

Equity and Development Scenarios

1. Introduction

Equity *and* development – these are powerful concepts that lie at the centre of global, national and sub-national economic debate. Many argue that equity and development are driven from fundamentally opposing ideologies, the former from a ‘rights’ or social justice perspective and the latter from an economic perspective. Others suggest that they are interdependent in respect of philosophy, approach and development interventions; that interlinked, they hold greater potential for success; that separated, they offer limited progress.

Drawing on fundamental beliefs and ideologies, debate on equity and development is almost always contentious. Less well understood, however, is that most often tension derives from the dynamism of the relationship. There is no *status quo*. There is no fulcrum. There is only fluidity and interdependency. This is the very nature of the challenge.

Government’s response, therefore, must be equally creative and dynamic. It must anticipate, even counter. Drawing on all resources, it must pose credible solutions that ‘talk’ to the development challenge that lies beyond today – 20, even 50, years hence.

Understanding how equity is measured, the factors that drive changing distributions and those public interventions that enhance such are therefore critical for policy- and decision-makers as they formulate the most appropriate policy responses that enhance shared or broad-based economic growth and development.

This challenge is especially true for South Africa where inequality is particularly stark – the richest tenth of the country’s population enjoy consumption per person of almost 70 times that of the poorest tenth. The picture is alarmingly similar at provincial and local level.

These trends point to the fact that recent economic growth gains are not equitably spread and have not made significant contributions to poverty reduction for communities who depend on such to better their daily lives and improve their future opportunities.

Analyses in the preceding chapters in the 2005 PER&O underscore that, unless the Province makes bold interventions, the present economic trajectory, demographic and labour force performance, and sectoral growth and employment prospects of the Western Cape do not hold a favourable outlook for equity and development in the Province over the medium to long term.

Our situation is not unique. Similar trends in terms of demographic profile, labour force performance, mismatch in skills profile and the skills requirements of growing economic sectors may be seen at the broader national level, and in fact, in many countries across the developing world. Such trends epitomise the development challenge facing many governments today.

This means that, like every other government, the Province has to come to grips with these trends in order to formulate appropriate provincial responses and set attainable targets under its growth and development strategy, *iKapa Elihlumayo*.

This chapter probes the political and technical intricacies that shroud the equity and development debate. The opening section poses tough questions, asking whether policy- and decision-makers have reached consensus on a conceptual understanding of 'equity', as the latter is the bedrock of the Province's shared growth and development commitment.

A more detailed explanation of a heightened appreciation of the linkages between poverty, inequality and growth then moves to the premise that such interdependent development goals are best pursued simultaneously.

The body of the chapter focuses on decomposing and measuring equity (and inequality) in terms of its base elements – income, assets and spatial or geographic location – paying special attention to trends in respect of South Africa and the Western Cape.

Analysis then talks to the interrelationship between equity (or inequality) and poverty, as their interaction both conflates and reinforces systemic trends. Again, poverty is decomposed into base elements in terms of income, asset and spatial or geographic location, and trends examined for South Africa and the Western Cape.

These engagements frame the socio-economic context and challenge posed to Government as the five lead strategies that spearhead its response framed under the broader *iKapa Elihlumayo* banner are sharpened, poised for implementation in the coming year.

In its conclusion, the chapter queries how analytical boundaries may be broadened, responding to the challenge for robust scenarios that provide an outlook on equity and development for the Province over the medium to long term.

2. Equity and Development

2.1. Consensus on equity

What is meant by 'equity'? The forthcoming 2006 World Development Report on *Equity and Development* defines equity as that which is about "normative concerns of social fairness and social justice". In this sense, equity is organised around:

"a conception of equality of opportunities, or, more broadly, equality in the capability (or freedom) of different individuals to pursue a life of their choosing. This... also consider[s] inequalities in recognition, where different groups... face different opportunities owing to differences in their status, power and influence within a society. Equity in this sense generally does not imply equality in outcomes (such as in incomes or consumption). Even an exclusive concern with equity would lead to differences among individuals, since individuals differ in needs, preferences, efforts and talents. Moreover, a concern with equity and the means to achieve it has to be balanced against other objectives, such as respect for personal freedoms or the provision of incentives for efficient resource use, entrepreneurship, innovation, saving and investment, [within the public and private spheres] with which there may or may not be trade-offs." (WDR 2006 Outline)

The above definition is only one of many perspectives on equity. Notions of equity may differ due to different historical legacies, religious or moral concerns and/or political objectives. Different frames of references and different starting blocks mean consensus is not easily reachable. It demands thorough debate. Yet conceptual agreement is critical as 'equity' lies at the core of every development strategy.

For the Province, this means that reaching a common understanding on the definition of equity in the Western Cape and on what degree of inequity is politically and socially tolerable, is an important building block and one that is likely to be fundamental to the success of a number of interlinking objectives, policies and interventions in Government's strategic development response.

2.2. Equity and shared/broad-based development

Reaching a common perspective on equity is the first step. The next is to understand why equity is central to shared or broad-based growth and development.

Recent evolution in poverty measurement and analysis suggests that inequalities in opportunity or capabilities may be fundamental drivers of poverty. Poor people are poor not only due to insufficient income, but also due to inadequate access to quality schooling, health care, shelter, safe and clean water, energy, roads and mobility means, market opportunities, financial credit, effective financial and risk management, and entrepreneurship, to name a few.

This approach represents a clear departure from conventional poverty measurement that focused on a lack of income available to obtain a certain socially acceptable standard of living. In this respect, Sen's seminal contributions (1981, 1984) led the evolution on broadening poverty analysis towards an understanding of capability deprivation.

Capabilities refer to the substantive freedoms that people enjoy that enable them to lead the kind of life that they have reason to value (Sen, 1999: 87). Capability deprivation therefore goes beyond a lack of income. It includes health concerns (relating to premature mortality, morbidity and insufficient nourishment), education and literacy, safety and security in respect of physical vulnerability, and social exclusion (in respect of the impact of negative social capital within and between communities).

More recent further analysis through participatory poverty assessments has emphasised the importance of social exclusion, vulnerability and risk in contributing to a lack of voice and to disempowerment, depriving people of full societal participation.

The broader capability approach to poverty measurement emphasises the interrelatedness of capability deprivation. Lack of income, for example, might lead to malnutrition, which diminishes cognitive ability and may lead to poor educational outcomes. In turn, poor educational attainment may limit opportunities in the labour market and reduce income-earning capacity. Furthermore, intergenerational dynamics often mean that poverty might also perpetuate over time.

From a policy perspective, identifying various aspects of capability deprivation is important, focusing consideration, resources and effort on those areas where benefits from development interventions could have multiplier effects in respect of poverty reduction and, at the aggregate level, economic growth.

The capability approach may easily be extended to inequality analysis, where initial work on income inequality expands to include that on capabilities and opportunities, and further to encompass inequality in respect of outcomes.

Distribution of income, consumption and health status are typical measures of inequality of outcomes, whereas discrepancies in access to basic services, such as an acceptable level of education and health care, would serve as indicators of inequality of assets (or opportunities). Multiple interactions between the drivers and resulting outcomes will, as

in the case of poverty, impact on the effectiveness of both development interventions and economic growth.

Yet, in turn, efforts to reduce poverty in communities depend on aggregate economic growth and its distribution, the latter determined by equity concerns. In essence, then, both equity AND growth contribute towards a shared or growth and development path.

For the Province, this means that a central challenge is to understand how improved equity contributes towards reducing poverty and enhancing development gains and processes, particularly in respect of efforts to realise *iKapa Elihlumayo*. In this respect, it is essential to understand the interaction of key factors, the directions in which they may move and the trade-offs that are involved.

2.3. Equity, growth and poverty reduction debate

The third conceptual link involves examining why and how some forms of inequality matter. In this respect, it is important to take note of the significant interdependencies and interactions between economic performance, inequalities and poverty, often referred to as the growth-poverty-inequality triangle.

Empirically, for a given growth rate, higher relative inequality often implies a slower rate of reduction in absolute income poverty. This said, there are two important caveats in respect of growth processes. First, the incidence of growth may vary considerably, across countries [or regions] and over time. Similar rates of growth in mean income are consistent with large gains for the poor as well as absolute losses. Second, distributional dynamics are often characterised by substantial churning or mobility, that is, as an economy develops over time, people move up and down the equity distribution with considerable frequency.

Moreover, there are important relationships between inequalities and both efficiencies and growth that may work in positive and/or negative directions. In a capitalist or mixed economy system, some level of economic inequality is necessary to provide incentives for investment and effort (whether in education or in work). Yet some forms of inequality may be detrimental to economic efficiency and growth in an aggregate sense as they may negate contribution to a shared development path (WDR 2006 Outline).

On a more practical level, the South African development debate and policy agenda have moved from the RDP¹-style 'growth through development' to the GEAR²-style 'development through growth' to the present policy dialogue, which appears to favour an explicit combination of policies aimed specifically at growth and those directed at redistribution.

Bourguignon (2004) highlights the continual dilemma countries face of whether development strategies should focus mainly on growth, poverty, inequality or some

¹ Reconstruction and Development Programme

² Growth, Employment and Redistribution

combination of the three. He emphasises: “First, the rapid elimination of *absolute* poverty, under all forms, is a meaningful goal for development. Second, to achieve the goal of rapidly reducing absolute poverty requires strong, country-specific *combinations* of growth and distribution policies.”

Absolute poverty refers to the proportion of people who fall below some predetermined poverty line that should be calculated to reflect the income level that satisfies the basic needs of a person in the society in question. “Poverty reduction in a given country and at a given point in time is fully determined by the rate of growth of mean income of the population and the change in the distribution of income” (Bourguignon, 2004:2). Therefore, understanding the interaction between growth and distribution is critical to efforts to reduce poverty.

In this respect, there is consensus that, given a stable income distribution, growth is necessary to reduce income poverty. But the span of the income distribution itself and how this changes will also have a marked impact on both the levels of growth that are attained and the consequent reduction in poverty that can be expected. Indeed, both growth and changes in inequality are extremely important in reducing poverty – their effects are interrelated and should be considered simultaneously (Bourguignon, 2004; Adams, 2003).

This means that improving distribution and growth should reinforce each other and have a sizeable impact on poverty reduction. Furthermore, small changes in inequality can result in large changes in the rate of poverty. However, the effects of growth, together with a worsening distribution, will work in opposite directions, counteracting the impacts on poverty reduction. The degree to which these changes impact on poverty depends on the initial level of development (or income) of a country and initial inequality. High initial inequality is generally associated with lower growth rates (*see, for example, Galor and Zeira, 1993*).

In fact, one recent study finds that for a given rate of economic growth, low-income and low-middle income countries with an initial Gini coefficient below 0,40 will on average experience twice the poverty reduction of countries at a similar level of development with an initial Gini coefficient greater than 0,40 (Adams, 2003: 19). As Bourguignon (2004: 10) notes, in the quest for reduction in absolute poverty, “changing distribution is probably more important for middle-income and inegalitarian countries, while growth is probably more important in relative terms for low-income egalitarian countries.” Furthermore, he emphasises that wealth-based (not income-based) redistributive policies could have a reinforcing effect of reducing poverty immediately and facilitating faster poverty reduction in the future.

For these economic reasons, the reduction of high levels of inequality such as those experienced in South Africa should have positive implications for growth, which should then translate into greater inroads into poverty reduction. The links between growth and

inequality are clear when one considers the example of crime rates. The evidence suggests that the most unequal regions in the world (Sub-Saharan Africa (SSA) and Latin America) have experienced rapidly increasing levels of violence (measured as murder rates) in recent years (Bourguignon, 2004: 17). Such high reported crime rates adversely affect the economy through increasing the risk profile of these countries in terms of investment decisions as well as the loss of lives, use of medical resources and the direction of resources towards fighting crime, away from other productive activities (Bourguignon, 1998, cited in Bourguignon, 2004).

Previous chapters of this review have considered macroeconomic and sector-specific performance within the Province – factors which are used to measure economic growth directly. This chapter addresses the relationship between equality and development, the success of which is largely measured in terms of marked reduction in poverty.

2.4. Decomposing and measuring equity and inequality

Equity is a broad-based concept. Decomposing the overarching notion into more practical elements and taking a closer look at how they are measured, analysed and interpreted, yields a greater degree of tangibility to the debate on the relationship between equity, and shared growth and development.

Broadly speaking, equity or inequity (inequality) may be measured in respect of income, assets and/or opportunities, and spatial elements.

The first gives a money-metric insight into equity and inequality, and is often used in complementary impact analysis in terms of money-metric poverty measurements such as poverty rates and gaps that are calculated in relation to an income poverty line.

The second – asset equity or inequality – refers to people's capability and opportunity to develop themselves to their fullest potential through access to various assets (health status, educational attainment, financial, land or property, to name a few), gained largely in respect of access to quality services. In the main, asset equity is concerned about access to good basic services (water, sanitation, energy and refuse removal) and social services (health care, education and skill development, and shelter). Many of these variables refer to the asset distribution within a population and therefore will have an influence on the distribution of capabilities and the opportunity to live a life of people's choosing.

Lastly, spatial equity or inequality talks to spatial divergence or convergence across regions and their correlates in patterns of individual and community assets. Particular aspects of spatial inequality relate to the dislocation of living, working and recreational spaces that add further environmental (broadly used) adversities, exacerbating poor living conditions.

2.4.1. Income inequality

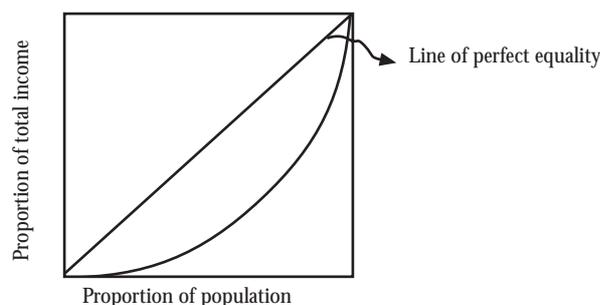
Understanding measures of income inequality³

The most commonly reported measure of inequality is the *Gini coefficient*, which is often used in comparisons of inequality between defined groups in respect of countries and sub-national regions, and over time. Ginis will always lie between the value of zero (perfect equality) and one (perfect inequality). This means that a high and/or increasing Gini points to increasing income inequality between groups, whereas a low or declining value illustrates improved equity.

The power of the Gini as a measure of income inequality is that it takes every pair of income differences across the entire population into account. Furthermore, a transfer from a rich person to a poor person will always lower the Gini.

The Gini coefficient may be represented in graphic form using the Lorenz curve. The Lorenz Curve plots the population share on the horizontal axis of the graph and the corresponding proportion of total income on the vertical axis. The population is ordered from lowest to highest income. The Gini coefficient essentially reflects the area between the line of perfect equality and the Lorenz curve as a proportion of area that would exist under conditions of perfect income equality.

Figure 1 Graphical representation of a Lorenz Curve



If everyone in society has the identical income, perfect equality prevails, and the Lorenz Curve is the straight (45-degree) line. In such an instance, for example, the 'poorest' 20 per cent of the population receive 20 per cent of total income and the 'richest' 20 per cent also receive 20 per cent of total income. In this case, the Gini coefficient is 0,0.

If, however, perfect equality does not prevail, *poorer members of the population* will receive a *smaller than proportionate share of income* and the curve will dip below the 45-degree line. The more unequal the society, the larger the gap that exists between the Lorenz curve and the diagonal.

³ Please note that to assist layperson understanding of economic concepts and not to introduce unnecessary technical jargon, the terms *income* and *expenditure* are used interchangeably in this analysis.

Less common, but notable in their use in income inequality analyses, are the *Theil index* and the *share of total income* received by quintiles of the population.

Like the Gini coefficient, the *Theil index* lies between zero and one and has the property that a transfer from the richest person to the poorest person always decreases the index. The advantage of the Theil over and above the Gini is that it is decomposable into mutually exclusive and exhaustive sub-groups, with the between- and within-group contribution measurable. Such decomposition becomes particularly useful in South Africa where there is an obvious racial division. The Theil index allows us to explore the relative contributions of ‘within-race’ and ‘between-race’ inequality and how these change over time.

Finally, considering the share of total income across income quintiles is another, intuitively appealing, indicator of inequality, and also aids to highlight movements along the income distribution which may be masked by an aggregate such as the Gini coefficient or Theil index. Gini coefficients, Theil indices and income shares are therefore complementary measures or tools that can be used in income inequality measurement and analysis⁴.

International comparisons

Equity and development are global challenges. As such, they manifest as a worldwide phenomenon between the developed world and the developing world, with low-income countries under stress (LICUS) at the critical fringe. For people living in Scandinavia, life often seems light years away from the daily experience of urbanising Chinese, and is certain far removed from life in much of SSA.

Global inequality is therefore at a much larger and more politically contentious scale than inequality at the country and sub-national regions level. The former frames and permeates inequality patterns that prevail at the latter. Whilst harnessing considerable potential and opportunity for reducing inequality at the national and sub-national levels, the character, prevalence and accentuation of global inequality often serve to temper and limit scope for change. This frames global development patterns and ‘catch-up’ potential, bringing to the fore the pervasiveness and impact of globalisation on societies and economies.

Closer to home, it is a well-known fact that income inequality in South Africa is amongst the most severe in the world and most comparable with the also highly skewed income distribution of Brazil. Our infamous ranking is evident from a comparison of diverse Gini coefficients for a selection of middle-income countries set out in Table 1.

⁴ All three measures are sensitive to the quality of survey data collected, but considering quintile shares by province or race requires data to be as representative as possible along these lines. That said, analytical results and interpretations are only as robust as the underlying official data, the availability and credibility of which are subject to considerable debate.

Table 1 Comparison of selected middle-income countries

	Thailand	South Africa	Brazil	Malaysia	Venezuela	Poland
Gross National Income per capita US\$ (2002)	1 980	2 600	2 850	3 540	4 090	4 570
Gini Coefficient	0,414	±0,60*	0,607	0,492	0,495	0,316
Share of income of poorest 20%	6,1	2,8*	2,2	4,4	3,0	7,8

[Source: 2003 World Development Report and *from Borat et al., 2001: 22]

It is useful to note that Gini coefficients in the range of 0,40 to 0,45 are generally seen to represent intermediate levels of income inequality, with those below this range considered as relatively low and those exceeding 0,45 regarded as high. At a level in excess of 0,60, South Africa's Gini coefficient is extremely high in comparison, pointing to prohibitive income inequality within our country – a fact well known but which is driven home in respect of the numerical comparisons.

Furthermore, given that Gini coefficients move extremely slowly over time, reducing South Africa's income inequality poses a substantial challenge. Even fairly rapid change in the ranking of individuals or households can coincide with surprisingly little change in the overall income distribution, as many of these changes in rank cancel out. Furthermore, factors contributing to changes in income inequality, such as changes in returns to education in the labour market and changes in educational attainment, may also work in opposite directions. For example, progress may be made in terms of educational attainment, with more persons obtaining higher educational qualifications; however, if the returns to that education decline – perhaps due to changes in prices – then a better-educated workforce may not enjoy an increase in earnings. This would in all likelihood be reflected as static inequality.

This means that overall movements in Gini coefficients over time tend to mask shifts in the underlying elements. Such complexity in interrelated shifts is illustrated in the examples and trends in Gini coefficients for certain countries over time set out in the text box below.

The pace and complexity of Gini coefficient movements over time

How and why do Gini coefficients move?

A number of cross-country studies have assessed the extent and likelihood of Gini coefficients moving over time. The much-cited paper by Deininger and Squire (1996)* finds that the average annual growth for their sample of 108 countries spanning the 1960s to the 1990s experienced an annual growth rate in income per capita of 2,16 per cent, while the Gini moved on average only 0,28 percentage points.

Even countries with impressive growth saw very little movement in their Ginis:

- The case of Taiwan from 1964 to 1990 shows that real per capita income increased five times, from US\$1 540 to US\$8 063, while the Gini coefficient only declined from 32,2 to 30,1 (Deininger & Squire: 587).
- The US saw an increase in real income per capita from US\$8 772 in 1950 to US\$17 594 in 1991, with the Gini moving only from 0,360 to 0,379.
- Brazil's real income per capita increased from US\$1 784 in 1960 to US\$4 271 in 1989, with its Gini moving from 0,530 to 0,596 (Deininger and Squire: 587).

Only Eastern Europe and Central Asia have seen particularly large changes, but these have been negative and due to massive economic restructuring (Deininger and Squire; Adams, 2003).

Although they move slowly, Ginis do move. A recent study by Ravallion (2002) finds evidence of a trend, in that inequality tends to converge around the 0,40 level, with low-inequality countries experiencing increases in their Ginis and high-inequality countries experiencing declines.

Emphasis is again placed on the fact that movements are slow over time, and country-specific examples may well differ from the trend. An example from Ravallion's work uses two countries, one with an initial Gini of 0,60 and one with an initial Gini of 0,30. The calculated expected trend movements in these Ginis is -0,57 per annum for the first country and 0,31 per annum for the second. In 15 years, the first would see a decline in its Gini from 0,60 to 0,51, while the second country would see an increase to 0,35 over the equivalent time period. (Ravallion: 11)

** Deininger and Squire (1996) uses a carefully compiled dataset of 682 high-quality, cross-country observations covering the above-mentioned 108 countries and 1960s to 1990s time period.*

Income inequality in South Africa and the Western Cape

Closer to home, considerable work has been done in examining the levels and changes in income inequality in South Africa. This is unsurprising, given the fact that income inequality in South Africa is amongst the worst in the world. Therefore, even though Gini coefficients move slowly over time, the level of the coefficient is a key way to benchmark performance, specifically in terms of identifying the direction of trends, that is, whether income inequality is increasing or declining.

This section details the changes in income inequality for South Africa and the Western Cape for the period 1995 to 2000. It is critically important to note that the resulting analysis is only as robust as the underlying data, and that comparative analysis is only as meaningful as the underlying data and methodologies allow. For instance, Gini coefficients compared over time must be calculated using the same definition – either income or expenditure - and the same statistical unit of analysis – at the individual or household level. Data concerns and choices for the 2005 PER&O analysis are explained below.

Data concerns and units of analysis

The data used for the income inequality and poverty analyses in this chapter comes from the Income and Expenditure Surveys (IESs) of 1995 and 2000, carried out by Statistics South Africa. The IES is a household sample survey, undertaken every five years with the primary purpose of determining weights for the CPI. As such, the survey collects detailed data on the earning and spending capacity, as well as consumption patterns, of South African households.

The IES 1995 was undertaken at the same time as the OHS 1995 and interviewed mostly the same households, a similar case holding for the IES 2000 and the September 2000 LFS. The final data used in this review comes from the merged versions of the IES 1995 with the OHS 1995, and the IES 2000 with the LFS 2000. The datasets should be nationally representative and reflect a fairly accurate breakdown of the demographic characteristics of the population at the provincial level.

As the survey is sample-based, weights based on Census data are used to impute the population size and relevant proportions. The weights used for the 1995 data are those released by Statistics South Africa after the initial release of the survey and based on the Census 1996. These accurately reflect the population size and proportion of the country in 1995. The weights released with the IES 2000 are more problematic. The two sets of weights currently available with the dataset are not representative of the population at the provincial level. The weights used in this analysis are the re-calibrated weights released with the LFS 2000. Although imperfect, there is more consistency in the ranking of populations by provinces with these weights.

The quality of the data in the 1995 surveys has always appeared adequate although errors do occur. In using expenditure data, this report's research team aggregated all categories from the bottom up, and recalculated all totals so as to avoid computational errors that exist in the released dataset. The data quality of the IES 2000 is much more contentious. It appears that there are a range of problems which most likely occurred during all stages of the data collection process – fieldwork, data capture and data manipulation – prior to the dataset being released. Little can be done about the queries surrounding the data quality at this stage other than to wait for comment from Statistics South Africa. As with the IES 1995, the PER&O research team again aggregated all data up from the lowest units and recalculated all totals. In addition, all observations for which there was no expenditure indicated for food items (about 500) were dropped.

The representivity of the final samples used in this report is shown in Table 2. It is clear that the population proportions in the IES/OHS 1995 lie very close to those of the Census 1996. The actual numbers for the population by race for the Province are also very similar to the Census figures. This is not the case for the 2000 data, in which the racial proportions are different and the absolute numbers of the people in the Western Cape are largely under-estimated. As is evident from the Table, the proportion of Coloureds is overstated and the proportion of Africans understated in the 2000 data. This will have an impact on some of the results discussed here; the likely direction of the effect, where applicable, is pointed to in the report.

When considering the unit of analysis, the choice must be made between gross or net income, income or expenditure, and whether the focus should be at the household or person level. Using the household as the

unit of analysis as opposed to the individual can have a sizeable impact on inequity/inequality and/or poverty measures, as poorer households generally have more members than richer households. Inequity/inequality and/or poverty measures based on the household will therefore be lower than when based on individuals, and may in fact understate the extent of the problem.

Table 2 Census proportions and weighted IES sample for the Western Cape

	Proportion of Population		Proportion of Population	
	Census 1996 (%)	IES/OHS 1995 (%)	Census 2001 (%)	IES/LFS 2000 (%)
African	21	21	27	22
Coloured	54	56	54	59
White	21	21	18	18

[Source: IES, 1995 and 2000; Census 1996 and 2000; author's calculations]

Note: The totals do not add up to 100 as Asians and 'unspecified' are excluded due to their small numbers.

To reflect more truly the differences in potential living standards across the population, income less of income tax would be the preferred measure, as taxes are not actually available for use by those who pay them and in fact are often redistributive.

Table 3 shows the range of Gini coefficients calculated using the IESs of 1995 and 2000. The disparities between the different measures highlight the need for consistency in methodology. They also serve to emphasise that it is the general level and direction of change that should be interpreted, rather than the absolute values.

Table 3 Gini coefficients calculated according to different parameters using the IES 1995 and 2000

Study	Gini Coefficients based on Total Household Income or Expenditure			
	1995		2000	
Household level	Income	Expenditure	Income	Expenditure
Fedderke, Manga & Pirouz (2003)	0,58	0,59	0,62	0,59
Statistics South Africa (2002)	0,56	-	0,57	-
Household level	Gini Coefficients based on Per Capita Household Income and Expenditure			
Lam & Leibbrandt (2003)*	0,64	-	0,67	-
Individual level	Gini Coefficients based on Per Capita Income and Expenditure			
Fedderke, Manga & Pirouz (2003)	0,66	0,66	0,69	0,67
Poswell (2004)		0,639		0,682
Confidence Interval	-	[0,636; 0,642]	-	[0,675; 0,688]
Hoogeveen & Özler (2004) – “Core Consumption”	-	0,565	-	0,577

Note: * Household income per capita with one observation included per household



As can be seen, an array of Gini coefficients can be calculated with the same source data depending on the unit of analysis chosen. First, it is evident that in the South African case, Gini coefficients calculated with total *household expenditure/income* are much lower than those calculated at the household level, but based on *per capita household expenditure or income*. This is to be expected as poorer households have on average more people, so that taking household size into account will 'stretch' the distribution of income or expenditure further apart.

Second, the Gini coefficients for the population (individuals) based on *household per capita income or expenditure* are slightly higher than the household level Gini using (household) per capita income or expenditure, but only one observation per household. Once again, this is unsurprising as each household is counted only once in the latter measure.

It is also apparent that income-based and expenditure-based measures calculated for the same groupings are quite similar in magnitude. It would be expected that the income measure be higher than the expenditure measure, as people generally smooth consumption (expenditure) over time, whereas income is likely to be much more volatile. This is borne out in most instances above (and own calculations using the income data not reported here).

Finally, differing income or expenditure bundles that are used as the unit of analysis will yield very different results. Hoogeveen and Özler's (2004) substantially lower figures based on a narrowly defined 'core consumption' bundle reflect this result. As a substantial number of consumption categories, especially many of those with large spending potential for some, are 'culled', much variation in the income distribution is lost. For any comparisons over time, the reader must be sure to understand the method used so as to be aware of whether the values are comparable or not.

Caveats aside, the remaining analysis focuses on individuals (rather than households) and uses disposable expenditure per capita as the unit of analysis.

First, it is plain to see from Table 3 that income inequality in South Africa is exceptionally high, and if anything, has worsened from 1995 to 2000. For the purposes of the 2005 PER&O analyses, Poswell's (2004) calculation in respect of South African income inequality across individuals shows an exceptionally large increase, from 0,64 to 0,68⁵. In fact, irrespective of the unit of analysis chosen, an increase in income inequality is the one consistent result to emerge from the majority of studies examining inequality with the IESs and the Censuses from 1996 and 2001⁶.

It is important to note the aggregate level of the Gini coefficient and the direction in which it moves over time. However, it is also critical to be aware that underlying data quality concerns (particularly in respect of the IES 2000) will impact on the precision of the

⁵ This increase is statistically significant at the five per cent significance level.

⁶ See Hoogeveen and Özler (2004), Lam and Leibbrandt (2003) and Leibbrandt et al. (2004).

statistical point estimates as well as relevant confidence intervals, the latter determining whether statistically significant change has in fact occurred.

The increase we see in the Gini coefficient from 0,64 to 0,68 is notable. Part of the rise is most certainly due to underlying data quality concerns, and therefore full confidence cannot be placed in the absolute value. That said, statistical testing suggests that the general upward drift in respect of income/expenditure inequality at the national level is robust.

This finding is confirmed when analysing Gini coefficients calculated according to different assumptions about the income variables in the Censuses of 1996 and 2001, as set out in Table 4. The latter illustrates that, using Census data, Gini coefficient absolute values rise to exceptionally high values of around 0,80. Such absolute values are clearly unrealistic and obviously relate to underlying data concerns as well as to missing values in respect of the income variable. However, statistical robustness of the upward trend permits the inference that income inequality is extremely high, and that there appears to have been an increase.

Use of confidence intervals in statistical analysis

These intervals are calculated because the datasets are from sample surveys and there is thus a certain probability that the estimates generated will not be truly representative of the entire population. The confidence intervals indicate the likely range within which the estimate should fall, if one was to resample the same population and calculate these estimates with the new data*. This range is therefore a valuable marker and should be given as much attention as the point estimate.

The confidence intervals become particularly useful when making comparisons across data points. If the intervals overlap, one cannot say with any precision that there has been a change. If they do not overlap, one can say with a certain degree of confidence that a statistically significant change has occurred. Although the confidence intervals are useful in that they provide us with the likely range, these too are affected by the data quality concerns already mentioned, and are only as 'precise' as the data upon which they are based.

** The confidence interval is generally calculated according to a specified probability of the interval containing the true population value. The most common level is at the 95 per cent level, which means that, statistically, the true value has a 0,95 probability of falling within this range.*

All Gini coefficients here are listed with their confidence intervals below. The confidence intervals around the national level Gini coefficients for 1995 are [0,636; 0,642] and for 2000 are [0,675; 0,688]. As these bands do not overlap, we can say that the data indicates an increase in income inequality over the period.

Table 4 Gini coefficients across a number of different data assumptions, 1996 and 2001

	1996	2001 Unconstrained	2001 Constrained
National	0,74	0,82	0,79
Race			
African	0,71	0,78	0,75
Coloured	0,55	0,66	0,63
Indian	0,50	0,62	0,58
White	0,46	0,60	0,53
Province			
Western Cape	0,62	0,74	0,70
Eastern Cape	0,78	0,83	0,81
Northern Cape	0,69	0,77	0,74
Free State	0,73	0,81	0,78
KwaZulu-Natal	0,75	0,82	0,80
North West	0,71	0,79	0,76
Gauteng	0,65	0,78	0,74
Mpumalanga	0,73	0,81	0,78
Limpopo	0,77	0,81	0,79

[Source: Leibbrandt et al. (2004) using Census 1996 and 2001]

Note: All estimates include zero incomes

In the two censuses, income is captured in categories rather than as actual values. The 1996 and 2001 categories are inconsistent, with the top band in 1996 being significantly lower than the top bands in 2001. Constrained income in 2001 in this table refers to a variable in which the top categories for income earners in 2001 were constrained to the upper 1996 values in real terms.

Given that income inequality is so high at the national level and that inequality is detrimental to society in so many ways, it is important that we understand how income inequality within the Western Cape compares to other provinces, how this has changed over the period under review and whether the Province's patterns of 'within-group' racial income inequality mirror those of the other provinces, or deviate in some specific way.

Table 5 shows the results for Gini coefficients calculated by province for 1995 and 2000.

Table 5 Gini coefficients by province, 1995 and 2000

Province	Gini 1995	Gini 2000
Western Cape	0,584 [0,576; 0,591]	0,616 [0,597; 0,635]
Eastern Cape	0,648 [0,640; 0,657]	0,663 [0,653; 0,674]
Northern Cape	0,647 [0,630; 0,664]	0,658 [0,641; 0,675]
Free State	0,659 [0,649; 0,670]	0,696 [0,685; 0,707]
KwaZulu-Natal	0,625 [0,618; 0,633]	0,684 [0,673; 0,694]
North West	0,629 [0,621; 0,638]	0,658 [0,634; 0,683]
Gauteng*	0,545 [0,537; 0,552]	0,629 [0,617; 0,641]
Mpumalanga	0,582 [0,572; 0,592]	0,626 [0,615; 0,637]
Limpopo	0,625 [0,615 ; 0,636]	0,624 [0,607; 0,641]
National	0,639 [0,636; 0,642]	0,682 [0,675; 0,688]

[Source: IES 1995 and 2000. Author's calculations]

Note: Gini coefficients are not additive and therefore provincial Gini coefficients will not add up or average to the national Gini coefficient. Provincial Gini coefficients should not be compared to the national Gini coefficient but rather to Gini coefficients for the other provinces.

* The change in the Gini coefficient for Gauteng is implausibly high. There are extreme weighting issues with Gauteng data in the IES 2000 that are not apparent for the other provinces, and this data quality concern may be driving this result.

First, it is important to note that Gini coefficients calculated at the provincial level are often lower than those calculated at national level (using the same data). This is to be expected, as there will be factors within geographical areas that have meant the distribution of people characterised in this way is more similar than if we consider both within and across all these groups.

Looking at each province individually, the Gini coefficients indicate increases in income inequality across the board from extremely high to even higher. These changes are only statistically significant for the Western Cape, Free State, KwaZulu-Natal, Gauteng and Mpumalanga. In the other provinces, we cannot say with confidence whether an increase has occurred.

Considering how the Western Cape fares in relation to other provinces, it *appears* to have been the third-least unequal province in 1995, with a Gini coefficient of 0,584, and the

least unequal in 2000 with a Gini coefficient of 0,616. From a comparative perspective, the Western Cape is performing well in relation to the other provinces, if only in the sense that its inequality is marginally lower. This finding of relatively lower income inequality in the Western Cape is corroborated by Leibbrandt *et al.* (2004) who, using Census data, find the Western Cape to have the lowest Gini coefficients of the provinces in both 1996 and 2001 across various measures of income.

In terms of the pace of the Gini movements for the Western Cape, the change may be much lower than the point estimates would indicate (an almost three percentage point increase. This can be seen by the very *closeness of the confidence intervals*, with 1995's upper limit being 0,591 and 2000's lower limit 0,597 – a very small difference indeed.

When considering 'within-race' inequality, the same pattern holds for the Province as for the nation as a whole, with Africans experiencing the highest 'within-race' income inequality, followed by Coloureds and then Whites.

Table 6 Income inequity/inequality measures by race, 1995 and 2000

Race	National		Western Cape	
	1995	2000	1995	2000
African	0,546 [0,543; 0,550]	0,589 [0,585; 0,594]	0,515 [0,479; 0,550]	0,541 [0,464; 0,617]
Coloured	0,488 [0,482; 0,495]	0,528 [0,517; 0,540]	0,439 [0,429; 0,449]	0,494 [0,479; 0,509]
Asian	0,449 [0,434; 0,464]	0,474 [0,449; 0,498]	Sample size too small for useful estimates	
White	0,393 [0,386; 0,400]	0,455 [0,440; 0,469]	0,404 [0,389; 0,418]	0,446 [0,405; 0,487]
Theil contributions (%)				
Within Race Inequality	53,1	55,7	52,9	58,8
Between Race Inequality	46,9	44,3	47,1	41,2
Total Inequality	100,0	100,0	100,0	100,0

[Source: IES 1995 and 2000. Author's calculations]

Note: Confidence intervals in square brackets below Gini Coefficients

In terms of changes in income inequality over the period, Table 6 shows that at the national level, income inequality appears to have increased for Africans, Coloureds and Whites. (The confidence intervals for Asians overlap, resulting in an indeterminate result in respect of the direction of change for this group). In terms of the Western Cape, *small sample sizes* for the *African* and *White* groups lead to estimates where *confidence intervals overlap*. However, stronger statements can be made about income inequality amongst Coloureds, which does seem to have increased over the period.

Turning to complementary analysis, the use of *Theil contributions* enables analysis in respect of the share of inequality attributable to 'within-race' group income inequality and the share attributable to 'between-group' inequality. There appears to be a slight increase in the 'within-race' contribution over the period, inferring that it is more 'within-race' than 'between-race' inequality that is driving the income inequality measures upwards.

It is interesting that the Western Cape, with its quite different racial profile, still has a similar income inequality profile to the rest of the country in terms of having extremely high income inequality at the Provincial level and in terms of the 'within-race' patterns.

Higher or deeper rates of poverty at the lower end and/or upward earnings mobility of those at the top end would serve to widen the distribution and is the likely reason for the rise in inequality seen here. Indeed, with labour market earnings being the key driver of inequality in South Africa⁷, the workings of this market become central to measured income inequity/inequality.

Determining the main contributors to the changes in inequality shown above is made difficult by data constraints. Statistically significant increases in unemployment rates at the national level would likely explain part of the inequality increase. Uncertainty as to the trends in remuneration paid to the employed, however, prevents comment on this potential impact. In terms of provincial drivers, the analysis in chapter 4 revealed that little can be said regarding the direction of unemployment or remuneration changes in the Western Cape, making it extremely difficult to comment on the apparent aggregate increase in inequality shown here.

Improved equality in access to education and educational attainment, and the commensurate structure of returns to education of the formally employed, may be other key reasons that explain the changes in inequality and potentially the slight decrease in the inter-racial contribution to income inequality shown in Table 6⁸.

From 2000 to 2003, mean years of completed education for Africans in the Western Cape aged 20 and above increased from 8,2 to 9,1 years over the period. The Coloured population aged 20 and above showed a slight increase in mean years of education from 8,9 in 2000 to 9,2 in 2003, whilst the White mean years of schooling remained stable at around 12,6 years. We therefore see a narrowing in the distribution of educational attainment between the races. The divide, once again, will be largely between those who manage to find work and those who do not, and how the additional education is rewarded in the labour market.

⁷ See Leibbrandt, Murray; Woolard, Ingrid and Borat, Haroon. "Understanding Contemporary Household Inequality in South Africa." Ch. 1 in H. Borat, M. Leibbrandt, M. Maziya and S. Van der Berg. *Fighting Poverty: Labour Markets and Inequality in South Africa*. Cape Town: University of Cape Town Press, 2001: 32.

⁸ There is an unfortunate disjuncture between the time periods used for labour market analysis and those for poverty and inequality. This was driven by data considerations. Using the labour market findings to reflect on the changes in poverty and inequality here assumes similar processes at work over the two periods.

The story of increasing income inequality in the Western Cape, and indeed in South Africa as a whole, is the outcome of many complex factors that interact and move in a myriad of different directions. It mirrors the narration in respect of employment and unemployment changes that lead from Provincial labour market performance.

On the one hand, increased employment and remuneration opportunities for some, albeit insufficient, mean that part of the Province's population is progressing, reflecting a positive strand to the Western Cape's growth and development story.

However, this gratifying note is somewhat dampened as the rumblings of structural unemployment in the Province grow stronger. While the Province is not experiencing jobless growth, it certainly is not absorbing sufficient numbers of additional people entering the labour force (in respect of normal demographic transition, migration and increased labour force participation rates). This has contributed notably to high unemployment rates and a possible deepening of poverty rates, or at a minimum, an increase in the number of poor in the Province itself.

These trends are occurring despite increased access to education, therefore reflecting that improved equality in access has not yet translated into positive labour market outcomes for many. This emphasises the complexity and interdependency of the Province's development challenges. Here concerns in respect of the quality of education and training and the health status of the population come to the fore.

Understanding the reasons behind this rising income inequality and the impact of the underlying factor movements is essential if appropriate policies are to be formulated with an aim of reversing the upward trend. Isolating and examining the dynamics of these forces are a key area for future research, some considerations of which are discussed in the final section of this chapter.

That said, it is also critical to understand the implications of rising income inequality for deepening or entrenched poverty at the lower end of the income distribution, and therefore the intransigency of systemic poverty that is the face and heart of South Africa's development challenge.

2.4.2. Asset inequality

This section continues the discussion on inequality by looking more closely at what may be termed *asset inequality*, which concerns the accumulation of personal assets that affords people the capabilities and/or opportunities to improve their daily living circumstances and their future social and economic opportunities.

Usually 'assets' refer to financial or physical assets (such as land or buildings). But viewed in a broader sense, a person's asset portfolio stretches beyond her or his accumulation of

financial wealth or physical collateral; it also encompasses her or his health status, literacy, educational attainment and entrepreneurial ability, to name a few.

These non-income dimensions of welfare are often notably correlated with income and consumption levels, drawing a link between income inequality and asset inequality concerns. More specifically, asset equality is attained in respect of access to good basic services (water, sanitation, energy and refuse removal) and social services (health care, education and skill development, and shelter). Typically, those at the higher end of the income spectrum have more extensive access to quality services, ensuring that their capabilities and opportunities are broadened and deepened to their fullest potential.

Many government interventions therefore focus on improving poor people's capabilities in respect of enhancing access to quality schooling and skill development, health care services, clean and safe water, sanitation facilities and housing. These types of public service provision are often termed the 'social wage' or 'social wage goods'.

Asset inequality in South Africa and the Western Cape

A credible assessment of the relationship between equity and development should augment income inequality analysis with an explicit focus on access to basic and social services, and the disparities in these that exist both nationally and at sub-national level. These simple measures serve as powerful indicators of living standards and can help to provide a more nuanced understanding of areas of need of the population. In instances in which Government is providing many of these basic services free of charge to the poor, the extent of income inequality may be overstated.

The initial part of this section focuses on access to *basic services and dwelling types* of those in the Western Cape, and compares these to national data in an attempt to further our understanding of welfare levels in the province. The unit of analysis in this case is the household (rather than individual people as households share in access to such services).

Key access indicators considered here in respect of basic services include type of dwelling, water supply, energy source, type of sanitation, refuse removal and telephone access. The nature of access to these basic goods and services will have a strong influence on standards of living and quality of life. Type or quality of housing, for example, besides providing a space in which to live, may offer opportunities as either a place of work or – if the dwelling is owned – as collateral for a loan. Sanitation, water supply and refuse removal will have impacts on the health of the population, while access to energy and water will also determine time spent in obtaining these resources. Finally, telephone access is a key indicator of household engagement with the economy, and will reflect on opportunities to engage with the formal labour market.

It is important to note that, as the population of the Western Cape lives mostly in urban areas, extensive access to basic services should be achievable. The data in Table 7 attests to this, with 95 per cent of Provincial households in 2001 having access to piped water, 86 per cent to a flush toilet, 87 per cent to refuse removal and 87 per cent to electricity for lighting purposes. On aggregate, the Western Cape once again performs well above the national averages.

The one instance in which this is not the case is in terms of dwelling type. Although 80 per cent of dwellings are classified as formal, far exceeding the national average of 68 per cent, a similar proportion of dwellings to the national average (16%) is classified as informal. Informal dwellings are generally constructed with walls and roofs of corrugated iron or other materials such as cardboard and plastics. They are often less secure than even traditional dwellings, are found in densely populated areas and are more vulnerable to shocks such as fires and floods. In the Western Cape in 2001, Census data indicates that approximately 188 000 dwellings were informal and in excess of 600 000 people were living in these sub-standard structures. Furthermore, the majority of households indicating that they have no toilet are classified as informal. Province and City of Cape Town plans to upgrade the N2 corridor should help to address some of these housing and associated problems in the Province.

Finally, telephone access is also well above the national average, with 63 per cent of households having access to a landline telephone within the home or to a cellular telephone. Public telephones remain important, with a further one-quarter of households using them as their main telephonic source.

Table 7 also shows *changes* in basic service access indicators over the 1996 to 2001 period. At the national level, small improvements have been made across all services categories, most notably in the increase in electricity for lighting purposes and telephone access. This is an important point, as it reveals that even though income inequality appears to have increased across South Africa, improvements in access to basic services have been made.

In terms of basic service access levels, the Western Cape once again performs well above the national averages, however, *improvement* in access is less impressive for the Province. In fact, the proportion of dwellings classified as formal has seen a drop, and the share of households that do not have a toilet has increased.

It is interesting to note that in terms of expenditure levels, the Western Cape has shown improvements well in excess of the national trend, but in terms of *improving* access to basic services and housing types, the Province is actually performing relatively poorly.

Table 7 Access to basic services for South African and Western Cape households, 1996 and 2001

	National		Western Cape	
	1996	2001	1996	2001
Urbanisation Rates	%	%	%	%
% of households in urban areas	59,9	62,4	88,8	90,3
Dwelling Types				
Formal	65,2	67,6	82,2	80,4
Informal	16,2	16,3	16,7	16,1
Traditional	18,3	14,6	0,9	2,1
Water Access				
Piped	80,0	82,2	97,0	94,9
Borehole/tank/vendor	6,1	3,7	1,2	0,3
Spring/river/dam/pool	12,4	9,2	0,6	0,4
Energy Source Lighting				
Electricity	57,7	69,5	85,4	87,5
Paraffin	12,7	6,7	8,2	7,0
Candles	28,5	22,6	5,8	4,4
Energy Source Cooking				
Electricity	47,2	50,7	76,8	77,6
Paraffin	21,5	21,3	13,3	13,9
Wood	22,9	20,3	4,5	2,9
Sanitation				
Flush/ chemical toilet	50,3	53,4	85,8	85,8
Pit latrine	32,3	28,3	4,8	2,1
Bucket latrine	4,6	4,1	3,8	3,7
None	12,4	13,6	5,4	7,7
Refuse Removal				
Removed by local authority	53,5	55,7	84,9	87,2
Own refuse dump	32,2	32,0	7,7	7,2
Communal	3,2	1,7	3,7	2,1
No rubbish disposal	9,5	8,4	2,0	1,4
Telephone Access				
In this dwelling/ cellular phone	28,6	42,4	55,1	63,1
At a public telephone nearby	35,9	38,4	27,2	25,2
At another location	16,7	13,2	14,3	10,1
No access to telephone	18,3	6,0	3,0	1,7

[Source: Census 1996 and Census 2001, 10% Samples]



It is also important to recognise that the large increase in the population of the Western Cape over this period means that, even if the proportions stay constant, the absolute numbers may increase substantially. For example, if one considers informal dwellings, although the proportion has been fairly stable (in the 16% to 17% range over the period), the actual number of informal dwellings has risen from 162 873 in 1995 to 188 209 in 2001, an increase of 25 000 dwellings.

Taking the analysis further, we examine access to *social services* – education, healthcare services, social welfare services and policing. This facilitates a comparison of access data in the Western Cape to national data, drawing a more complete picture of opportunities for future development and areas of explicit need. In terms of targeting inequality of opportunities, widespread access to many of these services forms the foundation of a more equitable society, in which people are better equipped to participate more fully in the economy. This time the unit of analysis is the individual, as access to social services is predominantly in respect of individual access.

Key access indicators in terms of social services include, amongst others, education participation and completion rates; enrolment numbers and rates at Grade R, primary, secondary and further education and training (FET) colleges; numbers of health personnel (doctors, nurses, pharmacists) for every 1 000 people; percentage access to a primary healthcare facility within 5km walking distance, acceptable patient waiting and service times; numbers of social workers for every 1 000 people; numbers of police personnel for every 1 000 people and percentage access to a police station/mobile unit within 5km walking distance.

Again, as with basic services, the nature of access to these social services has a fundamental impact on improving people's capabilities, and therefore their present and future quality of life and opportunities.

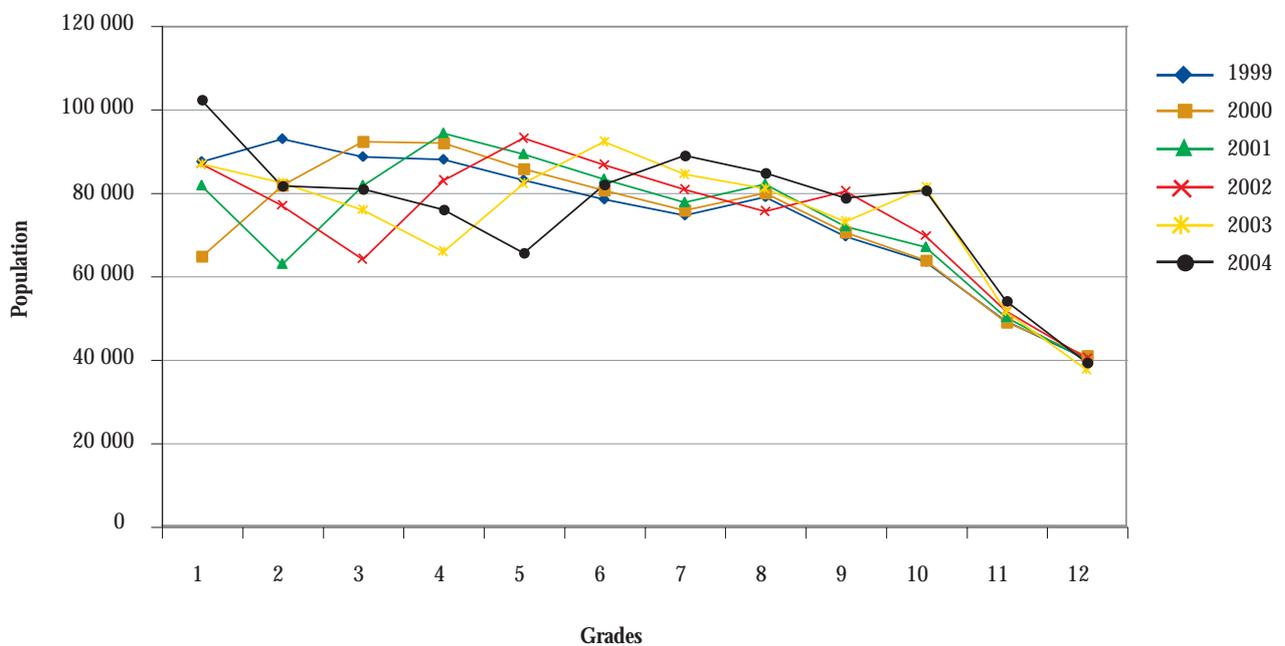
Taking a closer look at a few of the above indicators, we note that access to quality education is the foundation of skill development, opening access to further education and training and hence to skilled, well-remunerated employment opportunities. Education has already been discussed in the context of the labour market, with the employment and unemployment profiles of the Provincial labour force as well as Provincial migrant status mapped out by educational attainment. As with many other indicators, the Western Cape performs better than most provinces in terms of attendance rates and average educational attainment. Nationwide, attendance of seven- to 15-year olds is good, with 6,5 per cent of children in this age group not attending school in 2001. The Western Cape fares slightly better, with only 5,5 per cent of this age group not going to school, according to Census 2001 data.

According to 2001 Census figures, the Western Cape also had the lowest proportion of those aged 20 and above with no schooling. It had the second-highest proportion of its

provincial population in this age group with a completed Grade 12 or higher education, with only Gauteng performing better. In addition, it exhibits the highest adult literacy at 91 per cent (measured as those aged 20 and above with at least four years of schooling) compared to a national average of 77 per cent.

The key area of concern, however, is the high rate of learner drop-out after Grade 8, reducing secondary school completion rates significantly. This trend is evident in respect of enrolment data by grade, indicating that only 45 per cent to 52 per cent of learners who enrol in Grade 1 reach Grade 12.

Figure 2 Enrolment in public ordinary schools in Western Cape, 1999 – 2004



[Source: WCED, 2005]

Nevertheless, better educational attainment does not mean that the education system is operating efficiently or that the population is acquiring the 'right set of skills' that will facilitate easy entry into the job market. In fact, chapter 4 shows that there is widespread unemployment across the skills spectrum. Therefore, one of the greatest concerns with provincial and national education goes beyond issues of access to issues of quality of service delivery.

Access to other social services such as adequate health care and police services will also have important implications for quality of life and safety and security. Quality health care services within walking distance of communities facilitate preventative care and minimise ill health, particularly for children who are more vulnerable in this respect.

Table 8 shows the numbers per 100 000 population of selected health personnel for 2000, 2002 and 2003. (For doctors and professional nurses, only the figures for 2000 and 2002 are comparable and therefore 2002's figures are included here.) Again, as for so many other access indicators, the Western Cape out-performs the national averages. This is true

Table 8 Public sector health personnel per 100 000 population for South Africa and the Western Cape – 2000, 2002 and 2003

	National			Western Cape		
	2000	2002	2003	2000	2002	2003
Doctors*	21,9	19,3	19,7	39,7	33,1	31,9
Professional nurses *	120,3	106,8	107,1	139,9	130	113,9
Nursing Assistants	81,3	75,9	74,8	131,2	134,9	118,2
Medical Specialists	11,2	9,8	8,9	42,7	39,3	32,6
Pharmacists	3,1	3,3	3,1	6,1	7,3	6,4

[Source: PERSAL Personnel Administration System (<http://www.hst.org.za/>)]

Note: * Proportion calculated excluding medical aid members so as to approximate the public sector-dependent population.

for doctors, professional nurses, nursing assistants, medical specialists and pharmacists. However, the data shows a disturbing trend in terms of health personnel access, both for the Province and nationally. There have been declines in the number of personnel per person for all listed types of medical practitioners. This is a worrying trend, especially in light of the increased need for medical care with the spread of the HIV/Aids pandemic. Diminishing access to this very important resource is exacerbated by emigration of medical personnel, which is often encouraged by relatively good pay offers from other countries, and needs to be addressed.

Access to medical aid

As many as 35 per cent of people living within the boundaries of the City of Cape Town buy medical insurance and use private health providers for their health care needs. This number of medically insured population is twice as high as the national average, which has declined over the last 10 years to a new low of 16 per cent. It is also higher than the estimated average rate of 20 per cent amongst rural persons in the Western Cape (including big towns such as George, Paarl and Worcester).

The medical aid coverage rates for urban (metro) and rural coverage mask inequalities between sub-district areas. For instance, Khayelitsha sub-district in the metro has only one per cent of its population on medical aids, compared to Mitchell's Plain (14%) and Tygerberg (51%) sub-districts.

Medical aid coverage and the inequality of access to private health care that it generates are linked to the patterns of unemployment and income. There are also geographic inequalities related to the lack of access to

private hospital care in some areas. Medically insured persons in Khayelitsha or Delft have to travel to other areas, as private hospital groups have been reluctant to set up shop in these areas or have failed due to a lack of demand in these areas (for example, Eerste Rivier Private Hospital).

Within the public sector, more money is spent per capita on primary health care services in the metro than in rural areas. It appears that the number of health professionals and health facilities per 1 000 population in the metro is higher than that in rural districts. This has not translated into better primary health care within the metro. Anecdotal information points to a paradox - rural private health care provision is reported to be of a higher quality than the metro's. The reverse is true for secondary and tertiary hospital services. As expected, people who live closer to the secondary and tertiary hospitals have better access than those living further away, favouring the Metro population over the rural.

Inequity on a sub-district level presents itself in morbidity and mortality outcomes. The rates for antenatal HIV prevalence (27%), tuberculosis incidence (1 500 / 100 000) and infant mortality (44 per 1 000 live births) are all higher in Khayelitsha than in any other sub-district in the Western Cape, reflecting the same images described in other parts of this review on inequality. No systematic policy exists to address these inequalities in the health sphere.

Lastly, good coverage of police and social work personnel enhances people's safety and security, providing a safety net for many in respect of physical and emotional vulnerability. In terms of access to safety and security services, the Province is, on average, better equipped than the rest of the country, as can be seen from Table 9. This, however, does not mean that the Province is performing better in terms of outcomes. Crime statistics shown in section 3.2.2 indicate that greater policing and social services may, in fact, be the result of direct need, as the Province appears to suffer from severe social problems – in many instances, crime rates are relatively worse than nationally. Although the Province provides

Table 9 Social workers and police for South Africa and the Western Cape

	National		Western Cape	
	Number	Per 100 000 People	Number	Per 100 000 People
Social workers (2001)	10 231	22,8	2 139	47,3
Police (2004)	112 168	240,8	14 613	319,7

[Source: Council for Social Work and <http://www.saps.gov.za>]

better access to these resources, it would seem that even greater assistance is required.

An exercise performed with Census data and which combines income and access to basic and social services data shows that, in most cases, the poorest in society have experienced the greatest gains in terms of improvements in service delivery⁹. This provides an initial look at capturing some of the 'social wage' effects of service provision. A similar exercise is undertaken here using the IES expenditure and access to services data for the Western

⁹ Leibbrandt, et al. (2004).

¹⁰ Unfortunately, weighting issues across the surveys and sample sizes prohibit a comparison being made between 95 and 99.

Table 10 Western Cape expenditure quintiles, 2000

Quintile	Number of HHs	Cumulative %	Mean Annual Per Capita Income	Min	Max	Share of Population
1	198 839	20	2 523	190	3 821	27,5
2	198 282	40	5 288	3 835	6 961	21,9
3	198 495	60	9 772	6 967	13 308	18,5
4	198 247	80	20 355	13 364	29 480	17,5
5	198 394	100	73 387	29 492	1 590 331	14,6
Total	992 257	100	22 257	190	1 590 331	100,0

[Source: *Income and Expenditure Surveys 2000. Author's calculations*]

Cape¹⁰. An association between income and access inequality is drawn through examination of service access rates in respect of income quintiles.

Table 10 shows descriptive statistics relating to the household income quintiles for 2000. Importantly, using the household as the unit of analysis means that there are many more people attached to the bottom quintiles, reflecting once again that poorer households have, on average, larger household sizes. It is clear that 27,5 per cent of the Provincial population lived in the poorest 20 per cent of households in 2000, while only 14,6 per cent of the population lived in the richest 20 per cent of households.

Table 11 surveys household service access by income quintile, linking income inequality with access inequality. A quick glance at the data reveals, as is to be expected, that access rates improve as we move up the income quintiles, which means households with higher income are more likely to have better access to better quality services.

In terms of basic services and dwellings, of note is the very high level of informal dwellings for the poorest 20 per cent, with more than one in three of these households living in a 'vulnerable' structure. In fact, on average 23 per cent of the poorest 60 per cent of households lived in informal dwellings in 2000.

Regarding water access, the data shows that only 44 per cent of the poorest quintile has access to piped water in the dwelling, with 32,5 per cent having water piped on site and a further 21 per cent making use of a public tap as their primary source. Less than half of the poorest quintile use electricity for cooking, with paraffin the main fuel for one in three. In excess of 70 per cent use electricity as the main energy source for lighting, up marginally from 1995. The differences in sanitation access are particularly stark across quintiles, with one in five of the poorest 20 per cent of households having only off-site access or indicating that they make use of no toilet at all. Telephone access is also substantially skewed.

Table 11 Western Cape household services access by income quintile, 2000

Quintiles 2000	20%	40%	60%	80%	100%	Total 2000	Total 2003
Dwelling Types							
Formal	61,4	77,2	84,0	93,6	98,4	82,9	84,8
Informal	35,9	19,6	14,6	6,2	1,3	15,5	14,3
Water Access							
Piped in dwelling	44,1	60,0	75,8	90,9	97,6	73,7	75,8
Piped on site	32,5	25,8	14,9	5,2	1,3	15,9	15,4
Public Tap	21,3	11,8	8,9	3,9	0,5	9,3	7,6
Other	2,2	2,4	0,4	0,0	0,6	1,1	1,2
Energy Source: Lighting							
Electricity	72,1	81,9	90,1	96,3	98,8	87,8	92,1
Paraffin	12,3	7,0	3,9	1,7	0,1	5,0	2,4
Candles	15,2	10,1	5,4	1,7	0,5	6,6	5,5
Energy Source: Cooking							
Electricity	48,7	68,2	79,8	93,8	94,8	77,0	83,3
Paraffin	34,8	18,7	12,5	4,7	0,7	14,3	9,9
Wood	10,8	6,4	1,9	0,2	0,0	3,9	3,4
Sanitation							
Flush in dwelling	37,4	54,6	71,9	89,3	98,5	70,3	72,4
Flush/ chemical on site	34,6	26,6	16,9	7,2	1,0	17,3	17,4
Pit on site	2,0	4,1	1,4	1,1	0,1	1,7	1,4
Bucket on site	4,2	1,9	1,9	0,9	0,0	1,8	1,4
Any offsite	16,7	8,3	4,6	1,3	0,5	6,3	2,7
None	5,0	4,4	3,4	0,2	0,0	2,6	4,7
Refuse Removal							
Local authority 1 x week	73,6	75,9	85,6	92,1	95,2	84,5	86,2
Local authority < 1x week	3,5	2,1	3,1	0,8	0,8	2,1	0,8
Communal dump	4,4	6,1	2,8	2,1	0,3	3,1	7,0
Own dump	12,8	10,8	4,8	4,1	2,1	6,9	4,1
None	2,3	1,1	2,1	0,3	0,4	1,2	0,5
Telephone							
Cell only	2,5	5,2	5,7	9,3	11,9	6,9	20,7
Landline only	17,4	30,1	44,6	45,3	20,2	31,5	15,3
Cell & landline	1,3	3,8	9,2	30,6	62,3	21,5	32,8
Other	78,6	60,5	40,4	14,2	4,9	39,7	31,2

[Source: IES 2000 & General Household Survey 2003. Author's calculations]



Considering the range of access indicators by income quintile reveals notable differences between the poorest 40 per cent of households and the rest, indicating that it is these households that are marginalised in terms of *both* income and service delivery, and it is these households that must be targeted in future development programmes.

In terms of trying to capture the 'social wage' effects of publicly provided goods/services, although the poorest two quintiles (or 40%) are markedly worse off, many do in fact have access to adequate services. In this sense, income inequality estimates may be somewhat overstated.

Included in Table 11 are also the more recent 2003 estimates for the Province. These show mostly small but encouraging improvements for all indicators considered. Given that the top 40 per cent of households have practically full service provision, we can assume that the improvements that have been made – notwithstanding the fact that of most them were quite small – are probably flowing to the poorer in the Province. Of particular interest is the change in telephone access, with an additional eight per cent of households obtaining access to a telephone in only three years. This can largely be attributed to the exceptional uptake rates of cellular phones.

A useful exercise for future research would be to try to value this 'social wage', and thus gauge how the population is being assisted through poverty reduction strategies such as service delivery. From another perspective, however, there may be a high level of services cut-offs for water and electricity. This would also need to be incorporated into future analyses.

2.4.3. Spatial inequality

The third key form of inequality is that of *spatial or geographic inequality*. Spatial patterns of inequality within countries and sub-national regions are often of importance in their own rights, as well as being key to the political economy of policy-making.

Spatial inequality is a key dimension of inequality profiling in respect of national or sub-national socio-economic analysis. In many instances, spatially disaggregated information can be used to investigate patterns of spatial divergence or convergence across regions, and their correlation to patterns of individual and community income and asset portfolios.

Spatial profiling throws into relief the confluence of income, asset and spatial inequality, drawing attention to stark inequalities on multiple levels. Targeted intervention therefore requires service delivery that is co-ordinated in terms of audience, complementing outputs (goods and services), geographic area and time. It is at this point that spatial mapping of income and asset inequalities becomes necessary, so that the most marginalised within the Province may be identified and targeted in respect of service delivery.

Spatial inequality in South Africa and the Western Cape

Spatial inequality patterns are most commonly understood in respect of the natural environment, socio-economic concerns and the built environment.

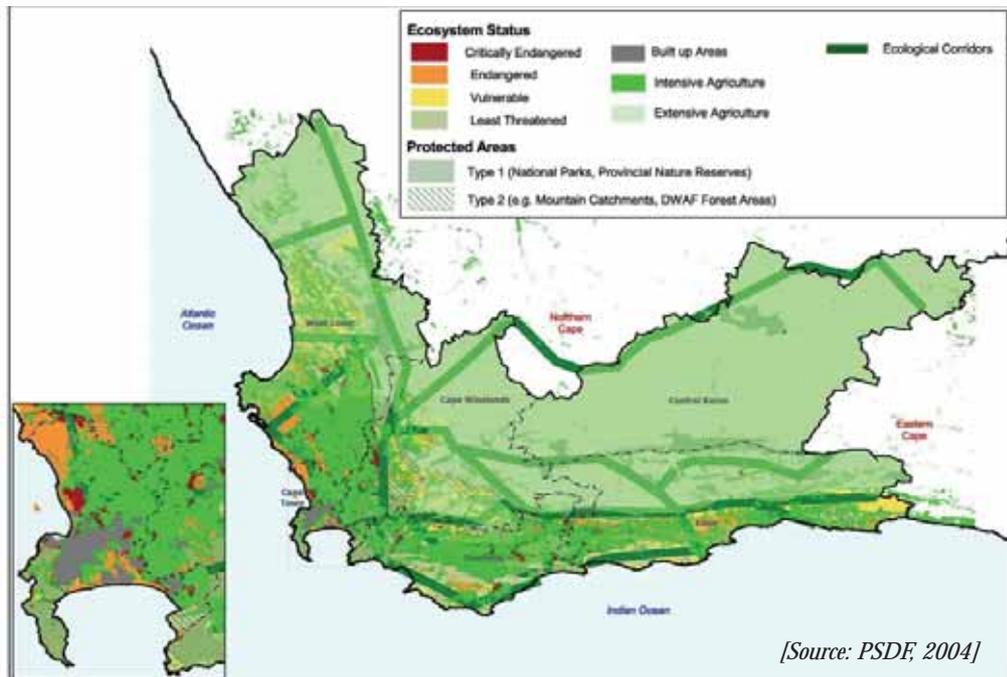
In respect of the natural environment, biodiversity conservation is a key concern. The Provincial Spatial Development Framework (PSDF) has used spatial mapping (GIS) techniques to map the critically endangered and endangered areas of biodiversity in the Province. Of interest is that the least-endangered areas correspond with protected areas.

Further maps then overlay the extent of intensive and extensive agriculture in the Province, as there are critical trade-offs happening in respect of biodiversity . More specifically, areas of intensive agriculture plough the land and are therefore destructive of biodiversity. Extensive agricultural areas comprise the small and large stock farming occurring in the Karoo and the northern part of the West Coast. This activity occurs on natural veld and so, theoretically, there is a complementary relationship between extensive farming and biodiversity if grazing is properly managed.

There are two major implications for land-use planning and biodiversity conservation in the Province. First, the critically endangered and endangered remnants that are left are very important. This means that the competition between agriculture and biodiversity should be well understood.

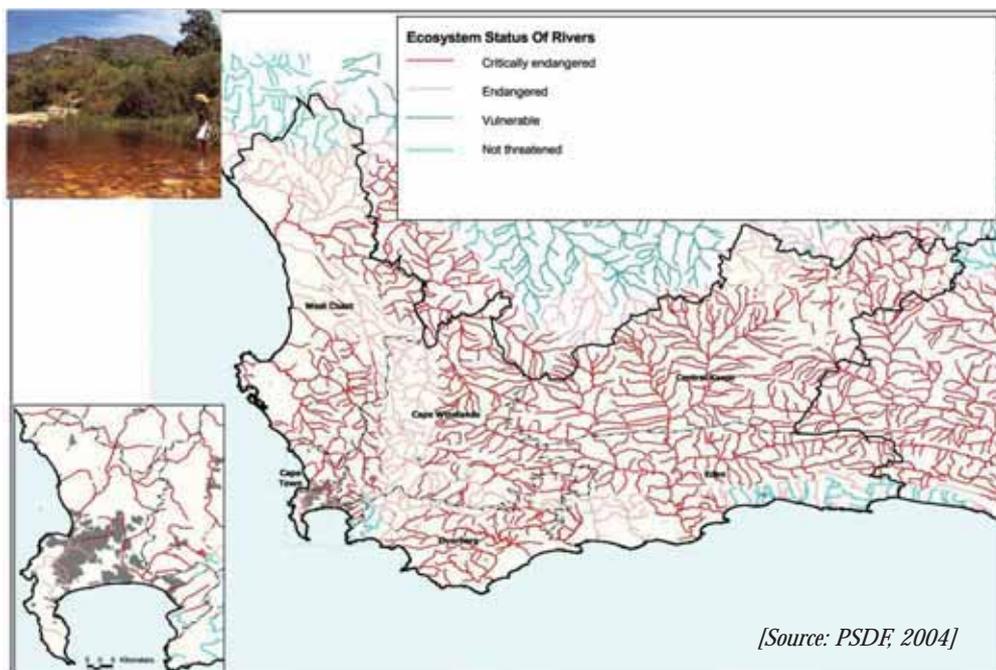
Second, there is a major overlap between extensive farming in the Karoo and areas of least threatened biodiversity. This suggests the potential of veld management to manage veld-carrying capacity and biodiversity conservation.

Figure 3 Western Cape biodiversity conservation



Looking at the ecosystem status of rivers, alarming trends point to the extremely poor ecosystem status of most of the Province's rivers, 90 per cent of which are either critically endangered or endangered. These shocking results are due both to urban development pressures and extensive and intensive farming practices. This suggests that river conservation should be a major area of policy focus going forward.

Figure 4 Ecosystem status of Western Cape rivers



Turning to socio-economic trends, broader demographic profiles for both South Africa and the Western Cape are discussed in detail in chapter 4. This section draws from these discussions, taking a closer look at the human settlement and built environment patterns in relation to income and asset distributions.

Analysis of human settlement patterns investigates urbanisation trends, the form and distribution of the built environment, growth and urban sprawl, and human needs versus development potential.

In respect of urbanisation, more than 50 per cent of South Africans already live and work in fast-growing urban areas. The percentage of South Africa's population resident in urban areas has increased from 47 per cent in 1980 to about 56 per cent in 2004, representing an increase of nearly 10 percentage points.

Table 12 below shows that, at the provincial level, the Western Cape is highly urbanised – 90 per cent of the population lives in urban areas, compared to 38 per cent in the Eastern Cape and 45 per cent in KwaZulu-Natal. However, the percentages of people in rural areas vary over the various districts: 35 per cent in the Overberg district, 33 per cent in Eden, 35 per cent in the West Coast, 19,9 per cent in the Boland and 33 per cent in the Central Karoo district.

Table 12 South African urban population, 2001

Province	% of Population	Population (no.)	% urban	Urban
Eastern Cape	14,4	6 436 763	38,1	2 453 120
Free State	6,0	2 706 775	74,8	2 023 545
Gauteng	19,7	8 837 178	96,2	8 505 744
KwaZulu-Natal	21,0	9 426 017	45,2	4 261 504
Limpopo	11,8	5 273 642	10,5	551 836
Mpumalanga	7,0	3 122 990	39,1	1 222 224
Northern Cape	1,8	822 727	80,2	660 092
North West	8,2	3 669 349	41,0	1 505 211
Western Cape	10,1	4 524 335	89,7	4 058 783
National	100	44 819 776	56,3	2 5247 736

[Source: Census 2001 and Census 2001 10% Sample]

Note: Urban-rural classification based on definitions used in Census 1996 and previously.

Broadly speaking, 64,8 per cent of the Province's population is located in the City of Cape Town (metropolitan area) and 36 per cent are collectively located in the five district municipalities. The split between the Province's urban and rural populations is shown in Table 13.

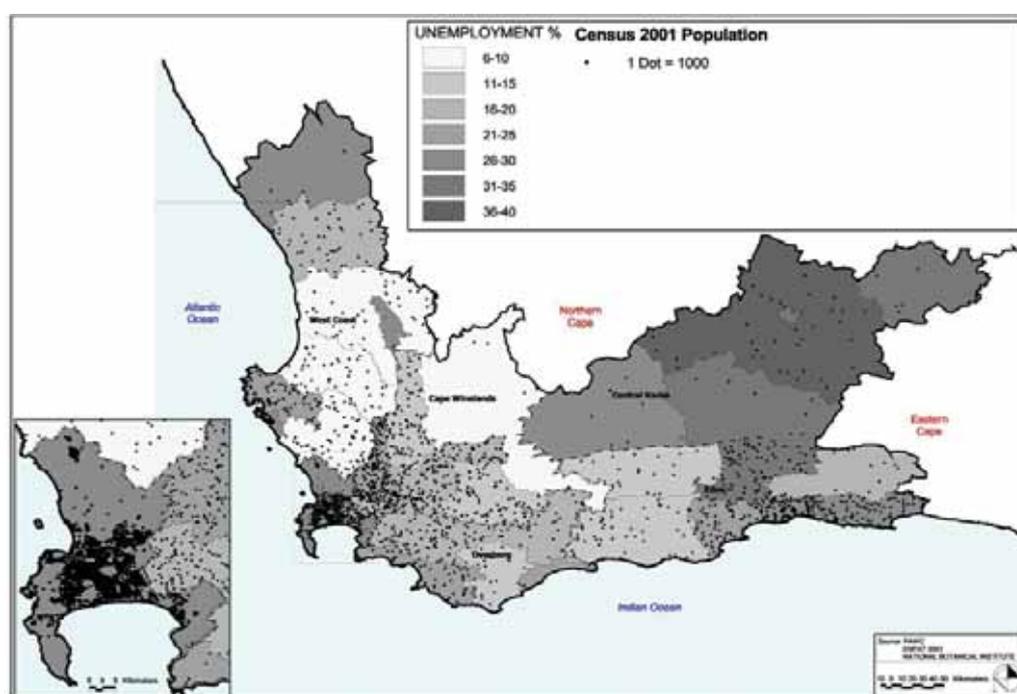
Table 13 Western Cape urban populations, 2001

	% of Provincial population	Population (no.)	% Urban	% Rural	Urban	Rural
Cape Metro	64,8	2 492 000	99,0	1	2 913 000	29 000
Boland	14,0	636 000	81	19	515 000	121 000
Eden	9,7	440 000	67,2	32,8	296 000	144 000
West Coast	6,0	272 000	64,7	35,3	176 000	96 000
Overberg	4,2	191 000	64,7	35,3	124 000	67 000
Central Karoo	1,4	636 000	67,0	33,0	42 600	21 000
Total	32,5	4 544 600	90,0	10,0	4 066 600	478 000

[Source: Census 1996 for urban percentage and Census 2001 for population]

Moving from demographic to socio-economic spatial trends, previous chapters discuss concerns in respect of unemployment, education, health and crime in considerable detail. This chapter does not replicate such analyses, but points out that socio-economic trends mapped out spatially highlight the confluence of many socio-economic trends with certain settlement areas. An example of unemployment GIS mapping is seen in Figure 5.

Figure 5 Socio-economic spatial trends: unemployment in the Western Cape



[Source: PSDF, 2004]

In respect of the *built environment*, the majority of South African towns are essentially a system of settlements, consisting of a 'White' core, which contains the economic centre and most social services, and surrounded by a number of disparate, racially discrete dormitory areas or locations, often of considerable size.

South African settlements, including those in the Western Cape, may be classified or understood in the light of their original reason for existence – some originally were missionary towns, other performed an administrative function, while others still served a transport (railway) function. The sizes of these settlements vary from small towns in the Karoo to secondary cities (for example George) and the primary metropolitan area (for example, Cape Town).

Turning to urban growth and sprawl, for the most part, newer residential developments have led to extensions of the existing urban footprint outside of the previous urban edge. This pattern of growth leads to the perpetuation of the *apartheid* town structure where poorer people are located further away from town, with the accompanying inefficiencies for infrastructure, transport and other services. This takes place despite policies promoting the contrary, as a result of other contradictory policies such as large-scale transport subsidies that encourage sprawl by reducing the cost effect of distance.

Over time, however, smaller towns decline relative to larger cities due to factors including consolidation of commercial farming, de-densification of the rural periphery and increased accessibility to a large town.

For the Western Cape, most of the stagnating and declining settlements cover the larger portion of the Province's land area and are located in the inland arid areas with the highest moisture loss (Central Karoo, northern Boland and the northern parts of the West Coast).

Understanding the balance and dichotomy between human need and development potential is essential for of spatial development planning. Table 14 shows that most towns in the Western Cape have either high development potential and low need, or inversely high development need and low development potential.

Table 14 Comparison between Western Cape development potential and need

Potential & Need	Development Potential	Need
Metro	High	High
Coastal town	<i>High</i>	<i>Low</i>
Large inland town	<i>Low</i>	<i>High</i>
Small inland town	<i>Low</i>	<i>High</i>

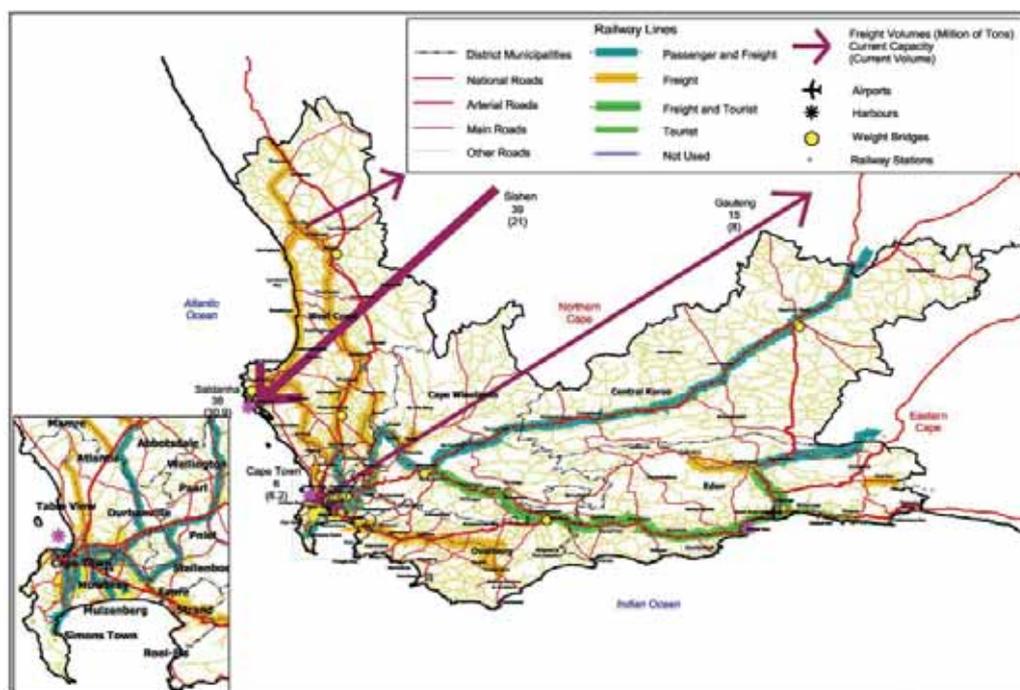
Source: [Van der Merwe, 2005]

In respect of transportation concerns, there are four main aspects to be considered – public transport, non-motorised transport, freight and private motor vehicles. These are carried on two infrastructure networks: road and rail. In respect of road, three well-developed transport axes (north, northeast and east) converge on the Metropolitan area and offer opportunities for settlement in the form of the West Coast Investment Initiative consolidation. The West Coast Corridor – a national development goal – offers similar development opportunities.

Given large distances, public transport is a basic need for a very large proportion of the Western Cape’s population in both urban and rural areas. In the City of Cape Town, the car ownership rate, combined with the need to use other means of transport for work trips mean that 56 per cent of the population depend on public transport use.

Historic settlement patterns and the separation of work and residence have resulted in an urban transport system which compels the urban poor to commute long distances to employment centres. This discrepancy has resulted in an inefficient and heavily subsidised public transport system and the need for investment in road infrastructure due to the reliance on private vehicle ownership as well as road infrastructure’s high maintenance costs.

Figure 6 Western Cape transportation infrastructure



[Source: PSDI, 2004]

3. Poverty: The Face of Inequality

Our earlier review of the relationship between equity (or inequality) and shared or broad-based development suggests that inequalities in respect of income, assets and spatial or geographic location may be fundamental drivers of poverty.

Yet equally poverty, has in its many faces and dimensions that interface with income, asset and spatial inequality. However, the causal direction of this relationship is undefined. As such, poverty describes a state of deprivation that prevents an individual from attaining some minimum 'socially acceptable' standard of living. This 'state of deprivation' can therefore be measured in a number of ways and according to various approaches.

3.1. Poverty measurement and analysis

The poverty measurement debate follows on the sequence of inequality analysis above, in respect of considering poverty in terms of income, asset and geographic space.

In respect of *income poverty*, one of the most tractable ways to measure income poverty for a country is through the use of a *national [income] poverty line*. Poverty lines are constructed so as to indicate the minimum amount of money required to meet the cost of an individual's (or household's) basic needs and include a food and non-food component. If an individual earns or spends less than the poverty line amount, she or he is deemed to be poor.

The extent of *absolute poverty*, or the *poverty rate* is then measured as the proportion of the population that fall below the predetermined national poverty line. This is referred to as the *poverty headcount measure*. A measure of the *depth of poverty* can also be calculated, by summing the distance from the poverty line of all those who are poor. This is known as the *poverty gap* and indicates how far on average the poor are from the *poverty line*.

The most recent attempt at establishing a poverty line for South Africa has been undertaken by Hoogeveen and Ozler (2004). They calculate a lower bound poverty line of R322 per capita per month and an upper bound line of R593 per capita in 2000 prices. In addition, they use the value of R174 per capita per month as equivalent to the internationally used Two Dollar a day 'poverty line'¹¹. These figures will be used as the basis for poverty estimates in this review.

Poverty lines are notoriously difficult to measure and the choice of line often imprecise. Another way of comparing relative well-being of pre-defined groups is the poverty dominance approach. In this type of analysis, no single poverty line is used, but groups are measured against each other in terms of chosen indicators such as income levels or access

¹¹ The value of R174 per month is somewhat arbitrary given that it is based on imprecise Purchasing Parity estimates. Leibbrandt et al. (2004), attempting to find a rand value for the US\$2 a day line, obtain an estimate of R124 per month in 2001 prices.

to certain assets or services. Using income as an example, the dominance method graphically depicts the cumulative proportion of those with access to each and every income level, for each group being considered. If it is shown that one group's cumulative distribution always falls above/ or below another's, strong statements can be made about relative wellbeing. For example, in the case of income, it could then be stated that one group is better off than another for each and every income poverty line chosen.

Moving towards *asset poverty*, the latter may be measured in terms of key indicators of people's socio-economic outcome or human development status. These often include analysis in respect of indicators of attainment in education – literacy and numeracy rates, and matriculation pass rates, etc.; and in health – life expectancy at birth, infant and/or child mortality, infectious disease prevalence, morbidity and mortality rates. Other key indicators commonly used are those that reflect economic participation in respect of employment and unemployment rates, and community safety in respect of crime rates.

An alternative approach that might more fully include various dimensions of deprivation into a single measure is to combine chosen indicators into a *poverty index*. A well-known example of an index used to reflect differences in wellbeing is the United Nations Development Programme's *Human Development Index* (HDI), discussed later on in greater detail.

Finally, *spatial poverty* may be measured using a single-dimension or a composite poverty index to identify the most deprived communities within national or sub-national boundaries. As poverty is multi-dimensional and encompasses deprivation in various forms, the development of a composite poverty index is a useful way to isolate the regions that score worst according to a range factors. Once the most deprived areas have been identified, the index can be unpacked to ascertain the key drivers of deprivation.

Using a combination of measures in assessing poverty and inequality should allow us to develop a more nuanced understanding of the development needs of the Province. In the empirical analysis, one must move beyond the choice of measure to a decision on the unit of analysis that will often be guided by data considerations.

3.2. Poverty in South Africa and the Western Cape

As highlighted in earlier sections, the primary concern with such high levels of income, asset and spatial inequality is that even in a growing regional economy, returns may then not flow to the poorest in the society and the potential positive impacts of poverty alleviation through growth could be lost. In a low-growth economy, the chances for poverty reduction are further diminished.

While South Africa's and the Western Cape's growth record has been stronger over recent years and holds notable optimism over the 2005 MTEF period, lacklustre growth of the

period 1995 to 2000, the economy's inability to sufficiently absorb its growing labour force, as well as the extremely skewed distribution of income, it would not be surprising to find that the more economically marginalised in society have become poorer over the period.

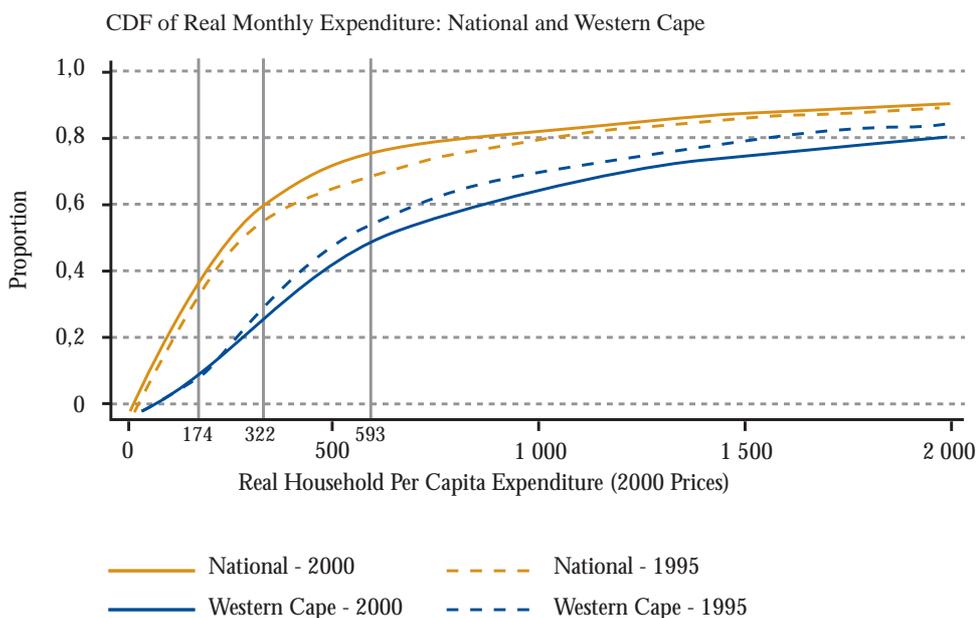
This means that understanding the patterns and trends in respect of poverty magnitude and incidence at the national and provincial level is essential to the development debate. Following on the sequence of inequality analysis above, we move on to examining poverty in respect of income, asset and spatial considerations.

3.2.1. Income poverty

An extremely useful way to consider changes in income poverty is with the *cumulative distribution* function or CDF. The CDF orders the population from poorest to richest along the income distribution. It then graphs the proportion of the population on the vertical axis with less than or equal to a corresponding value of real expenditure which is shown on the horizontal axis. The value in this approach is that one can see if a particular group of people is doing better or worse on average at different levels of expenditure. If the CDF for one group lies always above another, then dominance is said to hold, with the group whose line always lies above doing worse at every level of expenditure, or being poorer at every poverty line.

Figure 7 shows the cumulative distribution functions for South Africa and for the Western Cape depicting shares of real expenditure for 1995 and 2000, in 2000 prices.

Figure 7 Cumulative distribution function of real per capita expenditure, South Africa and the Western Cape, 1995 and 2000



[Source: IES 1995 and 2000. Author's calculations]

Figure 7 above shows that, in respect of the graphs for South Africa, the income per capita line for 2000 lies everywhere above that for 1995 – at least up to the R1 500 per capita per month level, below which approximately 85 per cent of the population falls. This indicates that a higher proportion of people in 2000 spend below every equivalent level of expenditure in 1995.

For example, considering a low poverty line of R174 per person per month the proportion of the national population calculated as poor according to this poverty line is 31 per cent in 1995. In 2000 this proportion has increased to 38 per cent¹².

If one considers a measure of the depth of income poverty for these two years, reported here as the poverty gap in Table 15, it can be seen that this, too, has worsened over the period. The poverty gap of 0,12 in 1995 indicates that the income of the poor fell on average 12 per cent below the poverty line of R174. In 2000, this situation has worsened, with the poor's income now falling on average 16 per cent below the R174 level. This is an important point as it shows not only that the number of poor increased, but also that the poor are faring even worse (that is, are relatively poorer) in 2000 than they were in 1995.

The higher poverty line of R322 per month shows the same patterns of greater incidence and depth of poverty over the period with the national poverty rates significantly higher at 52 per cent of the population in 1995 and 58 percent in 2000.

Table 15 National and Western Cape poverty levels, 1995 and 2000

	1995		2000	
	Headcount (Poverty Rate)	Poverty Gap	Headcount (Poverty Rate)	Poverty Gap
National				
R174 per month	0,31 [0,303; 0,309]	0,12 [0,115; 0,118]	0,38 [0,365; 0,393]	0,16 [0,153; 0,168]
R322 per month	0,52 [0,520; 0,5267]	0,26 [0,257; 0,260]	0,58 [0,565; 0,594]	0,31 [0,303; 0,323]
Western Cape				
R174 per month	0,09 [0,088; 0,099]	0,02 [0,022; 0,025]	0,08 [0,065; 0,103]	0,03 [0,018; 0,032]
R322 per month	0,29 [0,279; 0,296]	0,10 [0,096; 0,103]	0,28 [0,241; 0,318]	0,10 [0,083; 0,115]

[Source: IES 1995 and 2000. Author's calculations]

Note: The poverty line of R322 per capita per month in 2000 prices is the lower bound national poverty line calculated by Hoogeveen & Özler (2004). The R174 per month in 2000 prices is the value they compute as equivalent to the Two Dollar a day poverty line generally used for international comparisons.

¹² All national changes in this paragraph are statistically significant at the five per cent significance level, with no overlapping of confidence intervals.

The cumulative distribution functions for the Western Cape Province look quite different to the national lines in two noticeable ways. First, the Province's lines fall far below the national lines, indicating that the Western Cape is considerably less poor on average than the nation as a whole in both 1995 and 2000. Secondly, the lines appear to overlap up to around the R300 level, after which the line for 2000 lies below the 1995 line for every poverty line / expenditure level.

When cumulative distribution functions cross, it means the change in poverty is indeterminate, or specifically, that the group faring better will be sensitive to the poverty line chosen. For example, if we chose an extremely low poverty line of R100 per month and read the values off the vertical axis, poverty, although minimal, will seem to have worsened from 1995 to 2000. Taking a poverty line of R174 per month shows an improvement in the headcount ratio from nine per cent to eight per cent, although the poverty gap has worsened slightly from two per cent to three per cent. At the R322 per capita per month line, there also appears to have been a slight decline in the rate of poverty from 29 per cent to 28 per cent of the population.

These differences, however, are not statistically significant at the five per cent level. Taking a higher poverty line of R593 per capita per month shows a greater difference between the poverty incidence for 1995 and 2000 that is statistically significant. The graphical depiction of the CDF, showing the overlaps and sensitivities of poverty rate measures to the poverty line chosen, is what makes this method of analysis so useful.

We can sum up the changes in poverty that occurred in the Western Cape between 1995 and 2000 as follows: According to the data, poverty and extreme poverty appear to be fairly stable with the best-off 60 per cent of the Western Cape population seemingly doing better in 2000 than they were in 1995. This is a very different picture than for the nation as a whole.

Notwithstanding the Western Cape's relatively positive performance, the actual poverty rate for the Province at the poverty line of R322 per capita per month (a fairly low poverty line) is still an extremely high 28 per cent in 2000. Applying this percentage to Statistics South Africa's mid-year population estimate for the Western Cape in 2000¹³, which stands at 4 178 598, puts the number of poor at approximately 1,2-million, indicating that poverty is a pervasive problem in the Province that calls for urgent attention.

If one had to assume that the poverty rate had remained fairly stable at this poverty line to 2004, the number of poor in the Province would be in the region of 1,3-million at present¹⁴.

We now look more closely at the experience of the different racial groups in the Province. We also show the CDFs for the country by race, as a reference point for Provincial performance.

¹³ See *Statistics South Africa (2000)*. The 2000 figures are used as they enable comparison in respect of the income and expenditure data used.

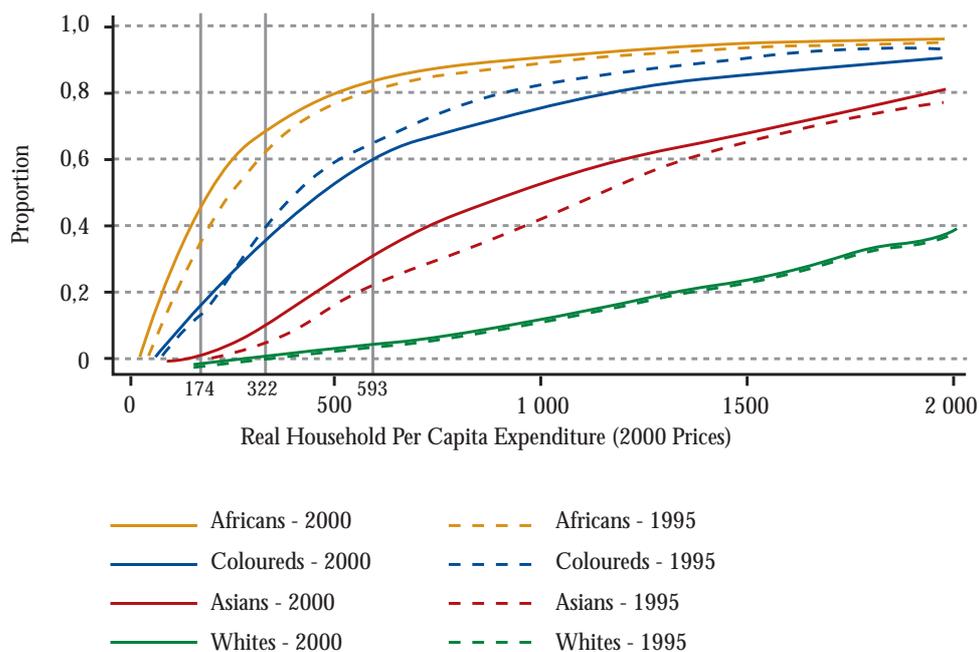
¹⁴ Based on the 2004 mid-year population estimate for the Western Cape of 4 570 696 (*Statistics South Africa (2004)*)

Figure 8 shows that at the national level, Africans and Asians at the lower expenditure levels are doing worse in 2000 than in 1995, with the performance of Whites stable. There has been little change in the welfare of the poorest Coloureds, who fare similarly in both years at the very low expenditure levels, but perform noticeably better above the R300 per capita per month mark.

As with the national picture, the racial pattern of dominance holds in the Western Cape with Whites faring far better than Asians, who do far better than Coloureds, who in turn out-perform Africans, as can be seen in Figure 9. Apart from this feature, the Western Cape graph paints a different view to the national picture for the three races depicted, and lends interesting insight into how the different race groups are faring within the regional economy.

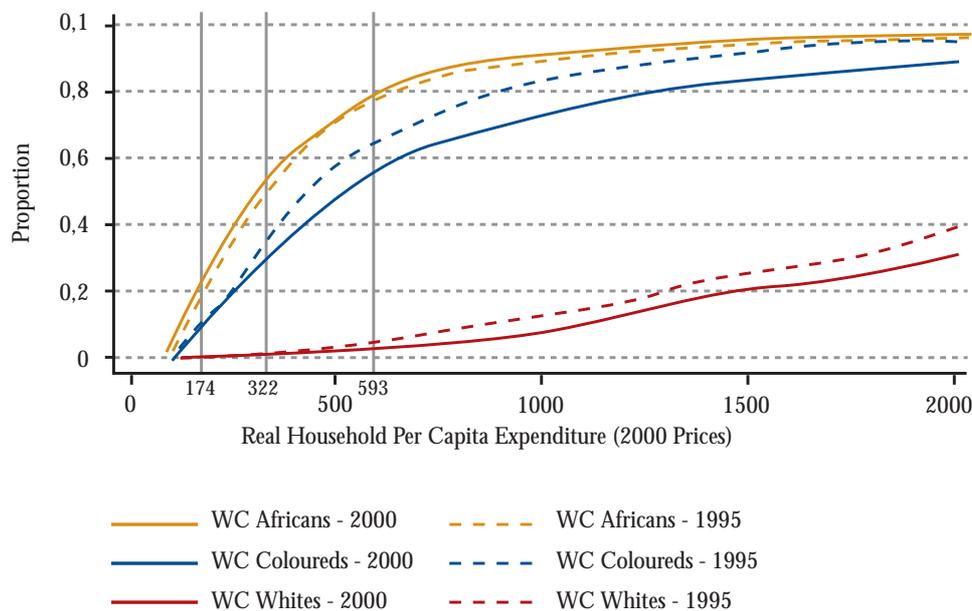
First, Whites appear to be doing better in 2000 at nearly all levels of income, with their performance in the Western Cape surpassing the national trend. Interestingly, Africans in the Western Cape exhibit overlapping graphs for 1995 and 2000, indicating that they appear to be faring similarly in both years – that is, they are not experiencing discernable increases in poverty at the bottom end, but are also not enjoying greater gains at the top end. Once again, the graphs for the Coloured population in the Province overlap, but at a lower level of expenditure than the national figure of approximately R175. Furthermore, the graph for Coloureds is moving away from that of Africans in 2000.

Figure 8 Cumulative distribution function of real per capita expenditure by race, South Africa, 1995 and 2000



[Source: IES 1995 and 2000. Author's calculations]

Figure 9 Cumulative distribution function of real per capita expenditure by race, Western Cape, 1995 and 2000



[Source: *Income and Expenditure Surveys 1995 and 2000. Author's calculations*]

Note: Asians are excluded due to the sample size being too small

Considering the actual poverty rates for the Western Cape in Table 16 shows that the groups of concern are Coloureds and Africans. Even at the extremely low poverty line of R174 per month, between 15 per cent and 18 per cent of Africans in the Western Cape were poor in 2000. At this same level, approximately eight per cent of the Coloured population was also poor. At the R322 per capita per month poverty line we see an alarmingly high 45 per cent to 50 per cent of Africans poor in 1995 with the range rising to 50 per cent to 56 per cent in 2000. An extremely high one in three Coloureds was also classified as poor in 1995, by this standard, and although this number drops impressively in 2000, it is still a high one in four. These estimates put the number of poor in 2000 at almost 600 000 Africans and 610 000 Coloureds.

(Note the effect of crossing CDFs on the changes in poverty reported for different poverty lines. Africans in the Western Cape is a good example, showing a decline in poverty at the R174 line, but an almost equivalent increase when using the higher R322 line. Such differences warn at using a single poverty line approach).

Table 16 Western Cape poverty levels by race, 1995 and 2000

Western Cape	1995		2000		Number of Poor*
	Headcount	Poverty Gap	Headcount	Poverty Gap	
R174 per month					
African	0,21 [0,187; 0,223]	0,06 [0,056; 0,070]	0,17 [0,149; 0,183]	0,05 [0,048; 0,062]	191 798
Coloured	0,09 [0,081; 0,094]	0,02 [0,016; 0,019]	0,08 [0,067; 0,084]	0,02 [0,019; 0,024]	180 515
White	0,00 [0,000; 0,003]	0,00 [0,000; 0,000]	0,01 [0,001; 0,009]	0,00 [0,000; 0,001]	7 521
R322 per month					
African	0,48 [0,454; 0,500]	0,19 [0,177; 0,200]	0,53 [0,50; 0,556]	0,20 [0,186; 0,209]	597 957
Coloured	0,33 [0,317; 0,338]	0,10 [0,100; 0,109]	0,27 [0,259; 0,283]	0,09 [0,086; 0,097]	609 240
White	0,01 [0,005; 0,012]	0,00 [0,001; 0,003]	0,01 [0,004; 0,013]	0,00 [0,001; 0,005]	7 521

[Source: IES 1995 and 2000. Author's calculations]

*Note: Number of poor are calculated using the Mid-year Population Estimates for 2000 from Statistics South Africa and the Racial Shares from the Census 2001

At this point, we draw attention to the previously mentioned problem with the weights for the 2000 IES. As Africans are under-weighted for the Western Cape in this survey and these are the poorest group in the Province, it is likely that absolute poverty is higher than the levels indicated above, and that the African share of the poor, too, is higher. The relatively promising economic performance of the Province will further act as a pull factor for people from provinces with fewer economic opportunities, and it can be expected that in-migration will continue at a rapid pace. If a large enough share of in-migrants is relatively poor, one might expect to see increases in poverty in future.

The logical next step in this analysis would be to consider poverty shares by province, with a particular focus on changes over time. If we expect many poorer people from the Eastern Cape to migrate to the Western Cape, we should detect this in changes in the share of national poor found in each province.

The weighting problems in the IES 2000 preclude such an analysis with the figures used in this review this far. The Census should be better for a 'shares' analysis, but suffers great problems with its income variable for which there are 18,2 per cent zero values in 1996 and 21,3 per cent in 2001, with a further 3,6 per cent missing in 1996 and 4,8 per cent missing in 2001.

Table 17 below sets out the results from a preliminary analysis of Provincial poverty shares, using the Census data by Leibbrandt *et al.* (2004). It shows a slight increase in the share of national poverty of the Western Cape, an equivalent increase for KwaZulu-Natal and a larger increase for Gauteng. Unsurprisingly, it is these three provinces that have seen the greatest population growth over the period, with in-migration of often relatively worse-off people resulting in increased population shares. A small decline in the national poverty share of the Eastern Cape, one of the main feeder provinces, is also evident. Although this particular study is in its infant stages and the income variables used require more refining, the need for accurate data to undertake this type of analysis in the future should be clear. A release of representative weights for the IES 2000 would be a first step in this direction.

Table 17 Poverty shares by province for different income measures including zero-income entries, 1996 and 2001

Poverty Line R125 per capita per month (2001 Prices)	Head Count	Poverty Gap Ratio	Head Count	Poverty Gap Ratio
	1996		2001	
Western Cape	0,03	0,03	0,04	0,04
Eastern Cape	0,22	0,23	0,19	0,19
Northern Cape	0,02	0,01	0,01	0,01
Free State	0,07	0,06	0,07	0,06
KwaZulu-Natal	0,24	0,24	0,25	0,25
North West	0,09	0,09	0,09	0,09
Gauteng	0,08	0,08	0,12	0,12
Mpumalanga	0,07	0,07	0,08	0,07
Limpopo	0,18	0,19	0,16	0,16

[Sources: Own calculations, Census 1996 2001, Statistics South Africa (Leibbrandt *et al.* (2004)]

*Note: This table is part of a preliminary analysis using census data. The income variable reported here refers to a per capita income variable that includes income recorded as zeros. See Leibbrandt *et al.* (2004) for a detailed explanation.*

R125 (2001 prices) per capita per month is an extremely low poverty line. Using a line of R400 per capita (2001 prices) shows the Western Cape accounting for six percent of the poor in 1996 and seven percent in 2001, according to the headcount measure.

The income or consumption measures of poverty and inequality have shown an increase in inequality within the Province and within race groups. The poverty dynamics are less clear-cut, with gains appearing to have been made for the top 60 per cent of the Coloured population and losses for the African population if one chooses a poverty line of R322. But the changes in poverty rates are sensitive to the poverty line chosen, and how the most poor have been affected is less clear. Once again it is not apparent whether the poor have shared sufficiently in the returns to growth that have been experienced in the Province, especially at the very low end.

3.2.2. Asset poverty

Taking a closer look at asset poverty for South Africa and the Western Cape, we draw attention to national and Province-specific performance in respect of socio-economic outcome or human development indicators, including matriculation pass rates, literacy and numeracy rates, life expectancy at birth, infant mortality, infectious disease prevalence, morbidity and mortality rates, and crime rates.

In terms of educational attainment, it is important to note that better educational attainment does not mean that the education system is operating efficiently or that the population is acquiring the 'right set of skills' that will facilitate easy entry into the job market. In fact, the chapter on the Provincial labour market shows that there is widespread unemployment across the skills spectrum. One of the greatest concerns with provincial and national education goes beyond issues of access to issues of quality of service delivery.

Looking more closely at educational attainment, Table 18 reveals some harsh facts about the performance of those in high school. First, it can be seen that although children have good attendance up to age 15, more than half of children do not make it to Grade 12 (Matric) to write their final examinations. The figures for drop-outs are disconcerting at the national level and likewise for the Western Cape. Furthermore, of those who do write their final exams, 12,5 percent in the Province fail, and disturbingly, only 26 per cent pass with an endorsement. Mathematics and Science pass rates are even more dismal (Van der Berg, 2004) for the Western Cape, as reflected in Table 19.

Table 18 Matric aggregate performance, Western Cape and South Africa, 2003

	Western Cape		South Africa	
	Number	As % of age cohort	Number	As % of age cohort
Endorsement	10 158	12,2	82 384	8,4
Pass without endorsement	23 403	28,1	241 124	24,5
Fail	4 904	5,9	116 824	11,9
Total Matriculants	38 465	46,1	440 332	44,7
Drop-outs	44 935	5,9	544 668	55,3
No. of 18-year olds	83 400		985 000	

[Source: 2003 examination dataset in Van der Berg (2004)]

Note: One should, however, take into account students who write Matric part-time. Because such students are not enrolled in 'formal' schools, but rather in education and training programmes – either at adult centres of private or public FET's, the data on drop-out rates could be problematic.

Table 19 Results in Western Cape Senior Certificate maths and science by race, 2003

Exam	Black	Coloured	White	Indian & Asian	Total
Maths HG	220	853	2 663	153 + 49	3 938
Maths SG	2 338	4 802	3 773	168 + 29	11 070
Science HG	268	908	2 516	154 + 46	3 892
Science SG	1 747	2 947	1 246	60 + 25	6 025

[Source: WCED, 2005]

The drop-out and success rates at the Grade 12 level can be traced back to foundational learning in the first years of the schooling system. Table 20 below shows that in a study of a representative sample of Grade 3 learners from all Western Cape schools (over 30 000 learners), 37 per cent were reading at the Grade 3 level; 41 per cent at the Grade 2 level, 12 per cent at Grade 1 level and 10 per cent at below grade 1. In the same sample, 37 per cent of children were found to have numerical abilities at the Grade 3 level, 11 per cent at the Grade 2 level; 37 per cent at the Grade 1 level and 15% at below grade 1. Similar trends are found in respect of Grade 6 test results of 2003. These results are highly correlated with income poverty (*as in Table 21 and Figure 10*).

Table 20 Results of reading and numeracy for Grade 3 and Grade 6

2002	Below Grade 1 %	Grade 1 %	Grade 2 %	Grade 3 %
Grade 3 numeracy	15	37	11	37
Grade 3 reading	10	12	41	37

2003	Below Grade 3 %	Grade 3 %	Grade 4 %	Grade 5 %	Grade 6 %
Grade 6 numeracy	60	40	29	24	15
Grade 6 reading	18	82	67	78	35

[Source: WCED, 2005]

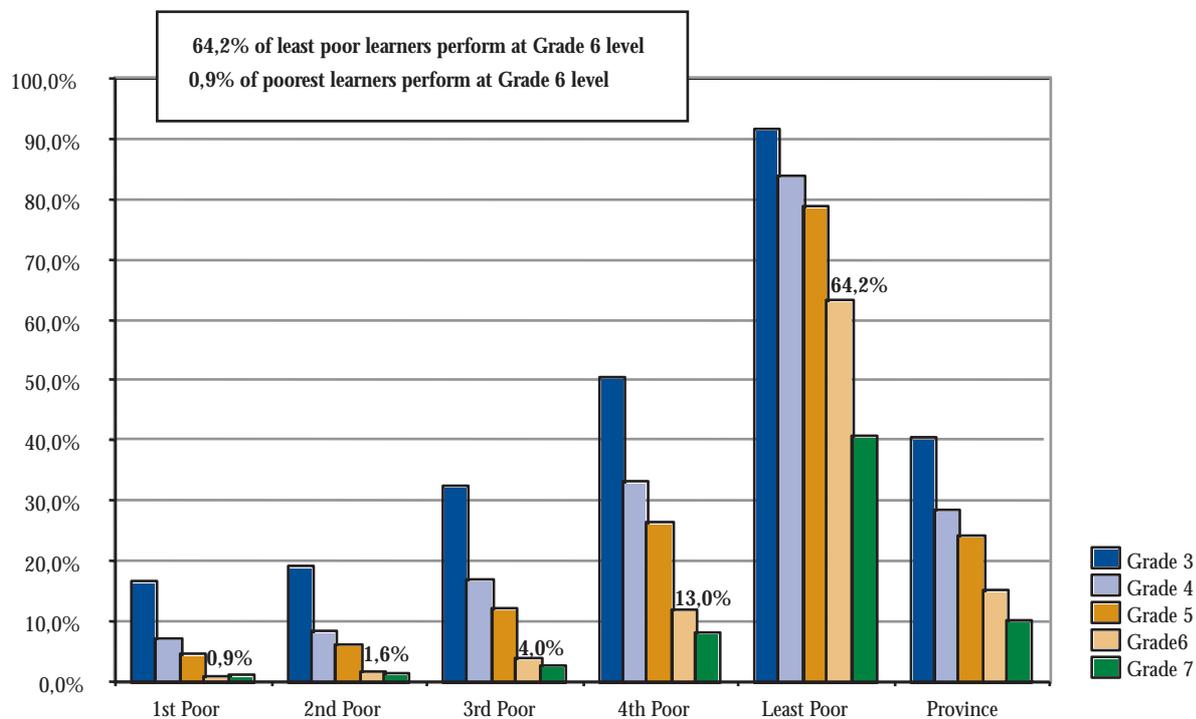
Table 21 Literacy: pass rates by poverty index and grade, Western Cape (%)

Poverty Index	Grade 3	Grade 4	Grade 5	Grade 6
1st Poor	75,8	51,2	67,9	16,8
2nd Poor	75,0	52,0	65,9	16,2
3rd Poor	81,9	65,0	77,9	24,3
4th Poor	85,8	76,9	85,0	41,1
Least Poor	97,9	97,4	98,0	82,9
Total Province	82,8	67,4	78,3	35,0

[Source: WCED, 2005]



Figure 10 Numeracy: results by poverty, Western Cape



[Source: WCED, 2005]

Although inequalities in access to education and educational attainment have declined within the Province, the challenge is now to improve the quality of the schooling children receive to promote retention of children in schools and the capabilities and opportunities to reap real returns from the education they receive.

Turning to health attainment, Table 22 shows a handful of key health indicators for the Western Cape and South Africa and, where available, as comparators for middle-income countries. The latter is particularly important as the World Bank classifies South Africa as an upper-middle income country in terms of its GDP. However, due to the extremely high levels of income, asset and spatial inequality, we often perform much more poorly on other living standards indicators.

Our poor health performance is apparent in terms of many of our health indicators, and probably most starkly when looking at life expectancy at birth. In this instance, even though the Western Cape yet again does significantly better than the national average, if we compare Provincial performance with the average for middle-income countries, it can be seen that the figures of 59,3 for males and 66,1 for females are low. These figures, which are declining rather than increasing for South Africa, are closely related to the HIV/Aids pandemic, which will be discussed in more detail later.

Infant mortality rates (IMR) are much lower than those of the national average and are more in line with other middle- income countries. The IMR is more closely related to

Table 22 Health indicators for South Africa, Western Cape and comparator middle-income countries

	Western Cape	South Africa	Middle Income Countries
Life expectancy at birth			70
Life expectancy at birth: males (years) ¹ , 2002	59,3	49,9	
Life expectancy at birth: females (years) ¹ , 2002	66,1	55,0	
Infant mortality rate (per 1 000 infants aged less than 1), 2002	30,0 ²	59,0	31
Child mortality (per 1 000 children aged 1-4), 1998	9,0 ³	15,4	39
Children under 5 with diarrhoea in past two weeks	9,4% ⁴	13,3%	
Total fertility rate (The average number of children that a woman gives birth to in her lifetime, assuming that the prevailing fertility rates remain unchanged.), 2004	2,5 ⁵	2,8	2,2
Incidence of TB (PTB new Sm+) (per 100 000). Number of cases of tuberculosis (pulmonary TB, new smear positive cases) reported to the Department of Health per 100 000 population, 2002	430,1 ⁶	218,7	104
Prevalence of smoking (%) : Youth – males, 2002 The definition of current smokers used in this source was: Percentage of people who smoked on one or more of the 30 days preceding the survey. These data are for use of any tobacco product.	46,9 ⁷	34,3	
Prevalence of smoking (%) : Youth – females, 2002	38,4	21,6	

[Source: Data for South Africa from Health Systems Trust website <http://www.hst.org.za/> and Data for Middle-Income Countries from World Bank (2002)]

1. Ref: Dorrington RE, Bradshaw D, Budlender D. HIV/Aids profile of the provinces of South Africa indicators for 2002. Centre for Actuarial Research, Medical Research Council and the Actuarial Society of South Africa 2002.

<http://www.mrc.ac.za/bod/Aidsindicators2002.pdf> AidsIndicators2002.pdf

2. Dorrington RE, Bradshaw D, Budlender D. HIV/Aids profile of the provinces of South Africa indicators for 2002. Centre for Actuarial Research, Medical Research Council and the Actuarial Society of South Africa 2002.

<http://www.mrc.ac.za/bod/Aidsindicators2002.pdf> AidsIndicators2002.pdf

3. Department of Health, Medical Research Council & Measure DHS+. South Africa Demographic and Health Survey 1998, Full Report. Pretoria: Department of Health 2002.

South Africa Demographic and Health Survey 1998. Preliminary Report. <http://www.doh.gov.za/facts/1998/sadhs98/>

5. Statistics South Africa: Statistical release P0302 Mid-year estimates. (various years) <http://www.statssa.gov.za/> A new feature of the 2000 mid year estimates was that two population estimates were provided, one taking into account the estimated additional deaths that might have occurred due to HIV/Aids (With Aids) and one that does not attempt to model the impact of Aids (Without Aids). The assumptions that underpinned these estimates are outlined in the relevant P0302 Statistical release.

2004 mid-year estimates. TFR assumptions used in development of the current mid-year estimates. Source includes comparison of values to other estimates.

6. Department of Health (TB section). Pretoria. <http://www.doh.gov.za/tb/>

7. Swart D, Reddy SP, Panday S, Philip JL, Naidoo N, Ngobeni N. The 2002 Global Youth Tobacco Survey (GYTS): The 2nd GYTS in South Africa (SA) – A comparison between GYTS (SA) 1999 and GYTS (SA) 2002. Cape Town: South African Medical Research Council 2004. <http://www.mrc.ac.za/healthpromotion/healthpromotion.htm>

<http://www.cdc.gov/tobacco/global/GYTS/reports/SouthAfrica2002.pdf> (Preliminary Report)



adequacy of health care services and in this case indicates that health care services, in the Western Cape are most likely superior to those in the rest of the country.

The two cases in which the Western Cape actually performs worse than the national averages is for prevalence of smoking amongst the youth, and incidence of tuberculosis (TB). Both of these have important implications for health care provision and productivity in the work place, although smoking may have more long-term impacts, whereas TB is an immediate problem.

Dorrington *et al's HIV/Aids Profile of the Provinces of South Africa – Indicators for 2002* uses the ASSA 2000 HIV/Aids projection model to project the prevalence, incidence and spread of the disease for each of the provinces in South Africa and for the country as a whole. Although all such projections are sensitive to a wide range of assumptions, the figures here will give some indication of the spread of the disease in terms of the number of people it might impact on, as well as the spatial dimension.

Table 23 shows that the ASSA 2000 model estimates that 6,5-million South Africans were living with HIV or Aids in 2002. In the Western Cape, the estimate is at 193 000. Ninety seven per cent of these are adults aged 18 to 64. The prevalence rate refers to the percentage of a group of people infected at a point in time. It can be seen that the 2002 prevalence estimates are well below that of South Africa as a whole, with a 4,2 per cent rate for the Province compared to a 14,2 per cent rate for the country. Prevalence is substantially lower across the age spectrum, but highest for adult women.

Table 23 ASSA 2000 estimates (and selected Department of Health estimates) of people living with HIV/Aids and HIV/Aids Prevalence in 2002, Western Cape and South Africa

	People living with HIV/Aids		Prevalence %	
	Western Cape	South Africa	Western Cape	South Africa
Total HIV infections	192 946	6 461 372	4,2	14,2
Adults (18-64)	187 073	6 141 578	6,7	23,4
Adult men (18-64)	79 604	3 016 080	5,8	23,3
Adult women (18-64)	107469	3 125 498	7,6	23,5
Youth (15-24)	24 754	1 210 749	3,3	13,7
Male youth (15-24)	4 144	263 069	1,1	5,8
Female youth (15-24)	20 610	947 680	5,5	21,6
Children (0-14)	4 327	205134		
Antenatal clinics	-	-	11,4	29,0
Department of Health Estimates for 2002 and 2003				
Antenatal clinics			13,1	27,9
Total HIV infections		5 300 000		

[Source: Dorrington *et al.* (2002), Department of Health (2003) and the Western Cape Department of Health (2003)]

Prevalence rates for antenatal clinic attendees are also reported by the Department of Health. The figures are included in the table above for comparative purposes and show that the Department of Health's estimates (based on the National HIV and Syphilis Antenatal Sero-Prevalence Survey 2002) and the ASSA model source data correspond relatively well. We also include the Department of Health's projection of number of people infected, which is lower at 5,3-million.

Even though prevalence is substantially lower than for the rest of the country, having potentially 187 000 working-aged adults living with HIV/Aids has large implications for health care requirements on the one hand and productivity in the work environment, spending power and economic growth on the other. Furthermore, these numbers are projected to increase to approximately 275 000 by 2010. It is estimated that 45 000 of these will be Aids sick, thus requiring high levels of care and anti-retrovirals. In addition, it is estimated that there will be 44 000 maternal Aids orphans under 15 years by 2010. Increased dependency and need of care for both children and adults should be incorporated into any Provincial development strategy. Those directly impacted by HIV/Aids are some of the most vulnerable in society and if their plight is not addressed, we are likely to witness increases in our poverty rates and in the depth of poverty, regardless of economic performance.

Turning towards safety and security aspects, links between income and asset inequality and crime means that given our notable levels of income and asset inequality, the high incidence of crime experienced in South Africa is unsurprising. Being at vulnerable to crime can have personal impacts such as reducing quality of life and economic impacts such as reducing investment and therefore growth. Once again the forces impacting on well-being impact on the performance of the economy as well. Resulting high levels of social conflict from extreme inequality, provides a clear reason of why the inequities in our society need to be reduced. The Western Cape performs particularly poorly when it comes to reported crime statistics as can be seen in Table 24 below.

Table 24 Selected Crime Statistics: Western Cape and South Africa, 2003/2004

	Western Cape 2003/2004	South Africa 2003/2004
Murder (ratio per 100 000 population)	59,9	42,7
Percentage increase/decrease 1994/1995 to 2003/2004	3,9%	-23,7%
Burglary at residential premises (Ratio per 100 000 population)	1 141,6	645,2
Percentage increase/decrease 1994/1995 to 2003/2004	55,8%	29,4%
Child Abuse (ratio per 100 000 population)	37,2	14,0
Percentage increase/decrease 1994/1995 to 2003/2004	83,5%	111,9%

[Source: www.SAPS.gov.za]

Table 24 shows that the Western Cape performs much more poorly than the country as a whole for the three selected crime statistics listed. The murder rate of 59,9 per 100 000 people is exceptionally high and the worst of all the provinces. Burglaries at residential premises are almost double the national average for 2003/2004 and also highest of all the provinces. Reported child abuse is more than twice the national average, and is second-highest of all the provinces, behind only the Northern Cape.

It is clear from the above that social conflict and crime are major problems in the Western Cape. Thus vulnerability and insecurity will rank highly in terms of key provincial poverty factors. The relationship between crime and poverty is circular in that poverty often leads to crime and crime then leads to poverty. Once again, the links between inequality reduction, poverty reduction and growth are evident. Although crime is widespread, there are areas of especially high incidence – reflected as spatial inequality. In fact, one of the key ways inequality and poverty can be delineated and persist is through space. The next section considers this spatial dimension of poverty.

3.2.3. Spatial poverty

As mentioned above, spatial poverty may be measured using a single-dimension or a composite poverty index to identify the most deprived communities within national or sub-national boundaries.

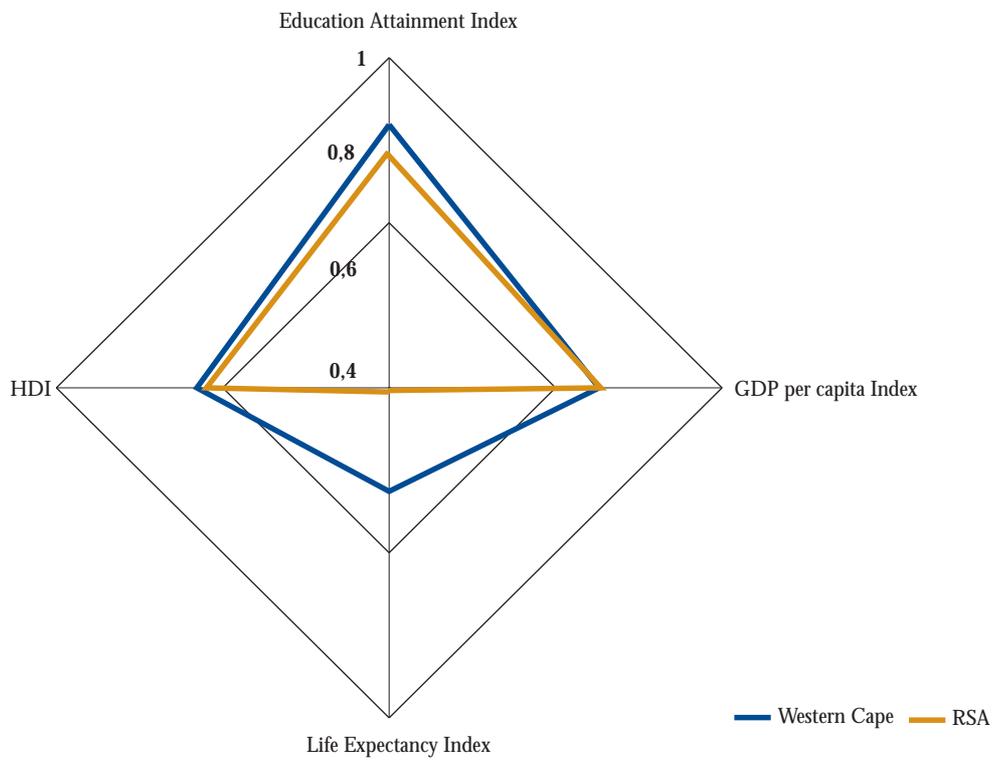
As mentioned, a composite poverty index is a useful way to isolate the regions that score worst according to a range factors. Once the most deprived areas have been identified, the index can be disaggregated to ascertain the key factors resulting in deprivation.

Three composite poverty indices currently exist for the Western Cape. The most recent is the Office of the Premier's development of a provincial Human Development Index for the Western Cape, disaggregated to municipal level.

The results are stark in absolute value and in terms of trend movements. Over the period 1990 to 2003, the national HDI fell from 0,7201 to 0,6675. While performing better than the national HDI, the Western Cape HDI also shows a marked decline from 0,7869 to 0,7708 over the same period.

Table 25 below sets out the full detail for values for each element of the HDI for both South Africa and the Western Cape over the period 1990 to 2003. This data is also depicted graphically in the attendant 'radar diagram' (Figure 11), which points to alarmingly low life expectancy indices, a decline in the economic indices and a fall in the overall HDI indices rates for both South Africa and the Western Cape over this period.

Figure 11 Human Development Index for Western Cape and South Africa 2003.



[Source: Department of the Premier, Western Cape. "Measuring the state of development in the Province of the Western Cape". (February 2005)]

Table 25 HDI for South Africa and Western Cape, 1990 – 2003

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Life Expectancy at birth														
Western Cape	64,2000	64,4000	64,5000	64,5000	64,5000	64,5000	64,4000	64,3000	64,0000	63,8000	63,4000	62,9000	62,2000	61,5000
South Africa	61,6000	61,6000	61,7000	61,6000	61,5000	61,4000	60,8000	59,9000	58,5000	57,3000	55,5000	53,5000	51,4000	49,2000
Adult Literacy Index														
Western Cape	0,9401	0,9381	0,9353	0,9327	0,9303	0,9278	0,9249	0,9267	0,9288	0,9311	0,9336	0,9377	0,9419	0,9426
South Africa	0,8124	0,8166	0,8207	0,8249	0,8291	0,8333	0,8371	0,8409	0,8447	0,8486	0,8526	0,8580	0,8634	0,8688
Gross Enrolment Index														
Western Cape	0,7607	0,7801	0,7945	0,8164	0,8404	0,8528	0,8454	0,8402	0,8344	0,7697	0,7446	0,7477	0,7518	0,7552
South Africa	0,7583	0,7829	0,8030	0,8302	0,8599	0,8788	0,8770	0,8769	0,8781	0,8319	0,7948	0,7937	0,7995	0,8016
Education Attainment Index														
Western Cape	0,8803	0,8854	0,8883	0,8939	0,9003	0,9028	0,8984	0,8979	0,8973	0,8773	0,8706	0,8744	0,8785	0,8825
South Africa	0,7944	0,8054	0,8148	0,8267	0,8394	0,8485	0,8504	0,8529	0,8558	0,8430	0,8333	0,8377	0,8421	0,8464
GDP per capita Index														
Western Cape	0,8274	0,8231	0,8135	0,8107	0,8116	0,8125	0,8153	0,8148	0,8124	0,8133	0,8166	0,8178	0,8201	0,8223
South Africa	0,7565	0,7514	0,7433	0,7414	0,7422	0,7432	0,7465	0,7466	0,7442	0,7445	0,7470	0,7479	0,7508	0,7535
Life Expectancy Index														
Western Cape	0,6531	0,6563	0,6575	0,6562	0,6586	0,6590	0,6571	0,6545	0,6495	0,6459	0,6396	0,6312	0,6204	0,6076
South Africa	0,6095	0,6106	0,6110	0,6102	0,6085	0,6062	0,5959	0,5810	0,5580	0,5380	0,5090	0,4756	0,4394	0,4026
Human Development Index (HDI)														
Western Cape	0,7869	0,7883	0,7865	0,7876	0,7902	0,7914	0,7903	0,7891	0,7884	0,7788	0,7756	0,7744	0,7730	0,7708
South Africa	0,7201	0,7225	0,7230	0,7261	0,7300	0,7326	0,7309	0,7236	0,7193	0,7085	0,6964	0,6871	0,6774	0,6675
Difference	0,0668	0,0658	0,0635	0,0615	0,0602	0,0588	0,0594	0,0655	0,0671	0,0703	0,0792	0,0873	0,0956	0,1033

[Source: UNDP, 2003]

The South African Cities Network is exploring the use of the 'South African Poverty Index for Cities' (SAPIC), which includes as components measures for mean household income, education, health, infrastructure and services. At present this index is most useful in comparing the relative performance of cities.

The Western Cape Provincial Population Unit located in the Department of Social Services and Poverty Alleviation has developed what it terms the 'provincial poverty index' which uses similar inputs as the SAPIC, but has been calculated down to the sub-place name level captured in the Census 2001.

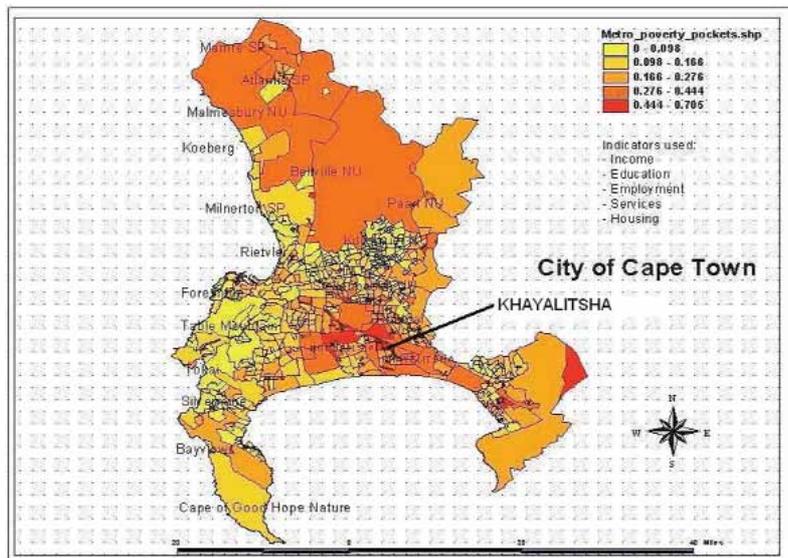
The five components of the provincial poverty index are measures for household income, knowledge (literacy and school attendance), unemployment and economic dependence, services (water supply, electricity, refuse removal and sanitation), and housing type.

Various weightings apply for measures within each category, the five of which are then given equal weight in the final index. This index ranges from zero to one, with zero representing no poverty and one indicating 'full' poverty. Although all indices are subjective to an extent, necessitating that the user has a clear understanding of how they have been computed, they can prove extremely useful.

Part of the power of the provincial poverty index as it is presently calculated lies in the small regional units for which it has been computed. Having data at such a disaggregated level allows for precise mapping with the greatest areas of need easily identified.

Figure 12 is an example of a map generated of the Cape Metropolitan Area, with the provincial poverty index shown at the sub-place name level. The regional discrepancies measured by the index are clearly apparent, with the most deprived areas evident in the north of the metropole as well as some severe poverty pockets in the south and south east.

Figure 12 Map of City of Cape Town showing Provincial Poverty Index of 2001

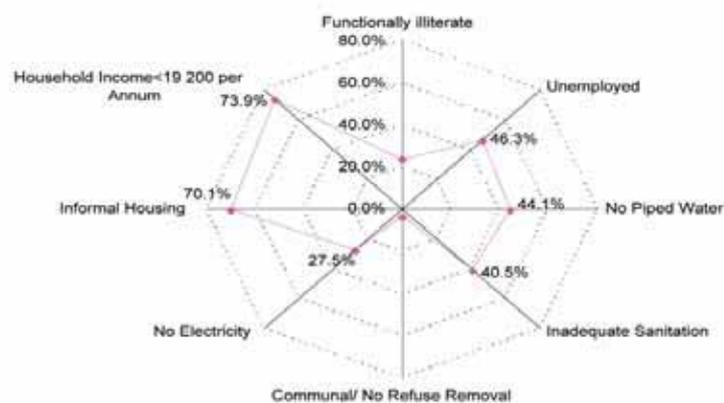


[Source: Department of Social Services and Poverty Alleviation in the Western Cape Provincial Population Unit, Western Cape Government. Source data – Census 2001]

One of the most severely disadvantaged areas identified through the index mapping approach is Khayelitsha. This area also has a very high population density with 276 334 residents recorded in Census 2001.

We can now unpack the index to reveal the key features of deprivation characterising this local population. Some of these are shown in Figure 13.

Figure 13 Selected components of the Provincial Poverty Index for Khayelitsha



[Source: Census 2001]

The radar diagram in Figure 13 shows clearly that Khayelitsha performs relatively well in terms of refuse removal, functional illiteracy (calculated here as the proportion of those aged 14 and above who have not attained grade 6¹⁴) and electricity access. Key drivers of poverty in this area are the excessively high proportion of homes classified as informal, (70,1% compared with a Provincial average of 16,1% percent), without piped water (44,1% compared to a Provincial average of 5,1%) and inadequate sanitation (40,5% compared to a Provincial average of 14,2%). High unemployment rates and the majority of households with household income of less than R19 200 per month are also major concerns.

The above exercise can be performed for all sub-regions to assist with the targeting of the most deprived areas in terms of their most pressing needs. Contrasting the picture for Khayelitsha with that of a suburb like Claremont reveals the stark contrasts between these areas. There is not much use in graphing Claremont's deprivation levels, as most score at zero. Interestingly, unemployment sits at a mere six percent for this relatively well-off suburb. Overlaying this type of map with population density figures would further enhance the poverty targeting process and emphasises, yet again, the value of the spatial approach in assisting with poverty alleviation strategies.

4. Moving Forward: Targeting Poverty and Inequality

Decomposing and measuring poverty in respect of income, asset and spatial dimensions for South Africa and the Western Cape highlight the intractability of systemic poverty in our communities. In many senses, the scale and magnitude of the challenge are overwhelming, and the trends alarming, to say the least.

Identification of prime areas of need is key in the fight against poverty and in attempts to reduce inequalities. Furthermore, planning to contain and lessen the poverty and inequality problems in the Province in the future warrants careful attention.

The ability to project changes in poverty and inequality would be an invaluable tool in planning a response to reduce these phenomena. However, given the complex nature of the forces driving measured income inequality, particularly forecasting changes in the inequality and poverty and especially on a provincial level, is a demanding task. Essentially it would mean having to forecast economic growth, employment growth, the impact of greater access to services and potential improvements, population growth given the impact of HIV/Aids, provincial migration and more.

Two attempts at systematic long-run forecasts of racial income distribution have been undertaken in the past few decades. The first – Van der Berg (1989) – decomposed personal income into its main components (the functional shares of income), and then

14 This definition differs from that used when discussing education, as it was taken from the manipulated Census dataset provided by the Department of Social Development

forecast wage income (the product of the average wage and employment) based on certain scenarios and non-wage incomes separately, based on past trends and alternative economic growth scenarios.

The second – Simkins (1991) – forecast income distribution for the Urban Foundation Income Distribution Model using a similar model, but without separating the forces of employment and wage growth. The emphasis was rather on projecting the functional distribution of income and then breaking these into racial shares. Thereafter distribution across income classes was obtained by assuming a constant distribution in each region/settlement type, with the overall distribution then largely being affected by population shifts between region/settlement types.

Forecasting the overall income distribution, however, requires more assumptions about distribution throughout the income range. At the provincial level, moreover, forecasting becomes even more complex because of some forces that are difficult to predict, and could substantially influence inter-regional distribution, such as migration to the Western Cape from other provinces, particularly the Eastern Cape.

Linking income distribution to the performance of the economy could be accomplished, for instance, by linking employment generation forecasts to economic growth and modelling the effect on income distribution. However, the probability of more rapid immigration into the Western Cape in response to an acceleration in its economic growth makes population size endogenous (that is, determined within the model), thus making such modelling very sensitive to the correct assumptions about population inflow.

That said, even if income distribution modelling were feasible at the provincial level, targeting inequality through use of Gini coefficient analysis is not advisable from a policy perspective for a number of reasons. First, Gini coefficients move slowly and therefore are not conducive to monitoring policy response or impact in the short to medium term. Second, sharp movements in Gini coefficients are usually downwards in response to massive structural change. But the reverse is not always as easily attributable. Third, various elements that comprise the Gini coefficient may tend to move in different directions in response to different circumstances or policy incentives. This may lead to a stagnant Gini coefficient that does not reflect underlying dynamics. Lastly, Gini coefficients are notably sensitive to underlying data availability and quality. Movements then have to be interpreted in light of data robustness.

Having established that forecasting and targeting poverty and/or inequality at the provincial level is a daunting task, even when it allows for different scenarios, another route has to be found.

An alternative, which may be more predictable, would be to forecast *income adequacy*, that is, the number (*not the proportion*) of people with an income above a particular level, which

may be regarded as clearly demarcating non-poverty in terms of money-metric poverty. This also provides a more concrete goal for policy.

Most migrants to the Western Cape are economic migrants – they arrive with resources and often without immediate job prospects. Studies based on both the Census (Van der Berg, Leibbrandt, Burger & Mlatsheni, 2004) and on a survey conducted in Khayelitsha and Mitchells' Plain (Nieftagodien *et al.*, 2004) show that black migrants are far worse off than long-term residents. This being the case, setting targets in terms of the number of people above an income adequacy line is a form of concrete quantification of poverty targets. Given the achievement of these targets, poverty is then a residual, the size of which is determined by the magnitude of population influx, a factor out of control of the Provincial Government.

To make this more concrete: A specific income level can be set as a target income. If, say, 2,5-million presently have incomes which place them in this income-adequate bracket, and another 2,0-million below it, the target could be to increase the number with adequate incomes by four per cent per year. Reaching this target would then depend on the combination of growth and redistribution, with the former probably the major driver over a longer-term time horizon. The number in poverty would then be the residual population, whose magnitude would itself be affected by the inflow of population, which may even have responded to economic growth.

The approach suggested here is a variant of poverty and/or inequality targeting, in respect of a positive dimension using adequacy considerations. The income aspect detailed above may be broadened to include assets and spatial or geographic location. Government's policy response would therefore comprise a basket of interventions and associated targets to decrease inequality of assets and spatial location, with income inequality an indirect outcome through improved labour market performance.

Equity forecasting and scenario planning is both challenging and an exciting innovation for the policy debate. It certainly demands further development. A better understanding of poverty, distribution and migration is a prerequisite, and research currently undertaken in this regard nationally and in the Western Cape provides an important potential source of information. However, data quality is still a concern, given deficiencies in survey data and its inadequate coverage at the provincial and particularly at the regional level. For this purpose, further work on data from the Census may be an important further tool.

In broad outlines, it would appear that the Western Cape's ability to provide adequate incomes to its population is growing, in that economic growth in the Province has been above that at the national level, but further acceleration is required to make larger inroads in the present pool of poor people, not even to mention national population growth (which has slowed) and in-migration from poorer provinces. This challenge remains.

5. Conclusion

Equity and development are powerful concepts. Understanding how equity is measured, the factors that drive changing distributions and those public interventions that enhance such, is critical for understanding the dynamics of a shared growth and development path.

This chapter decomposes equity in respect of income, assets, and spatial or geographical location. Looking at income inequality, we see that both South Africa and the Western Cape have high and rising levels of inequality, measured by a rise in the respective Gini coefficients from 0,64 to 0,68 and 0,584 to 0,616. Data accuracy and credibility mean that the absolute number should not hold focus; rather the high level and rising trend are important here.

These trends highlight the importance of understanding labour market performance, as a greater number of poor at the lower end an/or upward earnings mobility of those at the top end would serve to widen the distribution, and is the likely reason for rising inequality trends.

Turning to assets, we see that asset equality is attained in respect of access to good basic services and dwellings (water, sanitation, energy, refuse removal and housing) and social services (health care, education, skill development and shelter).

Most public services are therefore targeted at improving poor people's capabilities in respect of enhancing access to quality schooling and skill development, health care services, clean and safe water, sanitation facilities and housing. These are often called 'social wage goods'.

Looking at basic service access indicators, we see that the urban nature of the Western Cape facilitates extensive access to basic services, with 95 per cent of households having access to piped water, 86 per cent to a flush toilet, 87 per cent to refuse removal and 87 per cent to electricity for lighting purposes. Our key failing is in respect of housing, where 80 per cent of dwellings are formal and 16 per cent informal.

In respect of access to social services, the Western Cape performs well in terms of school attendance rates and average educational attainment. The key concern, however, is the high rate of drop-out of learners after Grade 8, reducing secondary school completion rates. Only 45 per cent to 52 per cent of learners who enrol in Grade 1 reach Grade 12. The employment data presented above highlighted the importance of matriculation in gaining access to the labour market.

Looking at Census data, and combining income and access to basic and social services data, shows that it is the poorest who have experienced the greatest gains in terms of service delivery improvements in the Province.

Spatial inequality is the third dimension – Key in profiling inequality – it throws into stark relief the confluence of income, asset and spatial inequality.

Most commonly understood in respect of the natural environment, socio-economic concerns and the built environment, key concerns in respect of the trade-off between biodiversity and agricultural land use, and the ecological status of rivers in the Province are highlighted.

Looking at demographics, we see that the Western Cape is highly urbanised at 90 per cent. However, percentages of people in rural areas vary over the various districts: 35 per cent in the Overberg district, 33 per cent in Eden, 35 per cent in the West Coast, 19,9 per cent in the Boland and 33 per cent in the Central Karoo district.

In respect of the built environment, the majority of South African towns and cities are essentially a system of settlements, consisting of a 'White' core, which contains the economic centre and most social services, surrounded by a number of disparate, racially discrete, dormitory areas or locations of considerable size.

These settlement patterns are the extraordinary spatial legacy of apartheid, and extremely difficult to change, requiring considerable public spatial planning and intervention in the line of the NSDP and the PSDF.

Moving on, we see that there is an inextricable relationship between equity and inequalities in respect of income, assets and spatial or geographic location and poverty – the causal direction of which is intertwined.

Measured in any way, income poverty in South Africa has not improved between 1995 and 2000; it has in fact deteriorated. Taking a low poverty line of R174 per capita per month, 31 per cent of South Africans were poor in 1995. By 2000 this had risen to 38 per cent. Not only have the numbers of poor people risen, but the poor are faring worse in 2000 than they were in 1995!

The Western Cape's performance is notably different, although the aggregate view masks worrying trends in poverty. If we take a low poverty line of R174 per capita per month, we see a slight improvement in the poverty rate from 9 per cent to 8 per cent. At the upper bound of R322 per capita per month, there is a slight decline from 29 per cent to 28 per cent.

Groups of concern are Coloureds and Africans. Even at the extremely low level of R174 per capita per month, 17 per cent of Africans in the Western Cape were poor in 2000. At the same level, eight per cent of Coloureds were said to be poor. At the R322 per capita per month level, an alarmingly high 48 per cent of Africans were poor in 1995, rising to

53 per cent in 2000. At this level, one in three Coloureds were poor in 1995; this drops to one in four in 2000, although at such levels this remains a concern.

Taking a closer look at asset poverty, we draw attention to Provincial performance in respect of socio-economic or human development indicators. As noted previously, although children have good schooling attendance up to age 15, more than half of children do not make it to Grade 12 to write their final school-leaving examinations. Furthermore, of those that do write their final exams, 12,5 per cent in the Province fail, and only 26 per cent pass with an endorsement. Mathematic and science pass rates are even more dismal.

Looking at health indicators, we see that poor health performance is evident when looking at life expectancy at birth. At 59,3 years for men and 66,1 for women, the Western Cape performs above national but far below comparable middle-income developing countries. These trends are closely related to the impact of the HIV/Aids epidemic, both nationally and Provincially.

The two cases in which the Western Cape performs worse than national averages are prevalence of smoking amongst the youth and incidence of tuberculosis.

Crime statistics in the Western Cape are even more shocking. The murder rate of 59,9 per 100 000 people is exceptionally high and the worst of all the provinces. Burglaries at residential premises are almost double the national average, and reported child abuse is more than twice the national average.

Lastly, spatial poverty may be measured using a single-dimension or a composite poverty index to identify the most deprived communities within the national or regional boundaries. This is a useful tool for providing greater insight into the areas of greatest need. Decomposing the index then allows for streamlining and increasing efficiency of targeted interventions.

Three composite poverty indices currently exist for the Western Cape. The most recent is the Office of the Premier's development of a provincial Human Development Index or HDI for the Western Cape, disaggregated to municipal level.

The results are stark in absolute value and in terms of trend movements. Between 1990 and 2003 the Western Cape's HDI fell from 0,7869 to 0,7708.

Similar results may be obtained from the South African Cities Network poverty index and the Provincial poverty index recently developed by the Western Cape Social Services and Poverty Alleviation Department., highlighting the importance of spatial poverty mapping tools for prioritising areas of greatest need in social service planning, budgeting and delivery.

In conclusion, then, this chapter highlights the clear relationship between equity and shared development goals for the Western Cape. Moving forward, the ability to project changes in poverty and inequality would be an invaluable tool in planning a response to reduce these phenomena. However, given the complex nature of the underlying driving forces, modelling (income) distributions at the provincial level is almost impossible and has many pitfalls. So too does pursuing a Gini coefficient target.

The focus should fall on mapping and targeting poverty and inequality in respect of a positive dimension that focuses on adequacy considerations, such as the number (not proportion) of people with an income above a certain level. This may be done for asset poverty and inequality, and spatial poverty and inequality, providing more concrete goals for policy interventions over the medium to long term.