Fiscal Gap	Gap per Household	Gap as a Percentage of RRC
Name	Number	Type					
Pietermaritzburg	KZ225	Large urban	622,461,512	726,513,179	-104,051,666	-739	-14.3%
Mooi River	KZ223	Small urban	15,707,805	17,802,536	-2,094,731	-386	-11.8%
Impendle	KZ224	Rural	18,973,481	8,444,169	10,529,312	1,541	124.7%
Mbombela	MP322	Large urban	411,259,789	290,643,146	120,616,643	1,132	41.5%
Thaba Chweu	MP321	Small urban	72,480,673	64,055,776	8,424,897	343	13.2
Umjindi	MP323	Small urban	45,567,308	39,219,357	6,347,950	472	16.2
Nkomazi	MP324	Rural	207,800,634	127,627,282	80,173,352	1,362	62.8%
Buffalo City	EC125	Large urban	773,912,575	674,214,956	99,697,618	529	14.8%
Nkonkobe	EC127	Small urban	94,779,376	55,560,817	39,218,559	1,214	70.6%
Mbhashe	EC121	Rural	153,601,324	78,200,219	75,401,105	1,396	96.4%

Table 15:
Fiscal Gap Calculations for 2009
Assuming Higher Costs and Pessimistic Revenue Projections
 (in 1999 rand)

Municipality			Expenditure Needs	Revenue-Raising Capacity (RRC)	Fiscal Gap	Gap per Household	Gap as a Percentage of RRC
Name	Number	Type					
Pietermaritzburg	KZ225	Large urban	622,461,512	630,150,495	-7,688,983	-55	-1.2%
Mooi River	KZ223	Small urban	15,707,805	13,622,512	2,085,292	385	15.3%
Impendle	KZ224	Rural	18,973,481	4,679,025	14,294,457	2,092	305.5%
Mbombela	MP322	Large urban	411,259,789	227,261,195	183,998,593	1,727	81.0%
Thaba Chweu	MP321	Small urban	72,480,673	38,358,905	34,121,768	1,390	89.0%
Umjindi	MP323	Small urban	45,567,308	26,480,856	19,086,452	1,419	72.1%
Nkomazi	MP324	Rural	207,800,634	85,944,992	121,855,642	2,070	141.8%
Buffalo City	EC125	Large urban	773,912,575	477,524,852	296,387,723	1,572	62.1%
Nkonkobe	EC127	Small urban	94,779,376	37,422,299	57,357,077	1,775	153.3%
Mbhashe	EC121	Rural	153,601,324	44,538,492	109,062,832	2,019	244.9%

In Table 13, we retain our moderate cost assumptions, but apply our more pessimistic revenue assumptions. The result is that only two municipalities, Pietermaritzburg (KZ225) and Mooi River (KZ223) do not have positive fiscal gaps. The gaps in the rural municipalities have grown quite large, in excess of 1,000 rand per household. Table 14 provides the results for the other intermediate set of assumptions, namely, higher costs, but optimistic revenue capacity projections. Again eight of the ten municipalities have positive gaps, with gaps of over 1,000 rand per household in five municipalities.

Finally, in Table 15 we present the results of fiscal gap calculations based on our higher cost estimates and pessimistic revenue projections. With these assumptions, nine of the 10 municipalities would have positive fiscal gaps, and the tenth municipality, Pietermaritzburg, has a very small negative gap, equal to about one percent of its revenue-raising capacity. With this set of assumptions, eight municipalities have fiscal gaps that exceed 1,000 rand per household, and in the three rural municipalities, the fiscal gaps now exceed 2,000 rand per household.

It is important to emphasize that variations in the size of fiscal gaps per household are attributable to both differences in the expenditure needs and the revenue-raising capacity of municipalities. For example, the data in Table 15 indicate that while Mooi River and Buffalo City have very similar per household revenue-raising capacities, Buffalo City will be in much worse fiscal condition than Mooi River, as indicated by the fact that Buffalo City's per household fiscal gap is four times larger than Mooi City's.

One way to assess the magnitude of the fiscal gaps is to compare them to the actual equitable share allocations to each municipality during the current financial year. Table 16 displays our most pessimistic and most optimistic fiscal gap projections (from Tables 12 and 15, respectively), and compares them to the local government equitable share 2001/02 allocations. Under the optimistic scenario, current S grant allocations are larger in eight of the ten municipalities. Only in Impendle and Mbhashe are projected fiscal gaps larger than current S grant allocations. A very different picture emerges when we use our pessimistic fiscal gap projections. In that case, in all our sample municipalities except for Pietermaritzburg the projected fiscal gaps are many times greater than current S grant allocations. For example, in both Mbombela and Nkonkobe, we project fiscal gaps to be between R1,700 and R1,800 per household. This compares with actual S grant allocations per household in the two municipalities of R148 and R379.

We should emphasize that our estimates of expenditure needs were predicated on the assumption that nearly all of the capital infrastructure needed to provide basic services will be financed from grants from the national government and not from municipal borrowing. This appears to be a good assumption in most rural municipalities. On the other hand, municipal borrowing is occurring in some urban municipalities, and is likely to grow over time. To the extent, that urban municipal governments use debt financing to build the capital infrastructure needed to expand the provision of basic services to their entire population, then debt payments will increase and will need to be factored into our estimates of expenditure needs. Including debt service, will substantially increase the size of the fiscal gaps (or decrease the size of the negative gaps) in urban municipalities.

Table 16:
S Grants Compared to Projected Fiscal Gaps
 (Rand per household)

Municipality			Fiscal Gaps, 2009 (in 1999 rand)		S Grants, 2001/02
Name	Number	Type	Optimistic	Pessimistic	
Pietermaritzburg	KZ225	Large urban	-2,369	-55	165
Mooi River	KZ223	Small urban	-1,315	385	137
Impendle	KZ224	Rural	677	2,092	113
Mbombela	MP322	Large urban	-245	1,727	148
Thaba Chweu	MP321	Small urban	-644	1,390	249
Umjindi	MP323	Small urban	-708	1,419	281
Nkomazi	MP324	Rural	138	2,070	164
Buffalo City	EC125	Large urban	-996	1,572	362
Nkonkobe	EC127	Small urban	200	1,775	379
Mbhashe	EC121	Rural	392	2,019	342

The calculation of fiscal gaps was based on a definition of “basic municipal services” that includes seven specific services. As we have argued above, in the nation’s most dense and urbanized municipalities, and especially in its Category A municipalities, additional services, such as stormwater management and street lighting may be considered essential for the maintenance of the health and welfare of municipal residents. If this is the case, the fiscal gaps calculated for the large urban municipalities in our sample would be underestimated. Our measure of expenditure needs also took no account of municipal spending associated with democratic governance and general administration. Although determining the basic costs associated with these core governmental functions is difficult, the calculation of fiscal gaps should not ignore the expenditure needs associated with administering municipal governments.

9 DESIGNING AN EQUITABLE SHARE ALLOCATION FORMULA

The role of a local government equitable share formula is to prescribe in a systematic manner how the local government equitable share will be divided among all eligible local governments. Under current law, eligibility for equitable share allocations is limited to all Category A and Category B municipalities except for District Management Areas.⁸ In designing an equitable share formula, it is important that the final formula allocates fiscal resources across municipal governments in a manner that achieves the constitutionally-mandated goals of the equitable share. Section 214 of the constitution requires that the equitable share be allocated in a way that ensures that municipal governments provide basic services. The constitution also mandates that the distribution of the equitable share account for the fiscal capacity of municipalities and the economic disparities that exist within provinces. To encourage efficiency in the provision of local public services, it is also important that equitable share allocations to any given municipality cannot be influenced by the spending or taxing decisions of that government.

We have argued earlier in this paper that the goals of the local government equitable share can be achieved by allocating equitable share transfers in proportion to the need capacity gaps of municipal governments. This implies that on a per household basis, the largest equitable share allocations would go to municipalities with the largest fiscal gaps. To implement such a formula, it is necessary that the government make a number of policy decisions.

The starting point for the design of an equitable share formula is the measurement of fiscal (need capacity) gaps for each municipality. Even if all the appropriate data were at hand, it is important to reiterate that the calculation of fiscal gaps requires that the government make several policy decisions. First, a decision must be made concerning which services are to be considered “basic.” Second, as discussed in detail earlier in this report, decisions must be made about what levels of service are defined as basic. Clearly, higher levels of services will result in higher expenditure needs, and hence, larger fiscal gaps. The revenue-raising capacity of any municipal government depends both on the tax base of that government and on the level of *fiscal effort* required of local residents and businesses. Thus, the third policy decision that is a prerequisite to the calculation of fiscal gaps is a decision concerning the

⁸ Although district councils (Category C municipalities) are not directly eligible for equitable share transfers, as discussed in the Task 4 report, in cases where district councils are given the responsibility for providing basic municipal services, financing should follow functional responsibilities. This may imply that resources from equitable share allocations will be transferred from Category B municipalities to Category C to finance direct service delivery.

level of fiscal effort (defined as minimum tariff and property tax rates) required of individuals and businesses.

These decisions will have a direct influence on the size of both the fiscal gaps of individual municipal governments and on the size of the aggregate local government fiscal gap. If it is government policy to use equitable share allocations to completely close the fiscal gaps of eligible municipal governments, then the decision discussed in the previous paragraph will in effect define the size of the aggregate local government equitable share. In this case the equitable share formula could take the following simple form:

$$(1) \quad \text{if } G_i > 0, \text{ then } A_i = G_i,$$

$$\text{if } G_i \leq 0, \text{ then } A_i = 0.$$

Where A_i = the equitable share allocation to municipality i , and
 G_i = the fiscal gap in municipality i .

With this formulation, the sum of the fiscal gaps (G_i s) across all eligible municipalities would by definition equal the aggregate equitable share for local government.⁹

It is important to emphasize that whether a given municipality has a positive or negative gap depends in part on the policy decisions of government concerning both the definition of basic services and the level of required revenue effort by municipal tax and tariff payers. A municipality with a negative gap is not necessarily in strong fiscal health and undeserving of an equitable share transfer. For this reason it is best to think of municipalities with negative fiscal gaps as being in a stronger fiscal position than municipalities with positive gaps, rather than in strong fiscal health in an absolute sense. In fact, there may be constitutional and political reasons to argue that all category A and B municipalities should be entitled to receive an equitable share transfer, regardless of the size of their fiscal gaps.

It is not difficult to design an equitable share formula that provides equitable share allocations to all municipal governments, including those with negative valued gaps. One possibility is to calculate the difference between each municipality's fiscal gap and the largest (in absolute value) negative gap. Equitable share allocations would then be calculated in proportion to these calculated differences. For an example of this type of formula the reader is directed to the following article: Katharine Bradbury, Helen F. Ladd, Mark Perrault, Andrew Reschovsky, and John Yinger, "State Aid to Offset Fiscal Disparities Across Communities," *National Tax Journal*, June 1984: 151-169.

10 CONCLUSIONS

In this report we have laid out a framework for thinking about the long-run future of the equitable share for local government. The underlying premise of our analysis and the conclusions we are able to draw is that the equitable share must play a central role in ensuring that local governments are able to fulfil their constitutionally-mandated obligations to provide basic municipal services to all residents. All municipal governments are required to make a

⁹ If the aggregate local government equitable share (ES_{LG}) is determined independently, then equitable share allocation to each municipality with a positive fiscal gap could be defined as a share, α_i , of ES_{LG} , where α_i is defined as $G_i / \sum G_i$, with the summation over all positive value gaps.

reasonable effort to raise revenues on their own. Equitable share transfer should play a role when local governments have insufficient revenues to meet the costs of providing basic municipal services.

As a basis for determining the allocation of equitable share transfers among local governments, one needs an objective and measurable indicator of the fiscal condition of local governments. For this purpose, we propose the calculation of need-capacity (or fiscal) gaps, where the gap for each municipality is defined as the difference between its expenditure needs and its revenue-raising capacity. *Expenditure needs* provide a measure of the minimum amount of money necessary for a local government to provide basic municipal services and any other functions it has been assigned, and *revenue-raising capacity* is a measure of the amount of revenue a local government can raise from local source by applying a uniform set of tax and tariff rates.

As we attempt to demonstrate in this report, the critical element in the definition of a municipality's expenditure need or revenue-raising capacity is that it reflects only factors that are outside the control of the local municipality. Thus, for example, the calculation of a municipality's expenditure need should reflect an objective measure of the costs of providing a set of basic services, where the definition of basic services is determined, by national government through the issuance of a set of "norms and standards." Likewise, a municipality's revenue-raising capacity should provide an objective measure of its tax base, and not reflect its own decisions on tariff levels and rates.

The primary focus of this report is on the role and the structure of the local government equitable share in a "mature" system of local government in South Africa. We suggest that local government will reach full maturity only after all municipalities have succeeded in providing all their residents with basic municipal services and implemented a full set of local revenue instruments, such as property tax rates and tariffs on tradable services. In this report, we have provided an estimate of the expenditure needs and revenue-raising capacity of a small sample of municipalities under the assumption that they have reached maturity. For operational purposes, our expenditure need and revenue-raising capacity estimates are made for the year 2009.

The report provides four alternative estimates of need-capacity gaps for 10 Category B municipalities divided among three District Councils. These 10 municipalities are in no way a random sample of local governments in South Africa, but they have been chosen to represent a quite wide range of different types of jurisdictions from large urban centres to very rural communities. Projecting both expenditure needs and revenue-raising capacity has required a large number of assumptions. Alternative assumptions would have resulted in different estimates of the fiscal gaps in our 10 sample municipalities. Although our fiscal gap estimates should be interpreted with care, we are confident in concluding that, unless our most optimistic scenario comes true, many municipalities will face substantial fiscal gaps in the future.

Our major contribution in this report is the development of a framework for assessing the fiscal condition of municipal governments in South Africa and the initial development of a methodology for the measurement of fiscal gaps. Although the absence of data for Category A municipalities and the non-random nature of our sample prevents us from making a quantitative estimate of the country's aggregate fiscal gap, the methodology we used in

calculating expenditure needs and revenue-raising capacity allows us to predict that many other municipalities throughout the country with similar settlement patterns to our sample municipalities, will also face large fiscal gaps.

Despite the fact that we have found large fiscal gaps in some communities and evidence that the existing system of S grants does a poor job in filling those gaps, we recommend that over the next three years (the current MTEF period), the equitable share formulas remain basically unchanged. Municipal governments are in a period of flux as they attempt to adjust to their newly demarcated boundaries. Having a stable and predictable revenue source over this difficult period will facilitate the process of adapting to the new boundaries.

In the longer run, the current equitable share system with allocations based on the S and I grant formulas should be transformed to a system based on a formula that accounts for the expenditure needs and revenue-raising capacity of municipalities. The development of such a formula will take time and needs to be done with care. The important principle is that the mechanism for allocating equitable share transfers to municipalities needs to reflect as closely as possible on-going changes in the expenditure needs and revenue-raising capacity of municipalities.

Substantial capital investments will be necessary in order to guarantee that all South Africans have access to basic municipal services. Recurrent costs associated with these basic services will only occur after the capital investments have been made. For that reason it is important that the system of national grants for capital infrastructure investment be explicitly coordinated with the allocation of the local government equitable share. This is a very complicated issue, but if this coordination does not occur, equitable share allocations are likely to be highly inefficient. In some cases, equitable share transfers will go to municipalities that have no capacity for delivering basic services, and thus, most likely will be wasted, while in other jurisdictions, equitable share allocations may be inadequate to allow for the ongoing maintenance of existing capital facilities.

On the revenue side, the economic base of many municipalities is quite weak. Even under a quite optimistic set of assumptions, the inference we draw from our sample is that rural municipalities, and some small urban municipalities, will even in 2009 have limited capacity to generate revenues. A measure of each municipality's revenue-raising capacity will need to be included in an equitable share allocation formula. In developing a new equitable share formula to replace the existing S grant, it is important to simultaneously add elements to the formula that account for the expenditure needs and the revenue-raising capacity of local governments. Thus, a revenue capacity element should not be added to the equitable share formula until such time that a measure of expenditure needs has been developed.

Although we are not able to provide an estimate of the projected size of the aggregate fiscal gap in a mature system of local government, we believe that at least for a while local government in South Africa will be characterized by a substantial fiscal imbalance between municipal expenditure needs and revenue raising capacities. First, the provision of a basic set of public services such as potable water, road access, the supply of electricity, and basic sanitation, are almost certainly a pre-condition for sustained economic development. Although the presence of basic services is no guarantee of economic development, there is ample international evidence that core municipal services are a necessary condition for

economic development.¹⁰ This means that local governments which currently have little in the way of economic base will need to finance at least a minimum set of basic public services if they hope to attract new economic development and undertake the initial step of building an economic base. As increases in revenue-raising capacity only come with economic development, the growth of expenditure needs associated with basic services will by necessity outpace the growth of revenue-raising capacity.

The fact that most of the discussion in this report focuses on the long-run future of the equitable share does not mean that additional work on the local government equitable share should be postponed for five or ten years. Over the next few years, the provision of basic services will be expanded to areas not now served and the collection of property rates will be reformed and the reach of the tax expanded. Along with these concrete steps in the development of local government, it is important that research and data collection efforts be undertaken that provide an underpinning for the continued reform and development of the local government equitable share.

The government must consider carefully what levels of public services should be provided by local government. Decisions about what type and mix of services should be provided in different types of communities will have significant fiscal implications. An important input into the decision making process will be detailed knowledge about the costs of public service delivery. The cost data included in this report is quite rudimentary. Considerable more research needs to be undertaken on the costs of providing various levels of public services in different socio-economic and physical settings. We need to know more about the costs associated with delivering various types of services in communities characterized by different types of settlement patterns and with different geographical characteristics. Combining information about costs with data for the entire country on population density, poverty, and settlement types from the 2001 census should make it possible to calculate local government expenditure needs for all municipal governments. On the revenue side, very little consistent data is available on property tax collections, levies, rates, or bases. As the new property rates legislation is finalized, it will be important to put in place a plan for the systematic collection of data necessary for the accurate measurement of the revenue-raising capacity of municipal governments.

¹⁰ See Christine Kessides “The Contributions of Infrastructure to Economic Development”, World Bank Discussion Paper No. 213, 1993.