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TWENTY YEAR REVIEW

SOUTH AFRICA

1994 - 2014



BACKGROUND PAPER:

REGIONAL AND SPATIAL DEVELOPMENT

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Disclaimer

This background paper was written by Professor Philip Harrison (National Planning Commission), drawing on literature reviews and background research undertaken as part of the National Development Plan and related materials. The views reflected in the background papers do not represent those of the Presidency, rather the authors' views on sector developments.

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Acronyms and Abbreviations

BRT	Bus rapid transit
CBD	Central business district
CSIR	Council for Scientific and Industrial Research
DHS	Department of Human Settlements
GCR	Gauteng City Region
GHG	Greenhouse gas
GTI	Geo Terra Image
GVA	Gross value added
ICT	Information and communication technology
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
IHP	Inclusionary Housing Policy
iTRUMP	Inner Thekweni Regeneration and Urban Management Programme
IUDF	Integrated Urban Development Framework
JDA	Johannesburg Development Agency
NDOH	National Department of Housing
NDP	National Development Plan
NDPG	Neighbourhood Development Partnership Grant
NSDP	National Spatial Development Perspective
NUDF	National Urban Development Framework
OECD	Organisation for Economic Cooperation and Development
PRASA	Passenger Rail Agency of South Africa
RDF	Rural Development Framework
RDP	Reconstruction and Development Programme
SACN	South African Cities Network
SADC	Southern African Development Community
SAPOA	South African Property Owners Association
SDF	Spatial Development Framework
Stats	SA Statistics South Africa
TOD	Transit-oriented development
UDF	Urban Development Framework
URP	Urban Renewal Programme

Policy Summary

Removal of spatial restrictions, rather than proactive responses by government or the private sector was responsible for the increased alignment between people and jobs since 1994.

New residential developments have not always supported the overall goal of a more efficient, equitable and sustainable urban form, and the location of private sector and government-led housing did not result in positive spatial outcomes.

More needs to be done to ensure that all housing financed by government is well located in relation to jobs, that the importance of backyard shacks is recognised and that incentives are provided to ensure that this accommodation is upgraded to acceptable standards. The current investment in public transport also has to be upscaled.

As movement into South Africa's inner core continues, big cities are densifying, bucking the global trends towards lower urban densities. Densities are increasing as people find formal and informal accommodation opportunities – through the occupancy of inner-city buildings and backyard shacks, but also townhouse developments and state-provided housing.

The economic growth in the inner core has a positive impact in more peripheral areas, in terms of the labour market at least. Because of outmigration, unemployment rates in the periphery are dropping, and fewer people are living in so-called poverty traps.

There are many other positives: a growing proportion of the population lives in formal accommodation, gender inequalities in access to jobs are declining across all regions of the country, new public transport systems are being developed, parts of cities are desegregating, inner cities are being regenerated, and levels of service delivery are rising in urban areas.

Into the future, government's central task must be to further facilitate the alignment between people, on the one hand, and jobs, livelihood opportunities and services on the other. At the national scale, this will involve facilitating the movement of people to places where jobs are being created. The focus must be on improving the absorptive capacity of the municipalities in the inner core, where jobs are being created at scale.

Executive Summary

The way in which people and economic activity are distributed across space is of importance for the national economy, as well as for individuals, households and firms of all sizes. Economies generally tend to work better when there is a concentration of activity, and when logistical systems are functional. Where households are located closer to jobs and livelihoods, prospects for economic success are significantly enhanced. Poor spatial organisation also has environmental costs and can increase the vulnerability of certain groups.

It is this understanding of the importance of spatial organisation that frames South Africa's spatial journey since 1994. This review focuses on three broad aspects of spatial development over the last 20 years. Firstly, it provides an account of the country's provinces and cities in a globalising world, with particular reference to transnational migration, corporate linkages and international benchmarking. Secondly, it discusses spatial changes that reveal some big trends, but are too large to provide real insights into spatial changes at the provincial level since 1994 in different types of settlements. Thirdly, it gives a detailed narrative based on an understanding of South Africa's space economy as a complex network of interlocking economies in a continuum from an urban core to a deep periphery. The discussion finally moves towards a finer-scale analysis, reflecting on changes within municipalities, especially in larger cities.

The legacy inherited

In 1994, South Africa had a network of metropolitan cities, secondary cities, large towns and smaller service centres that were well connected by road and rail. However, this masked a perverse set of spatial patterns reinforcing extreme social inequalities and uneven access to the economy, with around 43 percent of South Africans living in densely populated, mainly rural homelands. The spatial pattern reflected, in part, the extraordinary experiments of the apartheid rule over five decades, but also centuries of colonial rule.

Intentions of the post-1994 government

The Reconstruction and Development Programme (RDP) gave explicit recognition to spatial inequities, calling for a coherent approach to urban and rural development, which led to the development and publication of urban and rural development frameworks in 1997. However, these frameworks had to be translated into policies, which proved to be a lengthy process.

The journey since 1994

Institutional and policy changes

Despite the introduction of significant reforms to the structure of provinces and the system of local government, the building of a capable and developmental state is an unfinished job.

South Africa and the world

The ending of apartheid reopened South Africa to the world, but the provinces, towns and cities did not connect evenly, with particular provinces and cities emerging as gateways to the global community. Gauteng is a gateway for transnational migrants, while the Western Cape is a secondary node, with a specific concentration on non-SADC (Southern African Development Community) migrants. SADC migrants are concentrated in North West, Limpopo and Mpumalanga.

Based on the Global Connectivity Index, a study that focuses on the extent to which cities are host to advanced producer services, the only African city in the top 50 is Johannesburg, with a global ranking of 44th. This position is partly a result of its emergent role as a financial services gateway. Based on the Globalising Cities Index, which incorporates the Global Connectivity Index, as well as measures to which cities perform "command and control" functions in the global economy, the only African city in the top 100 is Johannesburg, in position 61.

Spatial shifts by province

Census information of Statistics South Africa (Stats SA) reveals a large swing in population towards Gauteng, a move towards the Western Cape and relative declines in the Eastern Cape, the Northern Cape, the Free State, KwaZulu-Natal and Limpopo. Furthermore, there are some income differentials between provinces. There is also a gradual equalisation, as well as a varying and complex pattern of unemployment, with modest declines in most provinces, but an increase in the Western Cape and Free State. The information also indicates higher levels of female unemployment across all provinces, but a closing gap between male and female unemployment. This is due to the fact that job creation for females is rising faster than that for males.

Spatial shifts within South Africa's settlement web

A simple differentiation between urban and rural, and even between different settlement categories, is inadequate to capture the variation between places in terms of economic performance, job creation and population growth. A classification of inner core, outer core, semi-periphery, periphery and deep periphery is used for the purposes of this analysis.

South Africa's inner core has a complex structure, but one that is dominated by only three urban agglomerations. The largest is the agglomeration centred around the Gauteng City Region, which accounts for nearly half of the population and over half of the gross value added (GVA) of the inner core. The other two are centred around Cape Town and eThekwini. Together, these three agglomerations account for 83 percent of the population of the inner core and 86 percent of GVA. All the other regions (Nelson Mandela Bay, Mangaung, Buffalo City, the Free State Goldfields, Polokwane, Mbombela, the Kimberley Diamond Fields and the Tourism Belt of the Cape South Coast) collectively account for the remaining 17 percent of the

population and 14 percent of GVA. It is clear that South Africa is highly dependent on a small number of places for its economic wellbeing.

The outer core also has a fairly complex structure, although it is far less significant in economic terms than the inner core. Economic growth in aggregate, and in most areas, is less than the national average, and so the outer core has lost position in relative terms. There is, however, a cluster of relatively high growth areas, such as the N1 corridor from Gauteng to Zimbabwe. The belt of small towns in the Western Cape around the metropolitan agglomeration is also experiencing higher-than-average growth. The towns along the N3 between eThekwini and Gauteng (Newcastle, Ladysmith and Harrismith) are generally not performing as well as those on the N1 corridor. The more scattered towns, off the major corridors, are also experiencing slow rates of growth; on average, less than 2 percent per annum. The densely populated former Bantustan areas are, with the exception of those in Limpopo, experiencing the lowest rates of economic growth.

The periphery is a category of municipalities with slow overall economic growth (1.63 percent per annum) and very slow population increase (0.69 percent per annum). The variation between municipalities in this category is relatively small, with almost all local economies struggling in the face of a depressed agricultural sector and the effect of outmigration in the service sector.

The marginal economies in the deep periphery are growing at approximately 1.9 percent, with a population change of just 0.64 percent per annum. These are areas of low population where natural population increase is only just compensating for outmigration.

Although the space economy of South Africa is complex, the overwhelming picture is that of a high and increasing level of economic concentration in a few localities. It is only within the inner core of South Africa that there is a relative gain in economic output, and even within this core, economic output is becoming more concentrated within the three dominating metropolitan agglomerations. There are, however, scattered localities in more peripheral areas where GVA is growing rapidly, although generally from a low base.

The population distribution in South Africa has, historically, been more dispersed than economic output, largely because of colonial and apartheid rule, which kept large numbers of people within the “reserves” or “homelands”. This is changing as individuals and households are able to move into areas of greater economic opportunity. Again, the pattern is one of huge concentration in the large centres, with other areas of growth including the Platinum Belt and a few secondary cities.

Intra-urban change

The changes that happen in a municipality make the biggest impact on the daily lives of people, as it affects their ability to access jobs, livelihoods and services, and impacts directly on household budgets. Some key dimensions are identified, rather than a comprehensive review of changes within settlements. Processes that are explored include urban densification, socio-spatial integration, private sector-led investment on the urban edge, partnership-led inner city rejuvenation, public housing investments, informal accommodation, transformation in historically black townships, and new systems of public transport. Despite significant transformation, apartheid spatial structures have shown more resilience than anticipated.

Celebrating progress, confronting challenges

There is much to celebrate. Barriers to human movement have been removed, and people and jobs are coming together in an increasingly close alignment. Within the inner core, cities are producing the most jobs and are attracting the biggest increase in population. As South Africa's big cities are densifying, people find formal and informal accommodation opportunities. With outmigration from the periphery, unemployment rates in the periphery are dropping, and fewer people are living in poverty traps.

Additional positive changes include the growing proportion of the population in formal accommodation, declines in gender inequality in access to jobs, new transport systems, rising levels of serving in urban areas and so on.

Confronting challenges

Much of the progress made was a result of the removal of spatial restrictions, rather than proactive responses by government or the private sector. Developments have not always supported the overall goal of a more efficient, equitable and sustainable urban form, and the location of private sector- and government-led housing did not result in positive spatial outcomes. There has been a degree of socio-spatial integration, but the overall pattern of socio-spatial segregation is still largely intact. Better located townships have transformed to some degree, attracting large capital expenditure from government and the private sector in the retail sector, but the goal of integrating townships into the urban core remains elusive. More could also be done at a national scale to align people and jobs. Environmental sustainability remains a concern across the country.

Pointers to the future

Into the future, government's central task must be to further facilitate the alignment between people, on the one hand, and jobs, livelihood opportunities and services on the other. At the national scale, this will involve facilitating the movement of people to places where jobs are being created. The focus must be on improving the absorptive capacity of the municipalities in the inner core, where jobs are being created at scale.

More needs to be done to ensure that all housing financed by government is well located in relation to jobs, that the importance of backyard shacks is recognised and that incentives are provided to ensure that this accommodation is upgraded to acceptable standards. The current investment in public transport also has to be upscaled and more attention should be given to the sustainability of investment and to integration between modes of transport across municipal boundaries. Critical interventions outside the inner core to support job creation may include transport infrastructure to unlock mining potential and targeted support for the regeneration of agriculture, giving special attention to areas where economic growth dynamism is evident.

Review

1. Introduction and background

1.1 Conceptual framework and purpose of the review

1.1.1 Space matters

The ways in which people and economic activity are distributed across space matters. It matters for the national economy, but also for individuals, households and firms of all sizes. There is a close association between spatial patterns and the capacity of an economy to grow and produce jobs. Economies generally work better where there is a concentration of activity – where there is a large pool of labour, a concentration of skills, a market for goods that are produced, and a dense network of social and business relationships. The benefits of this concentration are referred to as “agglomeration economies”.

The logistics of crossing space is important to firms – workers and management must get from their homes to their jobs each day, raw materials or supplies have to be delivered on time, customers must access the firm, information must flow quickly through IT networks, and goods or services must be distributed to their appropriate destinations. If the spatial functioning of a logistics system is inefficient, costs will be high, and the performance – and even the viability – of the firm will be affected.

There is also a strong relationship between spatial patterns and the welfare of households. Where households are located near areas of job and livelihood opportunities, their prospects for economic success are significantly enhanced. If places of work are separated from places of residence by a long distance, or by an inefficient transportation system, households may spend a disproportionate amount of time and money on travel, and poverty levels will be exacerbated. Spatial separation also affects the ability of households to access services like schools, colleges, clinics, hospitals, childcare facilities, shops, government offices and places of recreation.

Furthermore, spatial arrangements have an impact on the way society works, especially on the way we relate to each other as individuals and as communities. If different groups – defined by race, income, national origin or any other criteria – are spatially separated, a lack of understanding and knowledge of “the other” may breed intolerance, suspicion and fear, and society will be deprived of the liveliness and creativity that comes from diversity.

Poor spatial organisation has environmental costs. Where densities are low and dependence on the private car is excessive, air pollution and carbon emissions will be high. Where residential areas are poorly located in relation to polluting industries,

the health of residents will be affected, and where residential development occurs in areas of environmental risk, individual and social vulnerability increases.

1.1.2 Content of the review

It is this understanding of the importance of spatial organisation that frames the narrative of South Africa's "spatial journey" since 1994. Before relating the journey, it is necessary to reflect briefly on the spatial legacies inherited in 1994. It is a complex and difficult legacy that has made the journey both extraordinarily challenging and absolutely necessary.

Relating the journey requires technical analysis. The latest available statistics are used in this report. Population data is taken from Census 2011, and economic data mainly from the IHS Global Insight. The authors also draw on earlier work on spatial change undertaken by the Council for Scientific and Industrial Research (CSIR) and background research undertaken by the National Planning Commission in preparing the National Development Plan (NDP).

This review focuses on three broad aspects of spatial development over the last 20 years. Firstly, it provides a brief account of South Africa's provinces and cities within a globalising world, with specific reference to transnational migration, corporate linkages and international benchmarking. Secondly, it discusses the history of spatial changes by using the provinces as the unit of study. It reveals some of the big trends, such as the population shift to Gauteng and the Western Cape, and a gradual process towards greater equity in incomes across space, but the scale is too large to give real insight into what has happened in different types of settlements since 1994. Thirdly, it gives a more detailed narrative based on an understanding of South Africa's space economy as a complex network of interlocking economies in a continuum from an urban core to a deep periphery. This approach, combined with the use of recently released data, offers new insights into the intertwined processes of spatial development across South Africa.

This is followed by a reflection on changes that have taken place within municipalities, and especially within the larger cities where the greatest economic and population growth is concentrated. The extent to which transformation has occurred in urban areas since 1994 is investigated, and an exposition of the transformation is provided. The authors also take a look at what has remained the same or has failed to transform.

This four-pronged approach is followed in reflecting on the achievements that have been made. This review attempts to provide an integrated account of the space economy, transcending socially defined categories such as "urban" and "rural". However, in the detail of the analysis, the review focuses specifically on urban areas, as a separate review was commissioned on rural transformation (see separate chapter on Rural Transformation).

2. The journey since 1994

2.1 Historical endowment in 1994

South Africa entered the democratic era with a population of around 40 million people, of whom 53 percent lived in urban areas. In some respects, South Africa was not very different from other middle-ranking countries globally. It had a modern economy with a network of metropolitan cities, secondary cities, large towns, and smaller service centres, well connected by road and rail. This, however, masked a perverse set of spatial patterns that reinforced extreme social inequalities and uneven access to the economy.

In 1994, around 43 percent of South Africa's population lived in densely populated, mainly rural territories known as homelands. This severely distorted the common international pattern of dense populations in and around the major urban centres and thinly populated farming areas. Within individual towns and cities, spatial patterns were also aberrant. Race groups were spatially segregated, with the poorest (mainly black) communities relegated to the urban edge, in localities furthest from jobs and urban services.

The spatial pattern reflected, in part, the extraordinary experiments of the apartheid rule over five decades, but also centuries of colonial rule. Among the critical problems facing South Africa's towns and cities by the 1990s were the following:

- Deeply entrenched patterns of racial segregation
- Highly fragmented urban areas with an inversion of the "natural" relationship between density and distance
- Low-density sprawl in the middle-class suburbs with decentralised economic activity and inner-city decline
- A massive challenge for the daily movement of people, with transport costs excessively high for poor households in international terms
- A process of land invasion and informal settlement formation
- Poorly developed and deteriorating public transport systems (although the privately owned minibus taxi industry was proving to be highly successful)
- Cities of extreme inequality, with Gini coefficients among the highest in the world
- Very low urban densities in relation to international benchmarks for efficient and vibrant urban forms
- Inefficiency in the use of resources such as energy and water

It is clear that the Government of National Unity, inaugurated in 1994, recognised the damaging spatial legacies of apartheid with the founding policy of the new democracy, the Reconstruction and Development Programme (RDP), giving explicit recognition to spatial inequities.

The RDP called for a coherent approach to urban and rural development, and the RDP Office set up task teams to produce urban and rural development policy. In 1997, the government published both a Rural Development Framework (RDF) and an Urban Development Framework (UDF).[1] The UDF was a statement of positive intention. It produced a vision of towns and cities that were spatially and socio-economically integrated, economically competitive internationally, centres of economic and social opportunity, centres of vibrant and democratic urban governance, environmentally sustainable, providing high-quality housing, infrastructure and services, and enabling easy access to a range of urban opportunities (National Department of Housing, 1997). In order to realise this vision, specific goals were set that were to be "relentlessly pursued" (National Department of Housing, 1997):

- Create more efficient and productive cities and towns through the growth and development of local economies.
- Reduce disparities by providing infrastructure and facilities to disadvantaged communities.
- Provide access to better housing and shelter, and greater security of tenure for urban residents.
- Tackle spatial inefficiencies that give rise to long travelling distances and times that negatively impact on the accessibility of work and other opportunities, by promoting urban densification in conjunction with more efficient public transportation.
- Improve the overall quality of the urban environment by better integrating environmental concerns in development planning and urban management.
- Transform municipalities into effective and accountable institutions through capacity-building programmes that also promote the active interaction of civil society with municipalities.

The intentions were positive and clear, but the UDF was a very broad statement of principle and needed translation into a more detailed urban policy, which has proven to be a lengthy process. In terms of spatial restructuring at a national scale, there was significantly less clarity. It proved surprisingly difficult to produce a coherent spatial policy. Although there was broad consensus over the need to address the legacies of apartheid, there was no agreement on how to achieve this. For example, should jobs be brought to the people, or should people be brought to the jobs? Should investment go to the former homelands or should the state encourage people to move away from the homelands?

[1] The rural development review is discussed in a separate chapter, but suffice it to say here that more could have been done at an early stage to create a framework for dealing with rural and urban development in more integrated ways. Within government, two separate policy tracks emerged, accompanied by a growing tension between a rural and an urban orientation.

2.2 Dynamics of the transition

2.2.1 Institutional and policy changes

There have been dramatic changes since 1994, which made it possible to address a spatial transformation agenda. Most important among these were the integration of the former Bantustans into the new provinces and the introduction of a new system of local government. The new municipalities are allowing for wall-to-wall rural-urban integration in planning, while the single-tier, or "unicity model", for metropolitan areas greatly improved the chances of citywide coordination in planning, infrastructure provision and service delivery. The big picture in terms of institutional change is positive. Indeed, few countries have the advantage of an institutional framework that is so supportive of integrated spatial planning.

There are, however, remaining institutional constraints that are dealt with in some detail in the NDP. The NDP (National Planning Commission, 2012) makes it clear that the "building of a capable and developmental state" is an unfinished job.

Chapter 8 of the NDP deals with the specific challenges related to **spatial governance**. One of the major achievements in terms of spatial planning was the introduction of a requirement that all municipalities produce integrated development plans (IDPs) and that these IDPs include spatial development frameworks (SDFs). Some municipalities have used IDPs and SDFs effectively to promote better coordination and spatial transformation, and have even gone beyond the basic requirement to prepare long-range development plans. However, many municipalities still struggle to produce credible IDPs and SDFs. The uneven capabilities for spatial planning across municipalities remain an area of concern.

Furthermore, there are other issues relating to the structures and performance of government. The translation of SDFs into transformative action on the ground requires a revised regulative framework, but this has taken nearly 20 years to materialise. In 2001, government released the *White Paper on Spatial Planning and Land-use Management,* but the legislation to give effect to the policy changes was only approved by Parliament in 2013. Municipalities had no option but to use apartheid-era provincial ordinances to prepare and approve their land-use management schemes. With this delay, uncertainties persisted over the powers and functions in relation to land-use management across the spheres of government. A specific dispute arose in Gauteng between the City of Johannesburg and the provincial Gauteng Development Tribunal over the powers relating to the establishing of townships and the rezoning of land within municipalities. Eventually, in 2010, the Constitutional Court made a ruling on the matter that affirmed the role of municipalities in land-use management (City of Johannesburg Metropolitan Municipality v Gauteng Development Tribunal and Others, CCT 89/09, 2010).

There are also institutional gaps at national level in relation to spatial planning. For example, no single department is responsible for national spatial planning or for

ensuring alignment in spatial policy across line functions. While there is a department responsible for rural development, no department is specifically mandated to deal with urban development. In 2003, the release of a National Spatial Development Perspective (NSDP) brought about the prospect of better spatial alignment by government. However, the NSDP "had far more life on paper than in practice" (Oranje, 2010: 66). It could not stand up to the diverse spatial interests across South Africa and the resistance to the proposed focus of investment expenditure in areas of proven economic potential. In 2012, the NDP refocused the attention on national spatial policy by including a chapter entitled 'Transformation of human settlements and the national space economy', and proposing the development of a National Spatial Framework. The preparation of an urban policy for South Africa was also delayed for a long time. The broad intentions of the UDF needed translation into a detailed policy that could provide a framework for implementation. A proposed National Urban Development Framework (NUDF) was referred back by Cabinet in 2009 for further work. In early 2013, an Inter-ministerial Committee initiated the preparation of an Integrated Urban Development Framework (IUDF), and this process is currently underway.

In summary, there has been far-reaching institutional transformation, and also a strong shift towards strategic spatial planning. However, the lengthy delays in completing the intended reform of the spatial planning system, and in producing urban policy, has impacted negatively on processes of spatial transformation. The journey remains incomplete.

2.2.2 South Africa and the world

The ending of apartheid reopened South Africa to the world. South Africa's provinces, towns and cities did not, however, connect evenly to the world. Instead, particular provinces and cities emerged as gateways to the global community.

Linkages to the world take three main forms: the flow of transnational migrants, the connections established within and between firms, and trade flows.

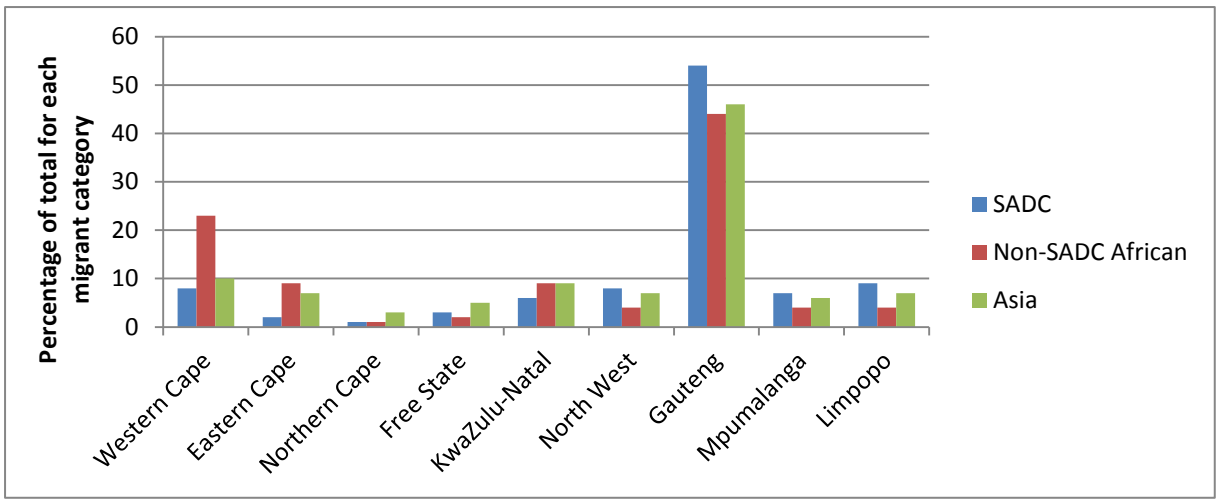
Transnational migration flows

Data on migration flows is notoriously unreliable, largely because many migrants prefer to remain under the radar. A specific challenge with Census 2011 was that many respondents elected not to state their country of origin.

Although specifying the number of transnational migrants nationally, as well as for provinces and localities, is avoided, it is possible to use census data to give a sense of the distribution of transnational migrants across space in proportional terms (see Figure 1).

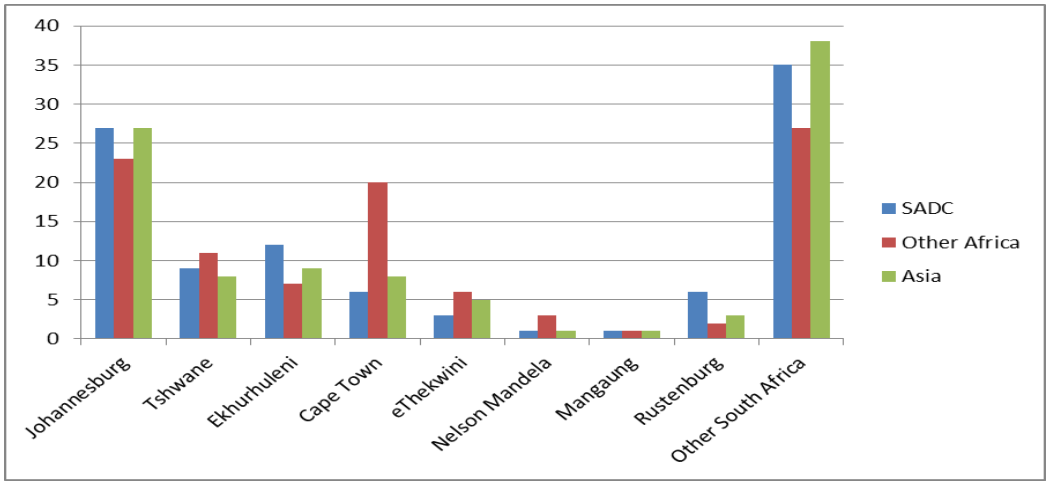
Figure 1: Geographic spread of migrants from SADC countries, the rest of Africa and Asia across South Africa's provinces, 2011

Source: Statistics South Africa, 2012



It is clear from Figure 1 that Gauteng is the gateway province for transnational migrants, with approximately half of all foreign-born individuals in South Africa living in this province. The Western Cape is a secondary node, with a specific concentration on non-SADC migrants (mainly from Somalia and Congo). There is also a relative concentration of SADC migrants in the provinces of Mpumalanga, North West and Limpopo, which border on Zimbabwe and Mozambique, two major source countries for migrants.

Figure 2: Geographic spread of migrants from SADC countries, the rest of Africa and Asia across South Africa's cities, 2011



Source: Statistics South Africa, 2012

Figure 2 indicated that two-thirds of foreign migrants live in eight of South Africa's cities, and mainly in the four largest cities[2]. For cities in Gauteng, and for Cape

[2] Rustenburg is an exception, as proportionate to its size, this emergent mining city is a significant attractor.

Town, international migration is of a sufficient scale to make an impact on the spatial form and character of the city.[3]

Global corporate connections

There are different ways of measuring the corporate connectivity of firms, but the joint work undertaken by the Global Urban Competitiveness Project at the Chinese Academy of Social Sciences in Beijing and the Globalisation and World Cities Research Network at Loughborough University in the United Kingdom, which has been published in the book *Global Urban Analysis* (Taylor et al., 2011),[4] is primarily used for this purpose.

The study developed a Global Connectivity Index, based largely on the extent to which cities are host to advanced producer services. Globally, the top cities in this index are London, New York and Hong Kong. The only African city in the top 50 is Johannesburg, with a global ranking of 44th. Cities with similar rankings (40th–50th), which may be regarded as peers, are Auckland, Santiago, Washington, Melbourne, Atlanta, Barcelona, San Francisco, Manila, Bogota and Tel Aviv. Within emerging markets, cities such as Shanghai (9th), Beijing (10th), Mumbai (17th), Kuala Lumpur (18th) and São Paulo (21st) are ranked far higher, but Johannesburg is at least modestly represented. Johannesburg's position within this grading is partly because of its role as an emergent financial services gateway.

Taylor et al. (2011) also developed the Globalising Cities Index, which incorporates the previous index, but also measures the extent to which cities perform "command and control" functions in the global economy, and the position they occupy in corporate networks in key sectors. Again, the only African city in the top 100 is Johannesburg, featuring modestly in 61st position. Its peers in this ranking are Luxembourg, Caracas, Auckland, Denver, Helsinki, Seattle, Minneapolis and Osaka.

Taylor et al. (2011) take a more detailed look at African cities, and according to them, the top ten African cities in terms of global network connectivity are the following:

1. Johannesburg (a score of 0.43 on the index, where London = 1.00)
2. Cairo (0.37)
3. Nairobi (0.30)
4. Casablanca (0.28)
5. Cape Town (0.26)
6. Lagos (0.23)

[3] In Johannesburg, there is a strong concentration of migrants in and around the inner city, but also within ethnic enclaves such as Cyrildene (Chinese), Fordsburg (Indian and Pakistani), Rosettenville/La Rochelle (Portuguese/Mozambican) and Mayfair (Somali). Cape Town appears to be attracting significant numbers of migrants from Francophone Africa, with a concentration of Congolese in Muizenburg, for example.

[4] Much of the data for this joint project was drawn from *Forbes Global 2000,* which provides information on the corporate headquarters of firms by sector.

7. Port Louis (0.21)
8. Tunis (0.18)
9. Accra (0.16)
10. Dar es Salaam (0.13); Lusaka (0.13)[5]

Taylor et al. (2011: 146) conclude that it is Johannesburg, Cairo, Nairobi, Casablanca, Lagos and Cape Town that "modestly anchor Africa to the global service system". However, the only city in Africa rated as being more globally than locally linked is Johannesburg. The cities with the strongest links to Europe are Casablanca and Cape Town, and the city with the strongest link to the Asia-Pacific region is Johannesburg.

In the period 2000 to 2008, the most rapidly rising cities globally were mainly in Asia (Mumbai, Shanghai, Kuala Lumpur, Beijing and Seoul) and the cities that were falling in the rankings were mainly in Europe and North America. South Africa's cities were in an intermediary position, continuing to grow, but at modest rates. The financial crisis, beginning in 2008, accentuated these patterns.

The Brookings Institution analysed 300 metropolitans worldwide for their resilience in the wake of the global financial crisis (including Johannesburg, Tshwane, Ekurhuleni, Cape Town and eThekwini). There is clear spatial differentiation across the globe – by 2012, most of the large American cities had experienced a major recession, but had made a partial recovery; many European cities were still in a partial or major recession;[6] cities in Latin America had either not experienced a recession or had made full recovery; cities in Japan had experienced a full recession and had made a partial recovery; and cities in China and India had, with a few exceptions, not experienced a recession (Brookings Institution, 2012).

The picture for South Africa was mixed. The three metropolitan cities in Gauteng were rated as having experienced a minor recession and having made a full recovery. Cape Town and eThekwini were rated as having experienced a major recession and having made a partial recovery. The data used in the study may require some interrogation, but suggests that South African cities are in an intermediate position – in general, they have shown greater resilience than cities in North America and Europe, but less than cities in Latin America and South and East Asia (Brookings Institution, 2012).

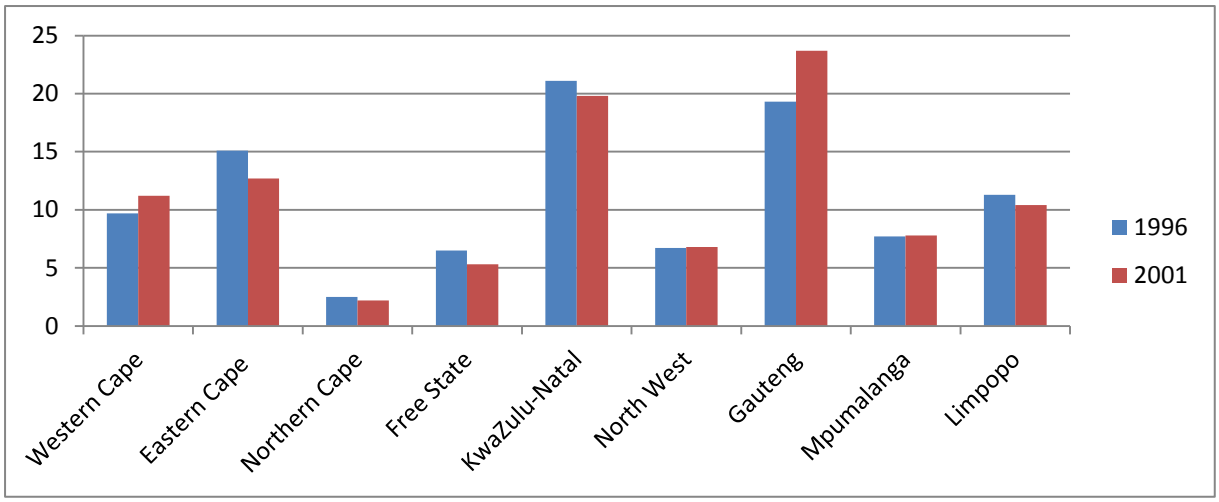
2.2.3 Spatial shifts by province

There have been surprisingly large shifts in population since Census 1996. Figure 3 reveals the large swing towards Gauteng, the move towards the Western Cape, and

[5] Durban just misses the top ten at 0.12.
[6] With the exception of cities in Germany, Austria and Sweden, where there was full recovery.

the relative declines in the Eastern Cape, Northern Cape, Free State, KwaZulu-Natal and Limpopo.

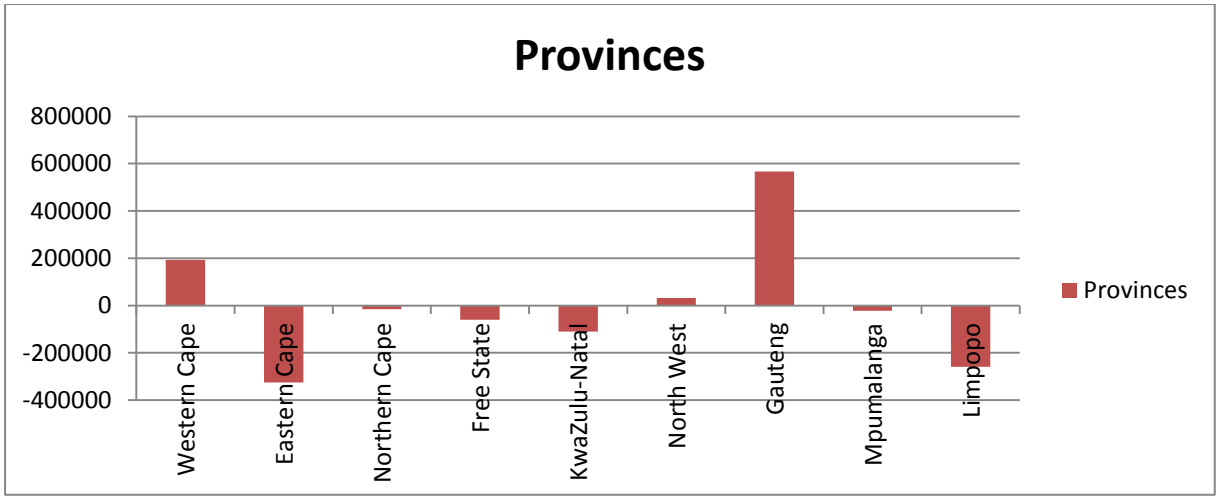
Figure 3: Shifts in the percentage distribution of population between provinces, 1996–2011



Source: Statistics South Africa, 1998 and 2012

Figure 4 very clearly reveals the dominance of Gauteng as an attraction for migrants, with the Western Cape as a distant second. It also reveals the large losses in the Eastern Cape and Limpopo and, to a lesser extent, KwaZulu-Natal and the Free State.

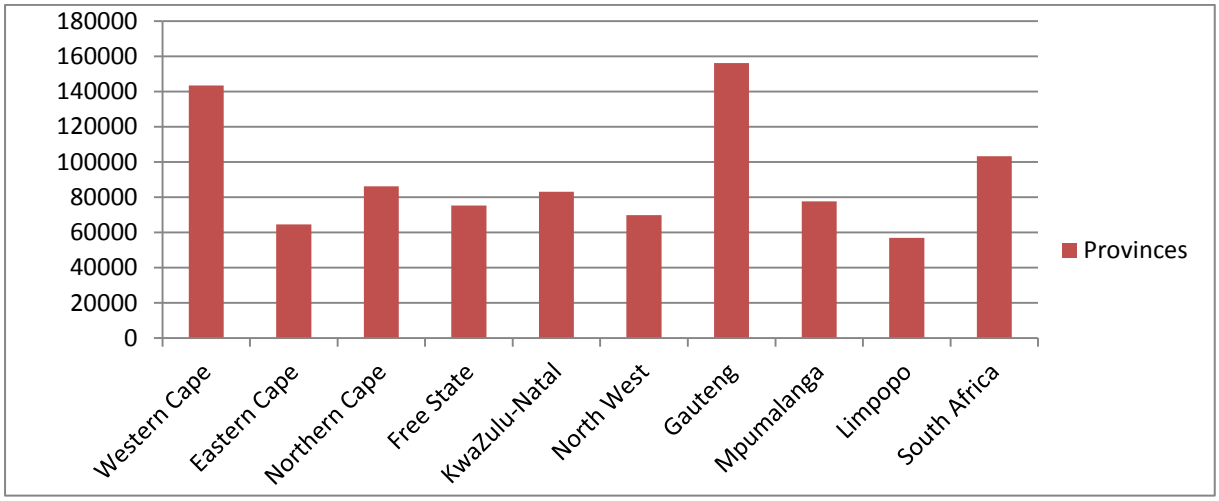
Figure 4: Differentials in net migration by province



Source: Statistics South Africa, 2012

There is a strong correlation between average household income and province, with the provinces receiving migrants having the highest incomes, and those losing migrants the lowest (see Figure 5).

Figure 5: Differentials in household income by province



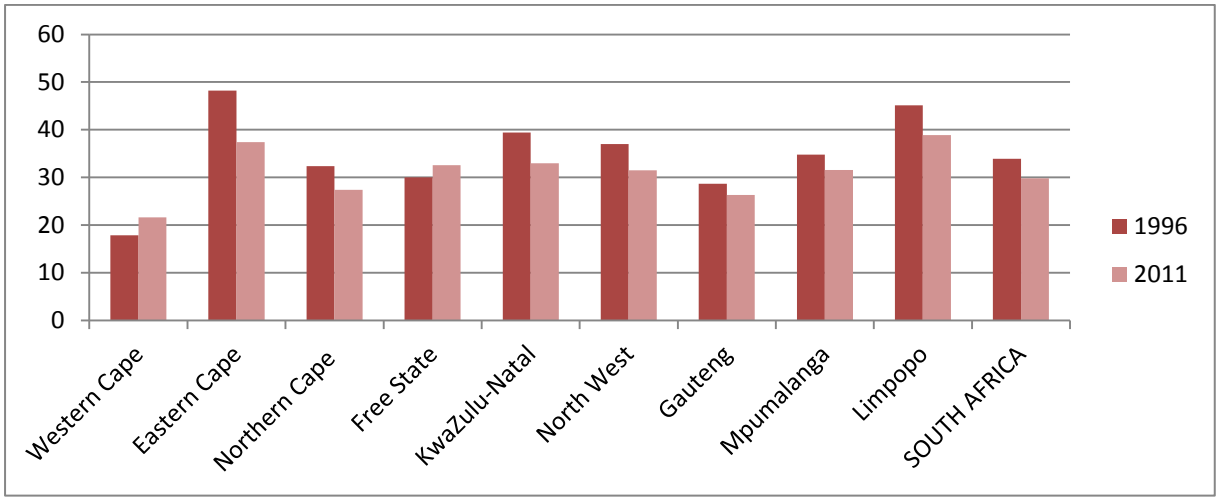
Source: Statistics South Africa, 2012

The question is whether migration flows are leading to reduced income differentials between provinces. Census data suggests that this may be the case. In all instances, except for the Western Cape, the income differential with Gauteng has narrowed between 1996 and 2011. In Mpumalanga, for example, average household incomes as a percentage of average households for Gauteng increased from 39.7 percent to 49.7 percent. In the most marginal province, Limpopo, the increase has been from 29.3 percent to 36.4 percent. In this sense, there may be a process of income equalisation across space.

The picture in relation to unemployment is more complex. Across South Africa, from 1996 to 2011, there was a modest decrease in the official unemployment rate from 33.9 percent to 29.8 percent.[7] The picture was mixed in the provinces, with significant drops in unemployment in the most marginal provinces, Eastern Cape and Limpopo, which may reflect the effects of migration. However, one cannot make a definite conclusion based on this information, because of the varying trends across the provinces. The two provinces in which unemployment increased may reflect local dynamics rather than the effects of migrations – possibly the job losses in agriculture in the Western Cape and in gold mining in the Free State.

[7] Defined as the percentage of unemployed persons over the sum of employed and unemployed persons (excluding the economically non-active).

Figure 6: Official unemployment rates by province, 1996 and 2011



Source: Statistics South Africa, 1998 and 2012

Table 1: Relation between growth in the economically active age category, the number of employed and the unemployment rate

Province	Percentage growth in population of economically active age	Percentage growth in number of employed	Change in unemployment by percentage point	Absolute increase in numbers of employed (1 000s)
Western Cape	56.3	46.6	+ 3.7	639
Eastern Cape	11.8	32.1	- 10.8	250
Northern Cape	19.0	23.1	- 5.0	53
Free State	4.4	-7.2	+ 2.6	-50
KwaZulu-Natal	22.1	29.8	- 6.4	469
North West	33.3	49.1	- 5.5	249
Gauteng	61.8	66.6	- 2.4	1 786
Mpumalanga	37.2	57.1	- 3.2	352
Limpopo	32.1	61.8	- 6.2	338
South Africa	34.6	44.9	- 4.1	4 087

Compiled from official statistics

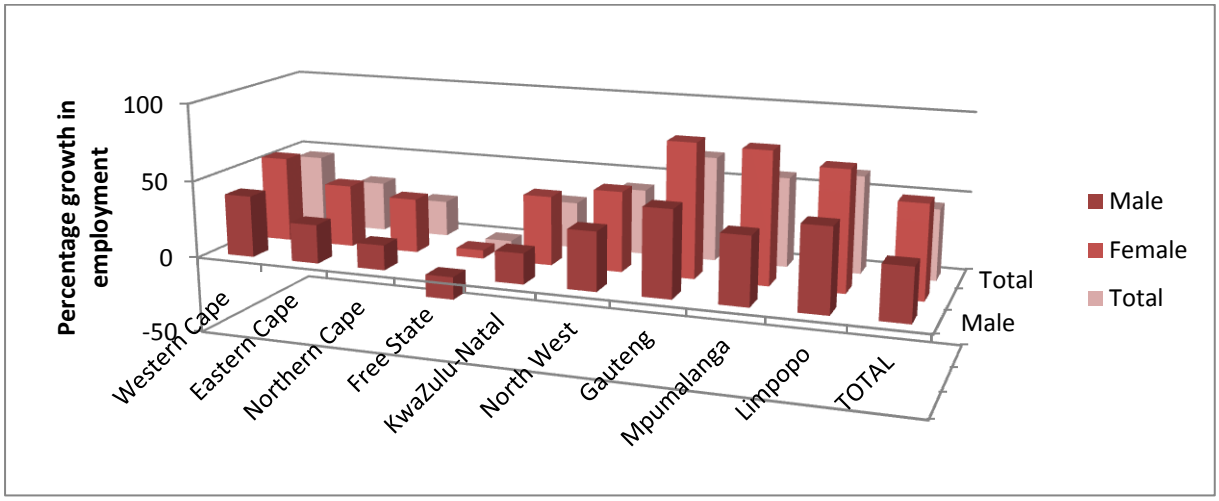
Table 1 reveals that in South Africa as a whole, and across most provinces, the growth in employment exceeded the growth in population in the economically active age group and, as a result, unemployment levels dropped. This was even the case in Gauteng, where there was an increase of over 60 percent in the economically active age category. However, because population growth was almost as high as job growth, the drop in unemployment was modest. In some instances, unemployment has dropped only because of outmigration. In the Eastern Cape, for example, there was only a small increase in jobs, but reduced unemployment, because the population increase in the economically active age category was very small.

There are two exceptions to the overall pattern of declining unemployment. The first is the Western Cape, where, although there was job growth, it was not sufficient to keep pace with the expanding population. The second is the Free State, where there has been net job loss.

Gauteng is the engine of job creation, accounting for 44 percent of new jobs. It is the winner in absolute and relative terms, but the balance between job creation and population increase is delicate. In absolute terms, it is the Western Cape and KwaZulu-Natal that hold second and third position, but in relative terms, Mpumalanga, Limpopo and North West were better performers.

The gender differentials across space are also important. In 2011, the female unemployment rate nationally was 34.6 percent, compared with 25.6 percent for males. This differential was reflected in all provinces, although to varying degrees. The differential is, however, not nearly as sharp as in 1996, when the figures were 42 percent for females and 27.1 percent for males. The narrowing of the gender differential is occurring as the number of jobs available for females is growing significantly faster than those for males (see Figure 7).

Figure 7: Percentage growth in the number of jobs by province per gender category between 1996 and 2011



The key trends are summarised as follows:

- A shift in population towards Gauteng and the Western Cape, and away from the Eastern Cape, Limpopo, KwaZulu-Natal and the Free State
- Large gains in migration to Gauteng and significant losses for the Eastern Cape and Limpopo
- Large income differentials between provinces, but a gradual “equalisation”, possibly as a result of migrant flow from provinces of low income to provinces of high income
- A varying and complex pattern of unemployment across provinces, with modest declines in most provinces, but an increase in the Western Cape and the Free State
- Higher levels of female unemployment nationally and in all provinces, but a closing gap as job creation for females is rising significantly faster than that for males

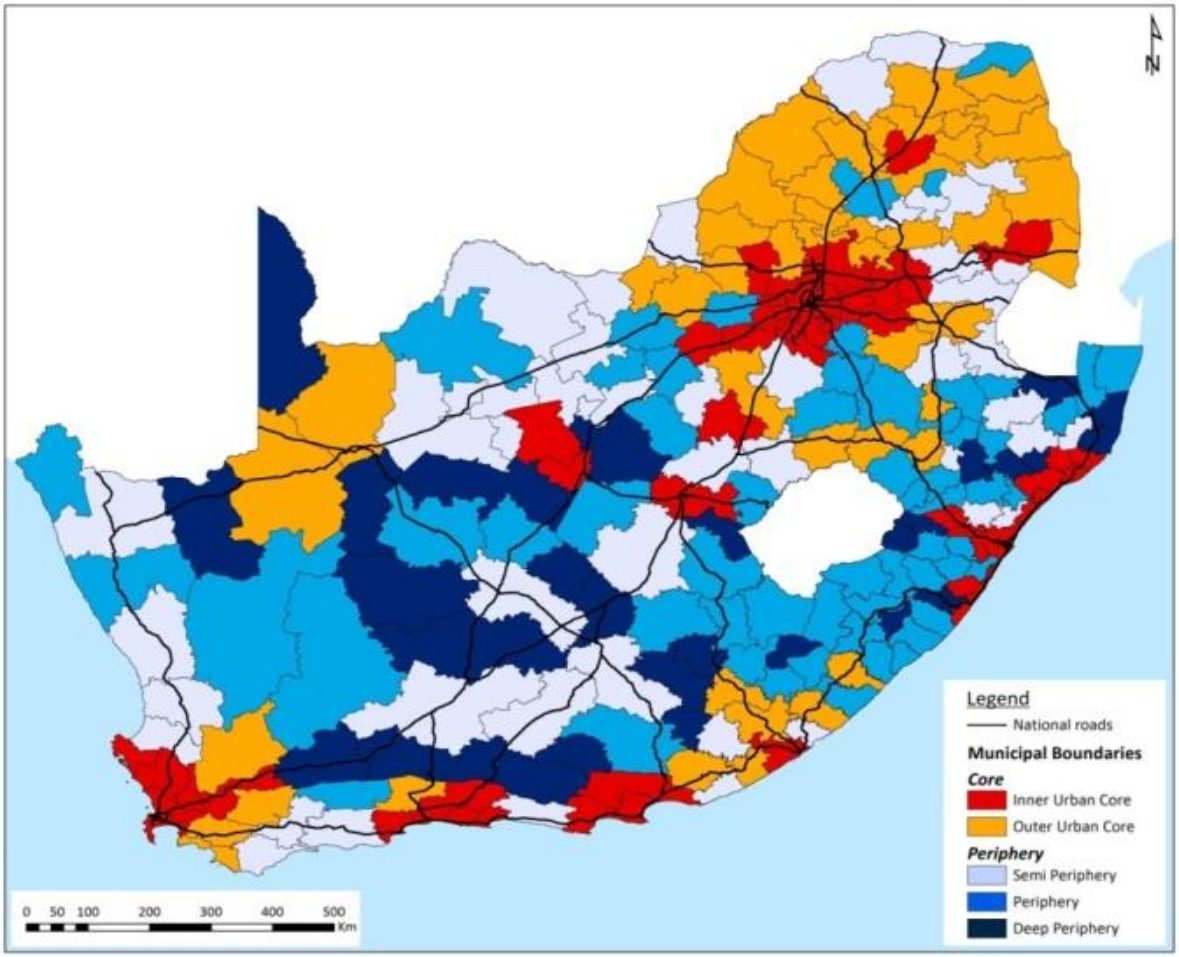
2.2.4 Spatial shifts within South Africa's settlement web

South Africa has a complex space economy. Simple differentiation between urban and rural, and even between different categories of settlements (such as metropolitan cities, secondary cities, large towns and small towns) is inadequate to capture the variation between places in terms of economic performance, job creation and population growth. This review has followed on from pioneering work by the CSIR in differentiating between various types of settlements across South Africa, although, with the benefit of recently released data, the categories and classification of municipalities have been adjusted. The maps below reveal a complex picture of changing population, gross value added (GVA) and employment figures across the country. It requires some detail in explanation. In an attempt to reduce complexity, municipalities are classified according to economic centrality.

Classifying municipalities

In the analysis, municipalities are classified in terms of five degrees of economic centrality: inner urban core, outer urban core, semi-periphery, periphery and deep periphery.

Map 1: Classifying South Africa's municipalities



The classification is illustrated in Map 1. A limitation of this approach is the generally large size of municipalities in South Africa. Placing a municipality as a whole in a particular category does not necessarily provide the fine grain of how the space economy is distributed.[8] This initial analysis should be fine-tuned – once the necessary data is available – by applying the mesozone methodologies developed by the CSIR.[9]

In brief, the classification is as follows:

Core

Inner core

The inner core is the urban heart of South Africa. It has not been defined simply in terms of metropolitan municipalities, but rather in terms of urban agglomerations that may be focused around metropolitan centres and secondary cities, or may consist of a cluster of medium-sized economic nodes that collectively form a large urban centre. These are the agglomerations centred around the Gauteng City Region, the Cape Town Metropolitan Region, the KwaZulu-Natal Coastal Belt, Nelson Mandela Bay Metropolitan Municipality, Mangaung Metropolitan Municipality, Buffalo City Metropolitan Municipality, the Free State Goldfields, the Kimberley Diamond Fields, Polokwane, Mbombela and the Tourism Belt of the Cape South Coast.

Outer core

This consists of five categories of areas:

- Large towns with strong service functions, an established infrastructure, and an urban economy that produces a GVA of at least R2 billion per year (such as Upington, Newcastle, Grahamstown and Kroonstad)
- Medium-sized mining economies, such as Ba-Phalaborwa and Thabazimbi, that fall outside the primary mining belts, but are significant contributors to the national economy
- Areas of population density around cities in the inner core that may be poorly serviced in terms of infrastructure, but are connected to the centre through commuting flows
- Former Bantustan areas that are functionally linked to metropolitan and secondary cities
- Large, dense population clusters in the former Bantustans around previous homeland capitals that are comparable in population size to secondary cities, although their economies are too small for city status (for example, Mthatha, Thoyohandou and Mmabatho)

[8] A clear example is the Upington/Kakamas/Keimoes node in the Northern Cape. Although this is a small concentration of activity, by classifying the two municipalities within which they fall as part of South Africa's "outer periphery", the map suggests that a large swathe of the Northern Cape falls in this category.

[9] The CSIR has divided South Africa into around 25 000 mesozones (or standard local economic areas). These zones are on average 50 km^2 (roughly 7 km x 7 km) in size. They allow for fine-grained geographic analysis.

Periphery

Semi-periphery

South Africa's semi-periphery has been defined in terms of three categories of settlements:

- Municipalities centred around medium-sized towns that have an established infrastructure and service centre function, and annual GVA of around R1 billion to R2 billion a year
- Municipalities that fall mainly or completely in former Bantustan areas, but which have local economies producing more than R1 billion a year, largely because of economic activity stimulated by high population densities
- Secondary mining outliers (such as Kuruman)

Periphery

The country's periphery is also defined in terms of three categories:

- Municipalities focused around small service centres with an established infrastructure, but with annual GVA of around R0.4 billion to R1 billion (e.g. Calvinia)
- Former Bantustan economies with a similar size of economy and with generally moderate population densities
- Small mining economies (e.g. Dannhauser, Richtersveld)

Deep periphery

The deep periphery comprises very marginal municipal economies that fall into two categories:

- Municipalities centred around very small and generally scattered service centres with GVA of less than R0.4 billion (e.g. Jansenville, Tarkastad, Boshof, Harding, Poffader, Warrenton)
- Marginal municipalities in former Bantustans with generally low population densities and GVA of less than R0.4 billion

Differential performance across categories[10]

Figure 8 and Figure 9 illustrate the increasing concentration of the national population residing in the inner core. While there is absolute population growth in all categories of municipalities, the growth is small outside the inner core, and in relative terms it is only in the inner core that the population has increased. As indicated in the following tables, the picture is even more accentuated in relation to economic output.

[10] The contributions of Dr Koech Cheriuyot in the analysis of data from IHD Global Insight and Census 2011 and Ms Miriam Maina, who produced the maps and analysed urban densities in built up areas, are acknowledged.

Figure 8: Change in absolute population between 1996 and 2011 by category of municipality

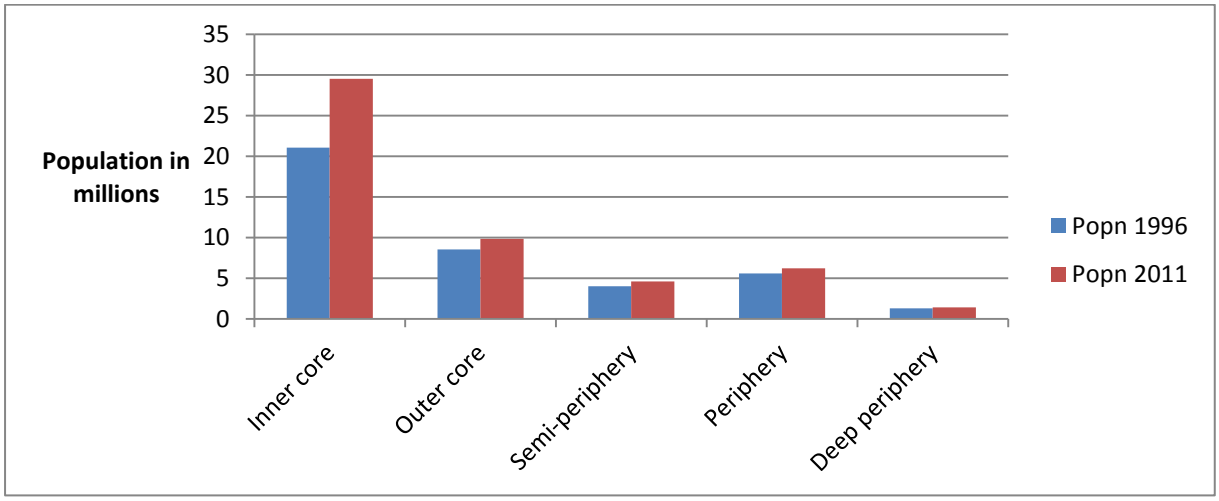


Figure 9: Change in relative population between 1996 and 2011 by category of municipality

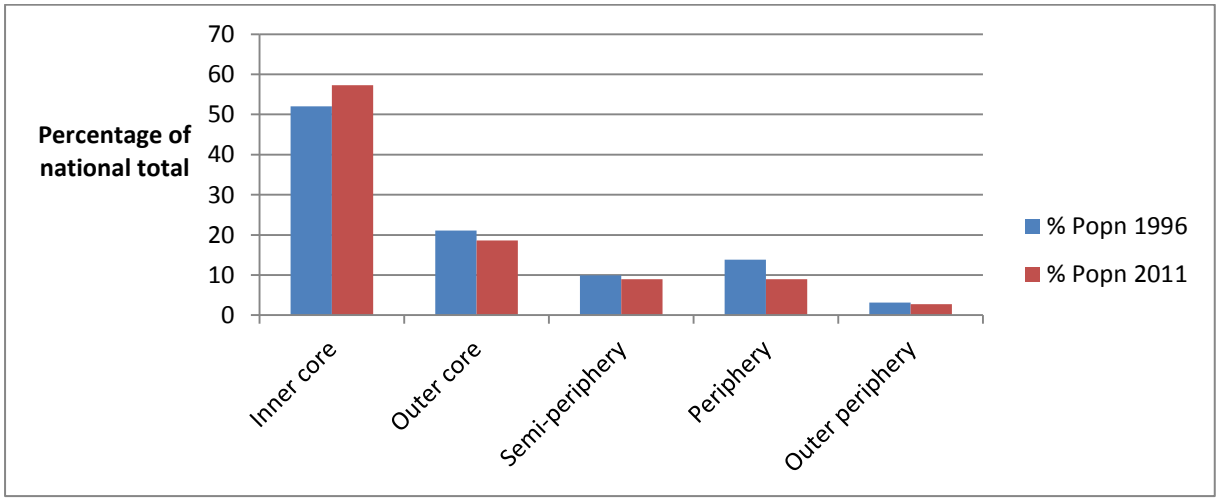
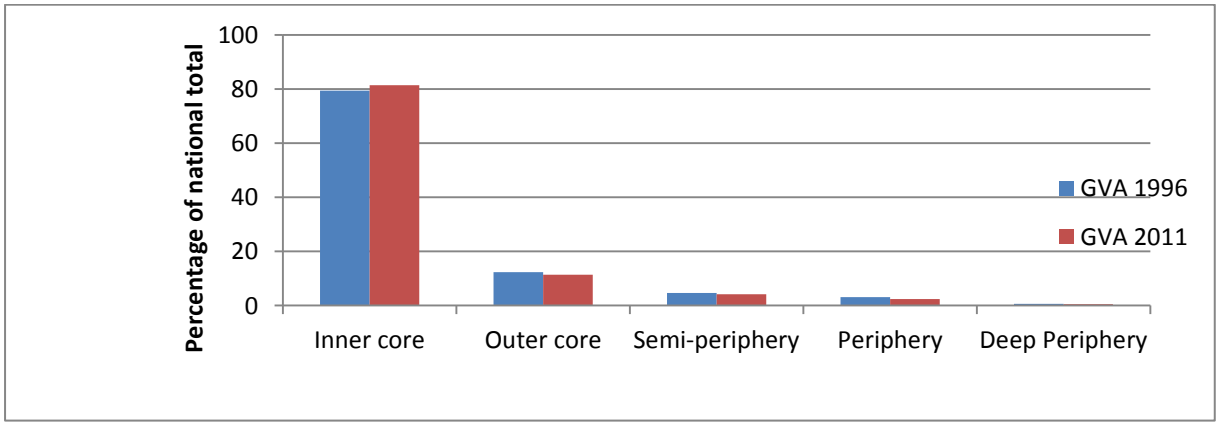


Figure 10: Change in relative contribution to GVA between 1996 and 2011 by category of municipality



Source: Figures 8-10 derived from IHS Global Insight, 2013

Economically, there was a huge initial concentration – 79.4 percent of GVA – in the inner core in 1996. This concentration continued, and the inner core produced 81.4 percent of GVA in 2011. All other categories, including the outer core, experienced a relative decline.

The annualised population and economic growth rates by category are compared in Figure 11.

Figure 11: Comparison of annualised population growth and GVA change per category of area, 1996–2011

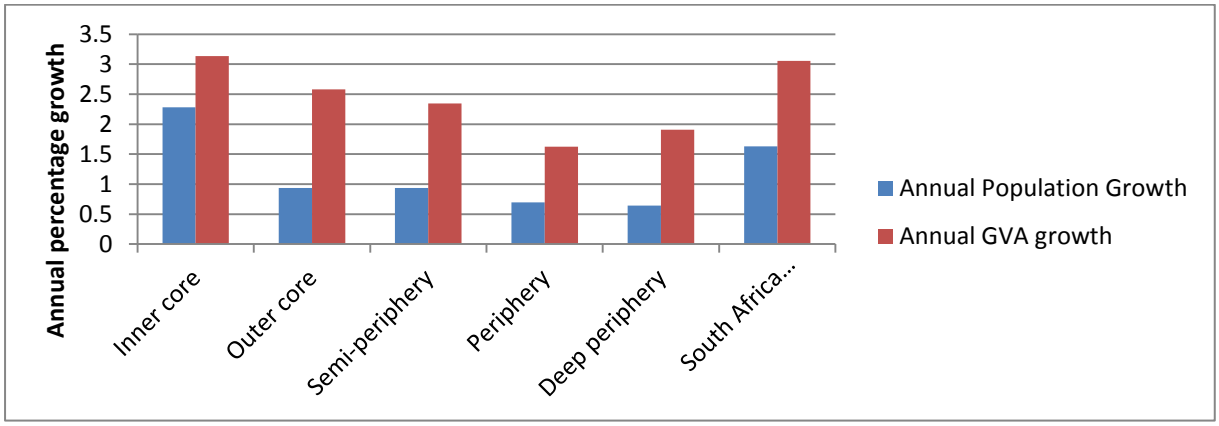


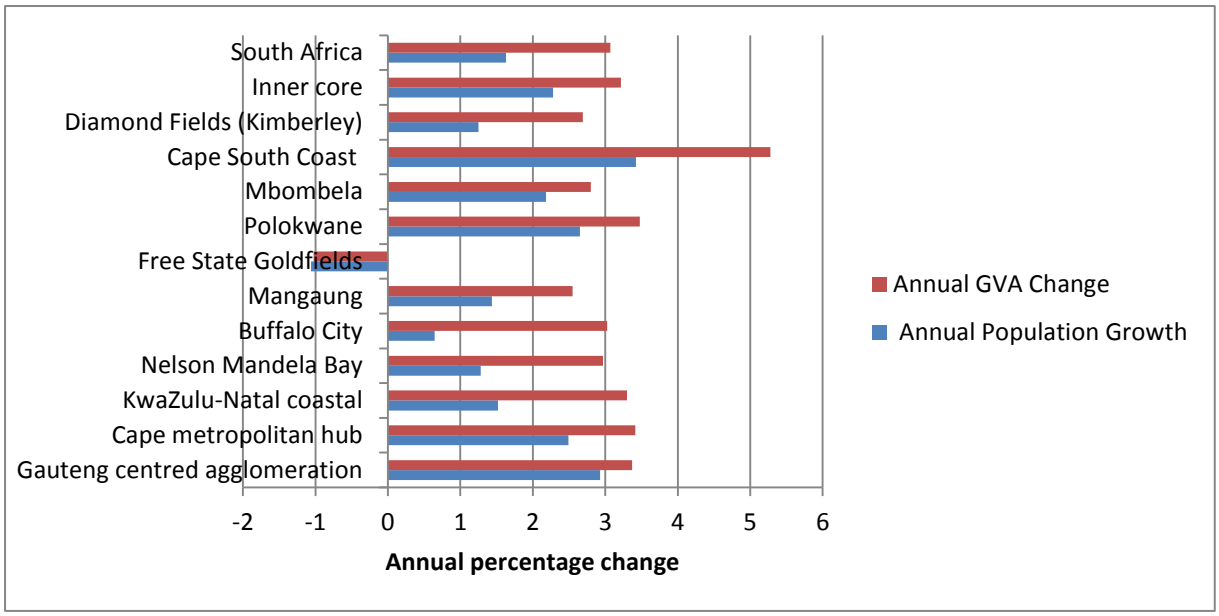
Figure 11 clearly shows that the more peripheral the area, the lower the GVA growth. It also shows that it is only in the inner core that there are significant levels of population growth. South Africa's average annual population growth of 1.6 percent between 1996 and 2011 (down to 1.4 percent for the period 2001–2011) is comparatively low, and the growth that has occurred is overwhelmingly concentrated in the inner core. Note that South Africa's average GVA growth is close to the average for the inner core. This is because of the overwhelming concentration of GVA in the inner core.

South Africa's inner core as the growth driver

South Africa's inner core has a complex structure, but one that is dominated by only three urban agglomerations. The largest is the agglomeration centred around the Gauteng City Region, which accounts for nearly half of the population and over half of the GVA of the inner core. The other two are centred around Cape Town and eThekwini. Together, these three agglomerations account for 83 percent of the population of the inner core and 86 percent of GVA. All other cities (Nelson Mandela Bay, Mangaung, Buffalo City, the Free State Goldfields, Polokwane, Mbombela, the Kimberley Diamond Fields and the Tourism Belt of the Cape South Coast) collectively account for the remaining 17 percent of the population and 14 percent of GVA. It is clear that South Africa is highly dependent on a small number of places for its economic wellbeing.

The growth rates in the inner core also vary. In general, the large cities perform better than the smaller ones, but there are significant exceptions.

Figure 12: Annual average population and GVA growth in urban agglomerations and cities that form South Africa's inner core, 1996–2011



It is important to understand something of the dynamics that are shaping these areas, which together account for over 80 percent of the national economy. They are discussed briefly below, beginning with the smaller cities urban centres and concluding with the huge Gauteng-based agglomeration.

The Kimberley Diamond Fields

The historic diamond fields of the Northern Cape (Kimberley/Barkly West) have an urban history that goes back to the 1860s, although they suffered decline in the twentieth century.[11] In the period under review, modest renewal was associated with Kimberley's new status as a provincial capital (Sol Plaatje Municipality), but the economic and population growth remains less than the national average. There is the prospect of new growth, with plans to build a university and develop sectors such as jewellery manufacturing.

Tourism Belt of the Cape South Coast (George, Mossel Bay, Knysna, Plettenberg Bay)

This cluster of towns on the Cape South Coast has a combined population of around half a million. The decision to include them in the inner core relates to the rapid economic and population growth, driven mainly by tourism and population development. Growth, however, has come at an environmental cost, and as the primary asset of the area is its natural beauty, this must be given serious attention.

[11] The combined municipal population of 294 882 for Kimberley and Barkly West is small for a city but Kimberley is included for historical reasons and because of its capital status.

Mbombela
This is a secondary city with a population of around 600 000, surrounded by sprawling quasi-urban informal settlements that increase the total population of the urban agglomeration to around 1.4 million people. Its economic and population growth has been modest over the period under review, sustained by Mbombela's new role as a provincial capital, and by increasing cross-border trade with Mozambique.

Polokwane
This is a secondary city of a similar size as Mbombela that also serves as a provincial capital and which is also surrounded by an extensive and irregular network of quasi-urban settlements. It has performed well economically because of both its growing administrative functions and its location on a corridor of expanding trade connecting Gauteng and Zimbabwe. It is, however, the centre of a poor region with high levels of unemployment.

The Free State Goldfields
The Free State Goldfields, centred around the towns of Welkom, Odendaalsrus and Virginia, are declining in terms of economy, population and employment. This is the direct result of continuing contraction in gold mining, as the cost of mining the remaining deep-level reserves makes the industry uncompetitive despite relatively high gold prices.

Mangaung
This small metropolitan municipality functions mainly as a service centre in the regional and provincial economy. Its largest sector is community services (related mainly to government, education and health). The performance of the local economy is modest – less than the national average – due to depressed conditions in the Free State's agricultural and mining districts.

Buffalo City
Buffalo City is also a metropolitan municipality and is of similar size as Mangaung. It services a large, poor and economically troubled hinterland. It has experienced GVA growth close to the national average, but its population is nearly static with continued outmigration. Levels of unemployment are stubbornly high at around 35 percent. Buffalo City has a small river port, an automotive production plant and a cluster of textile industries. A significant issue for Buffalo City is the expansion of the port, which would help develop the planned automotive hub.

Nelson Mandela Bay Metropolitan Hub
This is an intermediate-sized metropolitan area that has grown economically at the national average, but which also experiences low population growth and outmigration. The economy of this metropolitan complex is not able to absorb its working population, and the official unemployment rate for 2011 was 36.6 percent. The economy of this urban complex has been shaped to a significant extent by the

port and by the automotive industry, which has grown through the post-apartheid years, but is subject to global market instability. The development of the deep-water harbour and Industrial Development Zone (IDZ) at Coega, 25 kilometres from the centre of Port Elizabeth, was a bold attempt by the post-apartheid government to catalyse economic development in the region. The construction phase of this development assisted in sustaining growth in the local economy. It remains to be seen whether Coega will catalyse sustained economic growth.[12]

The KwaZulu-Natal Coastal Urban Agglomeration

The KwaZulu-Natal Coastal Urban Agglomeration includes the short inland corridor to Pietermaritzburg/Howick, as well as the North and South coasts. Economically, this agglomeration has grown faster than the national average and faster than the average of the inner core. However, the growth has not been particularly labour-absorptive, and the unemployment level of 30 percent in 2011 was only slightly less than in 1996. The eThekwini Metropolitan Municipality continued to shed jobs in manufacturing, with the decline of labour-intensive industries, such as clothing and textiles. Growth has generally occurred in the more capital-intensive industries, such as chemicals.

The Durban port is a major contributor to the metropolitan economy. It is the busiest in Africa and handles around 60 percent of South Africa's import-export trade and, with the implementation of major expansion plans[13] and efficiency improvement, may emerge as one of the world's leading logistics hubs.

While growth in the Msunduzi Municipality, has been sluggish, there has been spillover growth from the eThekwini Metropolitan Municipality to the North Coast (KwaDukuza), a spike in property development on the South Coast (Hibiscus Coast), and port expansion around Richards Bay (uMhlatuze) to handle increased coal exports.

While the economy of the urban agglomeration has grown comparatively quickly, population growth has declined markedly. Over the period under review, population growth was only 1.5 percent, less than the national average, despite being a metropolitan city. The major downturn occurred during the 2001–2011 census period, with average growth rates half of what they were in the 1996–2001 period. This troubling phenomenon is apparent throughout KwaZulu-Natal and may have to do with the current phase of the HIV/AIDS epidemic.

[12] The anchor tenant for Coega, a nearly R3 billion zinc smelter plant, withdrew, and Coega has been criticised for its capital-intensive nature in a region of high unemployment, but the project has been successfully implemented, and there are reports of growing interest from investors.

[13] There is a massive R250 billion expansion plan that will see port capacity increasing from the current 2.9 million containers to around 20 million containers over the next 40 years.

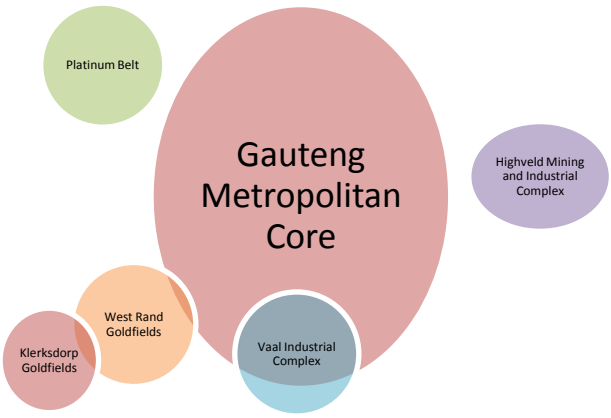
Cape Town Metropolitan Agglomeration

While GVA growth was relatively high, the economy was not labour-absorptive, and unemployment rates for Cape Town displayed an upward trend from 19.7 percent in 1996 to 23.9 percent in 2011. One of the challenges for Cape Town is its industrial structure. With a high proportion of industry in labour-intensive sectors, such as clothing, which is vulnerable to global competition, there have been significant job losses that had not been adequately compensated for by growth in other industries.

The City of Cape Town is the regional giant, but it has been outperformed in relative terms by the West Coast, where there was a splurge of development during the property boom and where there has been industrial and port expansion around Saldanha Bay. In the Boland, or Winelands, however, there has been sluggish growth, as the local wine industry has struggled with the vagaries of the global market, although there has been property development in tourism and in retail and offices.[14]

The Gauteng City Region Urban Agglomeration

The urban agglomeration centred around the Gauteng City Region accounts for more than 43 percent of South Africa's economic output and 27.5 percent of the population. It is the giant in the national economy. Moreover, its relative position in the national economic and settlement structure has been strengthening, with significant gains over the period under review.



The story of this agglomeration is of a generally vibrant and successful core metropolitan area, but with a more complex and uncertain picture around the edges.

The dominating core of this hub is the triad of metropolitan municipalities in Gauteng – Johannesburg, Tshwane and Ekhurhuleni – which alone produced nearly 33 percent of South Africa's GVA in 2011. Between 1996 and 2011, the population of

[14] Overall, the acreage of land under wine-producing grapes has declined since 2006, with the greatest drop in traditional wine-producing areas around Stellenbosch and Paarl, but with expansion in new areas, such as Robertson and Breedekloof (Rawsonville).

this core increased by over 4 million people, an increment equivalent in scale to the entire population of Limpopo, or the combined population of the Free State and the Northern Cape. Only about half of the residents of these three metropolitan municipalities were born in Gauteng, indicating the national (and international) attraction of the area. This core is labour-absorptive, with unemployment rates gradually declining, despite the large population increase. The City of Johannesburg saw official unemployment rates drop from 29.4 percent in 1996 to 24.9 percent in 2011. Growth has occurred largely in the tertiary sectors, and the region has been emerging as a global player in finances and high-end producer services.

The performance of the satellite economies has been mixed. There has been rapid growth on the Platinum Belt, around Rustenburg, but this has been threatened recently by social unrest and by challenges in the platinum market internationally. There has also been growth on parts of the Mpumalanga Highveld, where 80 percent of South Africa's coal is mined and where the electricity-producing, petrochemical and steel industry is concentrated, and around Sasolburg in the northern Free State, where there has been large investment in the expansion of the chemicals industry.

There are, however, places where the economy has struggled. The Vaal Industrial Complex has grown slowly, with rising levels of unemployment, due to global competition and turbulence in world steel markets. The West Rand and the adjoining gold and uranium mining districts in North West have been severely affected by the contraction of the gold-mining industry. Some mining-dependent towns (Randfontein, Carltonville and Klerksdorp) have experienced an absolute decline in the size of the economy.

The overall picture for the urban agglomeration is one of a vibrant centre, driving growth and employment creation in the national economy, with a mix of growth and decline on the edges.

The outer core

The outer core also has a fairly complex structure, although it is far less significant economically than the inner core. Economic growth in aggregate, and in most areas, is less than the national average. The outer core has lost position in relative terms. There is, however, a cluster of relatively high-growth areas. The N1 corridor from Gauteng to the Zimbabwean border appears to be a region with growth dynamism, with towns along this corridor experiencing above-average GVA growth rates. The belt of small towns in the Western Cape around the metropolitan agglomeration is also experiencing higher than average growth.

The towns along the N3 between eThekwini and Gauteng (Newcastle, Ladysmith and Harrismith) are generally not performing as well as those on the N1 corridor. The more scattered towns, off the major corridors, are also experiencing slow rates of growth – on average, less than 2 percent per annum.

The densely populated former Bantustan areas are, with the exception of those in Limpopo, experiencing the lowest rates of economic growth. Under the apartheid era, there was investment in and around homeland capitals, such as Mthatha, Mmabatho, Thohoyandou, Giyani and Phuthaditjhaba, and also industrial development in designated growth points, such as Butterworth. Fairly large urban hubs developed, with populations in the range of 300 000 to 1.2 million. The loss of capital status and industrial incentives has affected these economies, and in the case of Mthatha-Butterworth and Mmabatho, the GVA growth rate in the post-apartheid era has averaged less than 2 percent per annum.

There are also large quasi-urban agglomerations in the former Bantustans around secondary cities, including Polokwane, Mbombela, Rustenburg and the Witbank-Middelburg-Secunda Complex on the Mpumalanga Highveld. These areas are largely dependent on economic growth in the urban core, and on commuting links to the core, although there are some growth spillovers (for example, the trade, construction and retail economies that have developed in the former Bantustan areas because of population density).

Under apartheid, large numbers of people were located just beyond the urban edge, including in these dense agglomerations behind homeland borders. With the ending of apartheid, opportunities emerged for individuals and households to move closer to the core, including new RDP housing, informal settlements and backyard shacks. Although there may be some economic growth in these areas, population growth is very slow, and even negative in some instances. In the areas around Buffalo City, for example, there is negative population growth, while population growth in the sprawling settlements beyond Polokwane and Mbombela is minimal.

Unemployment levels in these edge settlements are high, but have fallen sharply from 1996, mainly as a result of outmigration, but possibly also because of growth in service activities.

Semi-periphery

This is a category of modest economic growth (2.36 percent per annum) and slow population growth (0.94 percent per annum). Among the medium-sized service towns in this category, economic growth is highest in the Western Cape (nearly 3 percent per annum on average). The mining towns in this category also have an average growth of about 3 percent, but that is mainly because of higher-than-average growth in the newly developing minerals complex in Sekhukhuneland. In general, however, the mining towns are experiencing low growth rates. The former Bantustan economies are growing on average by 2.2 percent per annum, buoyed by growth of around 4 percent per annum in a few municipalities where new mining activity is taking place.

Population growth is low across most municipalities in this category, and includes near-zero figures in many former Bantustan municipalities, and negative figures in Free State municipalities and in some parts of KwaZulu-Natal. There are, however, a handful of municipalities in this category where there are local growth pressures (for example, around some of the mining towns in the Northern Cape, at Musina on the Zimbabwean border, across the Western Cape, and in parts of Mpumalanga).

In general, unemployment rates are dropping from a high base in former Bantustan municipalities, and rising in municipalities centred around medium-sized service towns. Again, the reason may have to do with local shifts in the population towards the service towns.

Periphery

The periphery is a category of municipalities with slow overall economic growth (1.63 percent per annum) and very slow population increase (0.69 percent per annum). The variation between municipalities in this category is relatively small, with almost all local economies struggling in the face of a depressed agricultural sector and the effect of outmigration on the service sector.

There is a difference, however, between the small-town, former Bantustan and mining economies in this category. In terms of change in GVA, the former Bantustan economies are experiencing higher growth (2.04 percent per annum) than municipalities centred around small towns in commercial agricultural areas (1.42 percent per annum).[15] However, in terms of population growth, the pattern is reversed, and former Bantustan municipalities have been experiencing very low levels of growth (0.33 percent) when compared with the small-town and commercial farming areas (1.3 percent). The apparent pattern is of higher levels of outmigration from the former Bantustan areas and possibly of some movement within these areas towards the small towns.

Agriculture's growth of 1.6 percent per annum – half that of the national economy as a whole – has dampened the prospects of the small service centres. A negative cycle is established as poor economic prospects lead to outmigrations. This, in turn, depresses the service economy, which depends on a local market.

Deep periphery

The marginal economies in the deep periphery are growing at 1.9 percent (buoyed a little by growth in the small-town economies of the Western Cape), with a population change of just 0.64 percent per annum. These are areas with low population numbers where a natural population increase is only just compensating for outmigration. In some districts of the Eastern Cape, Northern Cape, Free State and

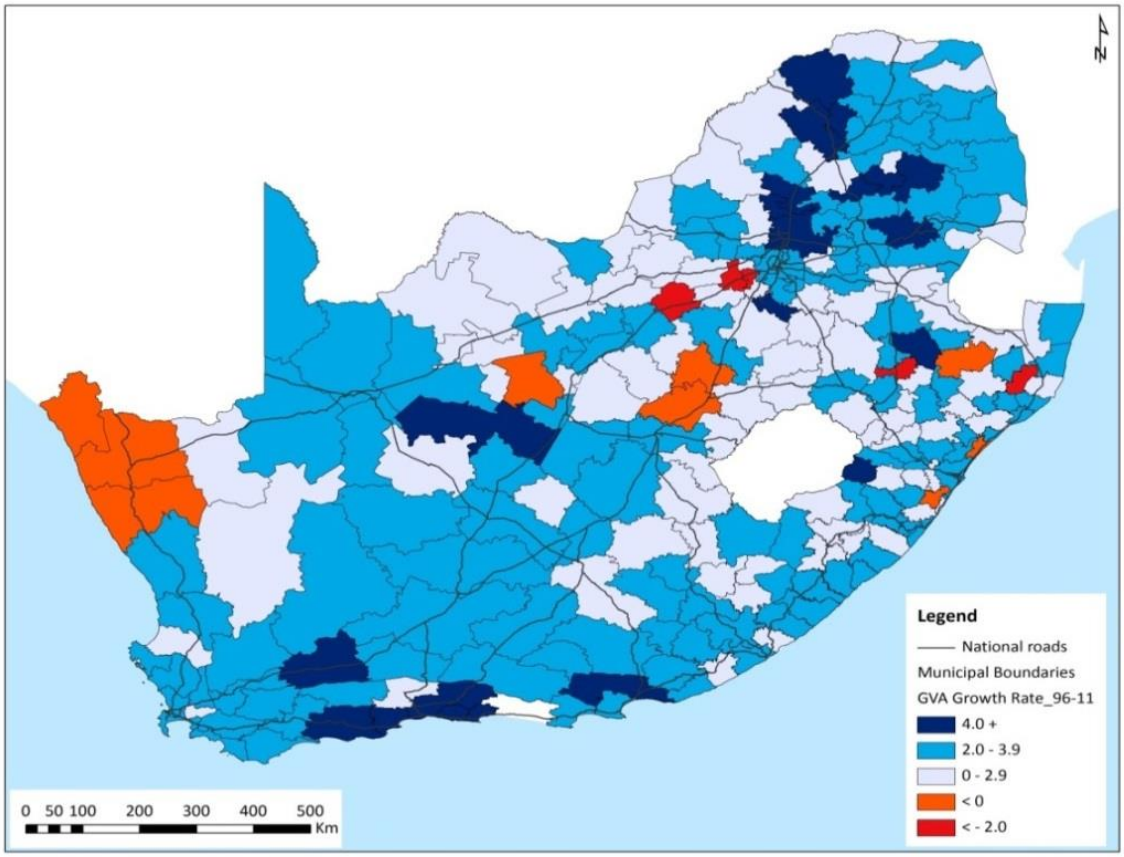
[15] This may have to do with the cash flows into peripheral areas from the equalisation of state grants after 1994.

KwaZulu-Natal, there is an absolute decline in population numbers.[16] The poor performance of these areas mainly has to do with the depressed agricultural economy, and the spiralling effects on service centres of low or declining population numbers.

Exploring growth dynamics in further detail

This section explores growth dynamics across South Africa more closely, using municipalities rather than the broad categories of economic centrality as the units of analysis. Maps 2 to 5 give a visual account of relative growth and decline across South Africa in terms of GVA, population and levels of unemployment.

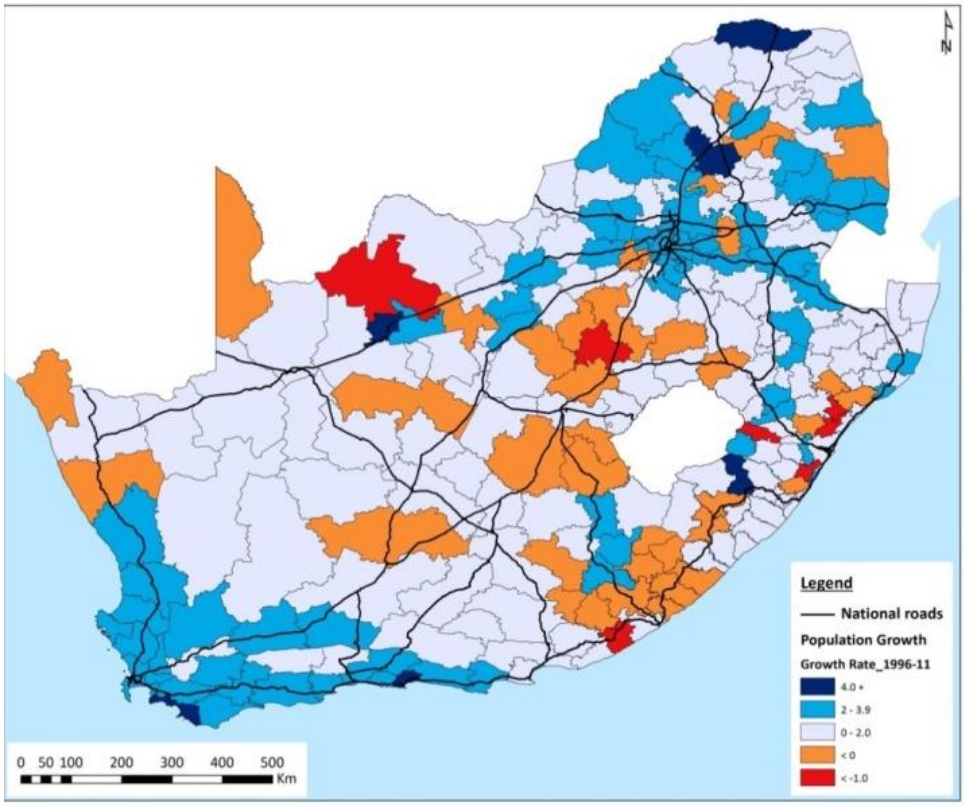
Map 2: Average annual change in GVA, 1996–2011



Source: Mapping by M Maina, using data from IHS Global Inssight

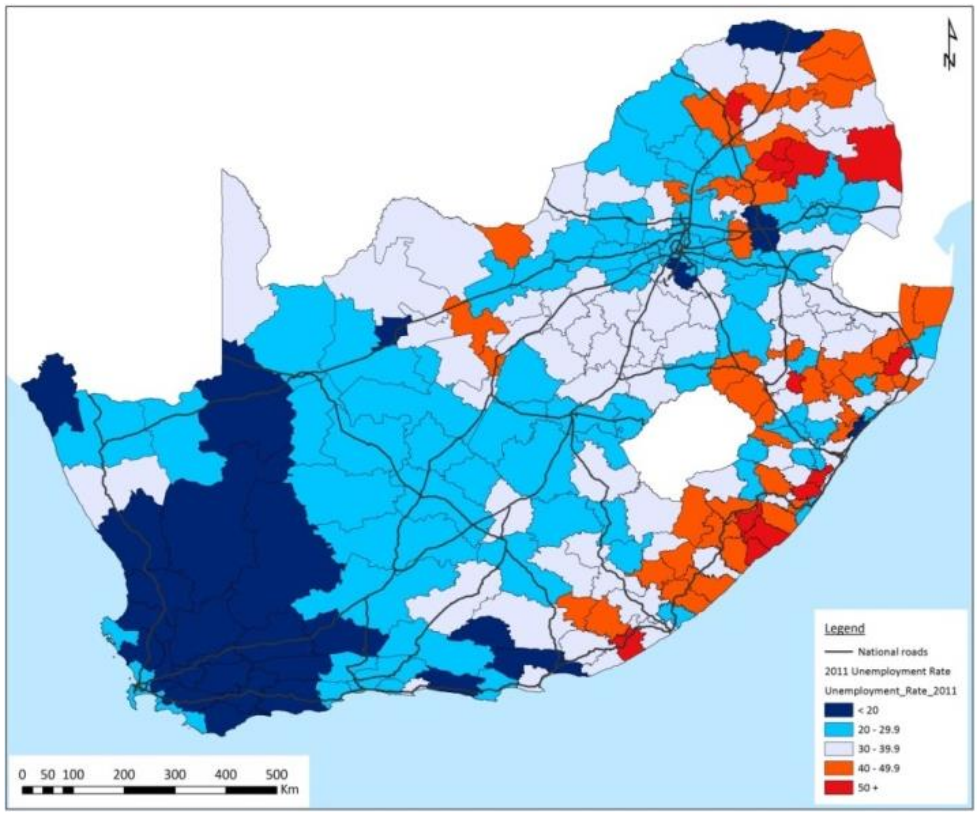
[16] For example, Tsolwana (Tarkastad), Nxuba (Adelaide), Naledi (De Wetsdorp), Siyancuba (Douglas), Impendle and Nkandla.

Map 3: Annual average population growth, 1996–2011



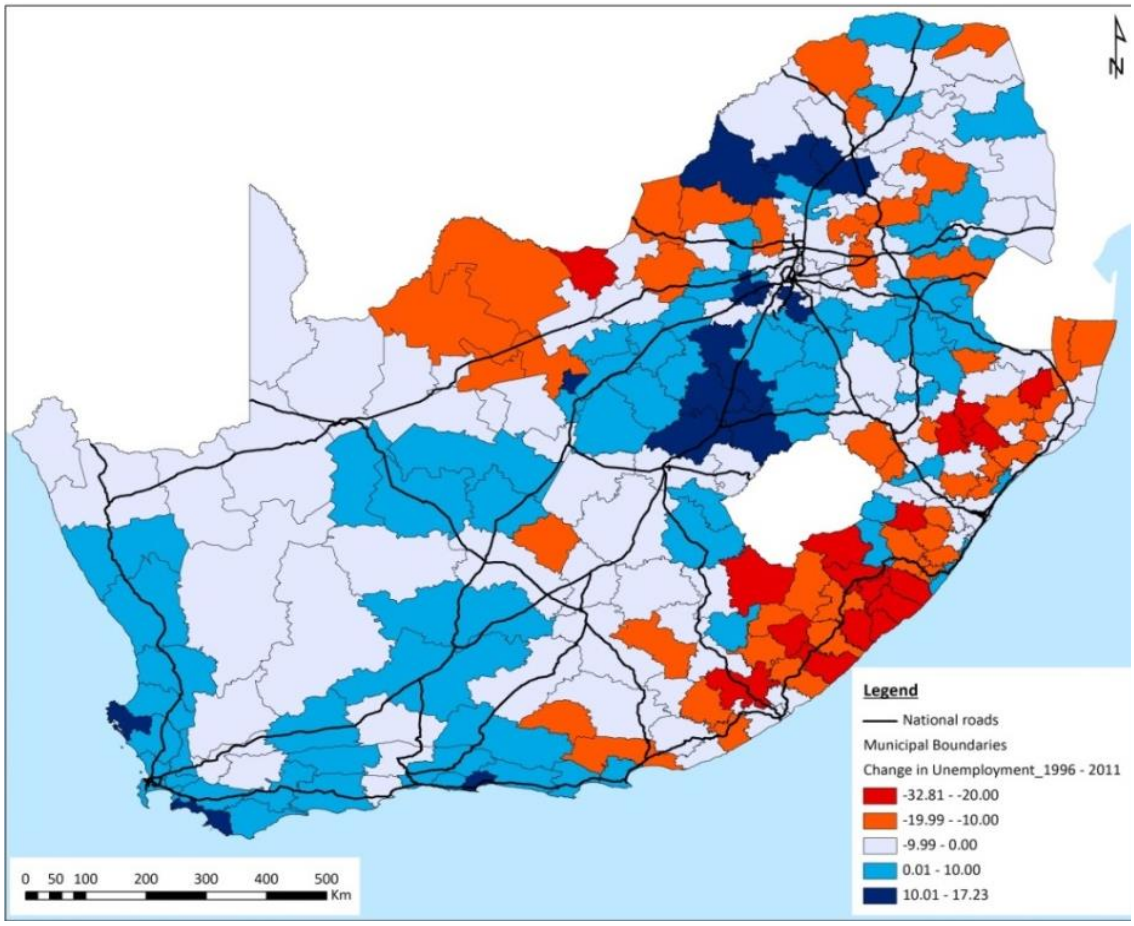
Source: Mapping by M Maina, using data from Census 1996 and Census 2011

Map 4: Unemployment rates per municipality, 2011



Source: Mapping by M Maina, using data from Census 2011

Map 5: Changes in unemployment, 1996–2011



Source: Mapping by M Maina, using data from Census 1996 and Census 2011
Growth

Map 2 reveals that there has been some GVA growth across most municipalities in South Africa, although generally at very modest levels. In relative terms, the areas of high GVA growth (above 4 percent per annum) include the following:

- The core of the Gauteng City Region (with some extensions of growth, such as Sasolburg in the Free State and parts of the Mpumalanga Highveld)
- A corridor of growth from Gauteng leading northwards into Limpopo
- A scattering of mining districts in parts of Limpopo, Mpumalanga and the Northern Cape (especially the Waterberg and the eastern limb of the Platinum Belt) in the north of Limpopo
- The Tourism Belt of the Cape South Coast
- A few scattered municipalities (such as Greater Kokstad) on the boundaries of former Bantustans benefitting from trade with dense rural areas
- The edge of the Nelson Mandela Bay metropolitan area (Sundays River Municipality)

Much of this growth comes from a low base and is not of major significance in national terms, with important exceptions such as Gauteng. In absolute terms, the

major growth is still in the large metropolitan municipalities – the Big Five (Johannesburg, Cape Town, eThekwini, Tshwane and Ekurhuleni) – which together accounted for 63 percent of the growth in GDP between 1996 and 2011.

Map 3 illustrates population growth. There is a correlation between economic growth and population growth, although population growth is generally slower than economic growth, and there are some peculiarities in demographic change.

Population growth is high in Gauteng and the Western Cape, where the levels of inmigration are greatest. In Gauteng, there are a few exceptions, most significantly the West Rand and Vaal Industrial Complex, where growth is slower, even negative. In the Western Cape, there is a spread of relatively rapid growth across the metropolitan core and smaller towns. A few secondary cities (notably Polokwane and Mbombela) have experienced relatively rapid growth, as individuals and households moved into the cities from surrounding peri-urban areas. Elsewhere, growth reflects localised factors, such as new mines (e.g. Kathu), transnational migrants (e.g. Musina) and movement across the boundaries of former Bantustan areas (e.g. Kokstad).

In general, unemployment rates are highest in the former Bantustan areas and lowest in the Western Cape, followed by Gauteng (Map 4). However, unemployment levels are showing a downward trend in many former Bantustan municipalities – not because of economic growth, but rather because of outmigration and a decline in the relative proportion of individuals in the economically active age category. There is a modest drop in unemployment in municipalities in Gauteng, and in eThekwini, among other places, where job creation is slightly ahead of inmigration.

Declining numbers

Although most municipalities have shown some economic growth over the period under review, there are places of absolute decline. These are mainly in mining areas, including the goldfields of the northern Free State, the West Rand and North West in particular, but also the diamond-mining municipalities of the Northern Cape, and the coalfields of KwaZulu-Natal. Perhaps more worrying is the large swathe of low growth across much of the central interior of South Africa – including much of the Free State, Eastern Cape, North West and KwaZulu-Natal – which is associated with the poor performance of agriculture.

Significantly more municipalities reveal negative or low growth in population. Areas of particular concern are the Free State, Eastern Cape and KwaZulu-Natal. Outmigration from the Free State has to do with the troubles in mining and agriculture, and the Eastern Cape is losing its population in former Bantustan districts and remote commercial farming areas. In KwaZulu-Natal there has been a sharp drop in population growth rates that may have to do with both increased outmigration and high death rates owing to HIV/AIDS. There is also low and negative

population growth in municipalities across much of the Northern Cape (although base numbers are small) and in the former Bantustan districts of Limpopo, Mpumalanga and North West.

As indicated, the effects of migration mean that there is no direct correlation between local job creation and unemployment trends. Unemployment is displaying an upward trend in some places of economic crisis (such as the Free State), but also in parts of the country where the economy is relatively vibrant, but where the inflow of population exceeds job creation (such as the Western Cape).

Special cases

Municipalities in former Bantustan and mining areas present special cases for regional development. In general, the former Bantustan districts remain marginal to the mainstream economy, and there is outmigration, but the picture is complicated by a high degree of differentiation (some areas are extremely remote and outside the mainstream of the urban economy, while other areas are urban or peri-urban).

There is a reasonable level of economic growth in some of these municipalities (e.g. along the eastern and western limbs of the Platinum Belt) and in areas of high density where the sheer size of the population has stimulated local economies. However, across almost all former Bantustan municipalities, there is outmigration as individuals and households are able to move into areas that offer greater job and livelihood opportunities (a metropolitan city or secondary or even a small- or medium-sized town beyond the borders of the former Bantustan areas). Makgetla (2009) reported a drop from 43% in 1995 to 38% in 2009 in the proportion of the total national population living in former Bantustan areas.

Mining areas are also a special case. When a mine is established, there is often a local boom, creating growth pressure that must be managed, but mine closures are associated with the decline or even collapse of local economies unless the local economies have diversified during the life of the mine.

Overall, mining has not performed well in South Africa, growing at a marginal 0.08 percent per annum, and one might have expected municipalities and urban hubs with mining economies to have performed poorly. One does, however, have to look more closely at individual cases.

Of the big regional mining economies, the West Rand and Free State Goldfields are in decline, bringing a host of social and environmental problems. The Platinum Belt around Rustenburg has experienced strong growth, but now faces problems in the global platinum market, and in the area of labour relations locally. There is a strong demand for coal to support South Africa’s local energy market. This, together with the coal demand from Asia, is sustaining the coalfields, but the focus of coal mining will shift to the Waterberg in Limpopo. In the long run, the global transition away from

fossil fuels will impact on South Africa's coal-mining sector. The Waterberg presents a special challenge in terms of planning and coordinated development.

Elsewhere mining economies are small, and there is a mix of performance. Coal mines in KwaZulu-Natal, for example, have shut down, with Dannhauser's economy halving in size. However, around Mpumalanga and Limpopo towns such as Lydenburg, Steelpoort, Burgersfort and Tubatse, new mines are opening and there are local growth pressures, as is the case with places like Kathu and Kuruman in the Northern Cape. Medium-sized mining economies, such as Thabazimbi and Ba-Phalarborwa, have sustained their operations over the period under review, but future sustainability and economic diversification require careful consideration.

Summary

Although the space economy of South Africa is complex, the overwhelming picture is of a high and increasing level of economic concentration in a few localities. It is only in the inner core of South Africa that there is a relative gain in economic output, and even in this core, economic output is becoming more concentrated in the three dominating metropolitan agglomerations. There are, however, scattered localities in more peripheral areas where GVA is growing rapidly, although generally from a low base.

The population distribution in South Africa has, historically, been more dispersed than its economic output, largely because of colonial and apartheid rule, which kept large numbers of people within the "reserves" or "homelands". This is changing as individuals and households are able to move into areas of greater economic opportunity. Again, the pattern is that of a huge concentration in the large centres, with other areas of growth including the Platinum Belt and a few secondary cities.

2.2.5 Intra-urban change

The third scale is what happens **within** a municipality. This is the scale that matters most in the daily lives of people. Intra-urban spatial patterns affect people's ability to access jobs, livelihoods and services, and impact directly on the household budget.

A comprehensive review of what has happened in towns and settlements is far beyond the scope of this review, but it does identify a few key dimensions of intra-urban spatial development, and uses illustrative examples from a selected number of municipalities. Further detail will be provided by way of the research inputs for the preparation of the IUDF, which is currently underway and which is coordinated by the Department of Cooperative Governance and Traditional Affairs. The processes explored below are as follows:

- Urban densification
- Socio-spatial integration
- Private sector-led investment on the urban edge
- Partnership-led inner city rejuvenation

- Public housing investments
- Informal accommodation
- Transformation in historically black townships
- New systems of public transport

The review shows that there has been significant transformation over the period under review, although apartheid spatial structures have shown more resilience than anticipated. A brief, concluding discussion is provided of why it has been so difficult to change the underlying structure of the apartheid city.

Urban densification

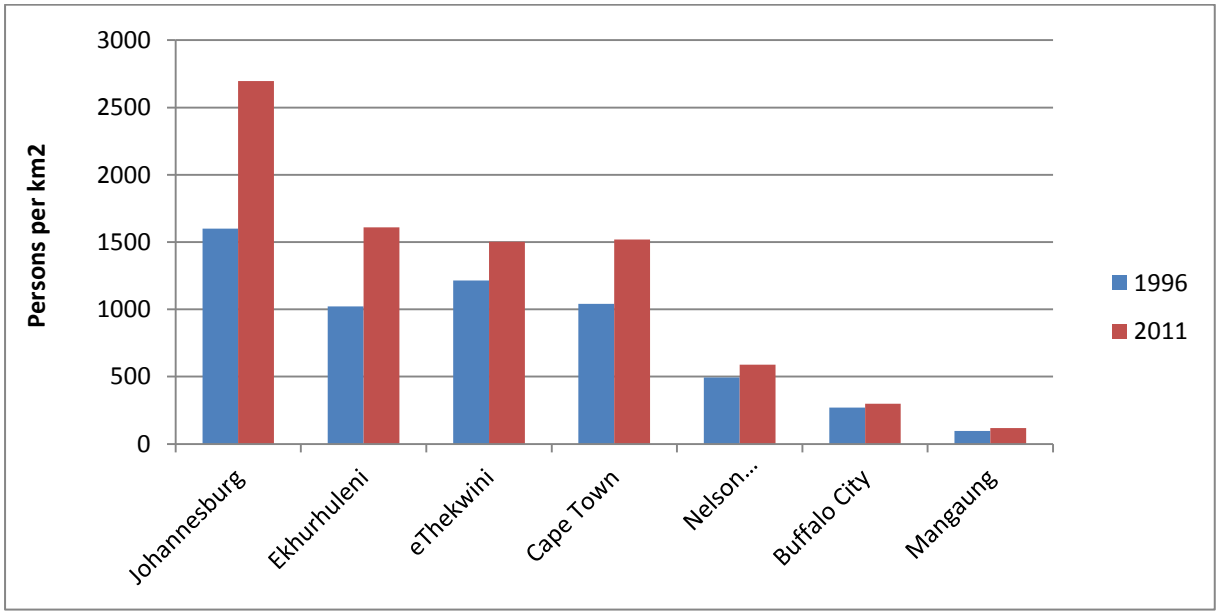
The densification of South Africa's towns and cities was one of the key objectives for spatial change from the very beginning of the democratic era (National Department of Housing, 1997; Todes, 2006). Densification has the advantage of reducing the cost of providing infrastructure, supporting public transport, increasing economic and social vibrancy, reducing carbon emissions, protecting agricultural land and biodiversity, and reducing the time and cost of travel. It must, however, be properly managed to ensure that increased densities do not lead to slum conditions and do not increase the burden on the poor through increased land and housing costs.

It is commonly stated that South Africa has low-density, sprawling and inefficient cities in international terms, and that cities continue to sprawl outwards in the same pattern. The question that requires an answer is whether this characterisation is accurate.

The simplest way to measure density change is to divide the total population of municipalities into land areas for census years. This is a crude measure of gross density, but gives some indication of change (see Figure 13). In terms of change in gross density, Johannesburg leads the way, with a considerable 68.4 percent increase. Buffalo City, by contrast, had a density increase of only 12.8 percent.

The problem with this measure of gross density is that it does not take account of the extent to which land within municipalities is built up. The boundaries of Johannesburg, for example, are drawn fairly tightly around the built up area, while in the case of Mangaung, the boundary incorporates a large tract of land which is not built up.

Figure 13: Change in the gross density of major urban municipalities in South Africa (measured as persons/km^2)[17]



Calculated using data from Census 1996 and 2011 (Statistics South Africa, 1998 and 2012) and area calculations provided by the respective municipalities.

To compare densities on built up land only, Landsat Imagery, aerial photography or point mapping of individual buildings is required. The analysis required is beyond the scope of this review, but the *Atlas of Urban Expansion,* produced by Angel et al. (2012) for the Lincoln Institute of Land Policy, is used to give a comparative perspective on the net densities of South African cities in relation to cities globally. The atlas uses population data and Landsat Imagery to determine the density changes in the built up area for 120 large cities globally, including Pretoria (the core of Tshwane) and Johannesburg in South Africa. The data, however, relates only the first half of the period under review (circa 1990–2000). This data has been supplemented with an analysis of density changes in the built up area of Ekurhuleni, using data for the period 2001–2009.

South African cities are within the lower range of measured densities in the analysis of Angel et al. (2012). The highest densities are in cities in South Asia and North Africa, which, in some instances, exceed the densities of Johannesburg and Pretoria by more than ten times. Sub-Saharan African and Latin American cities generally also have densities significantly greater than those of South African cities, although mainly in the range of two to three times greater. South African cities do, however, have densities that are comparable to some European cities and that are at least twice that of many North American cities.

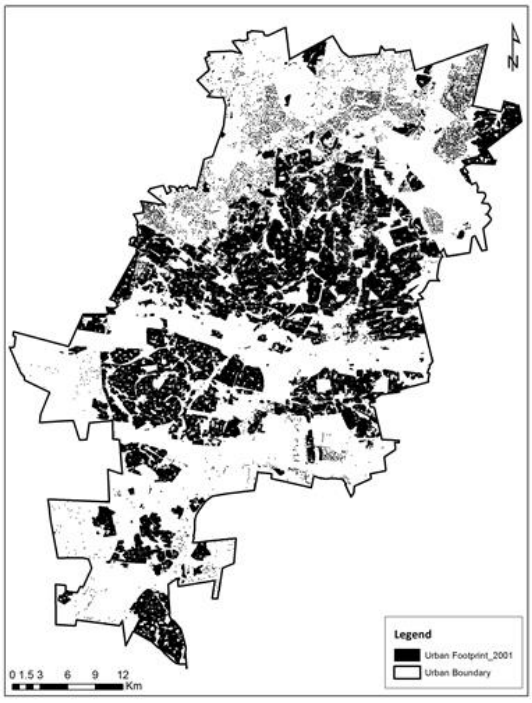
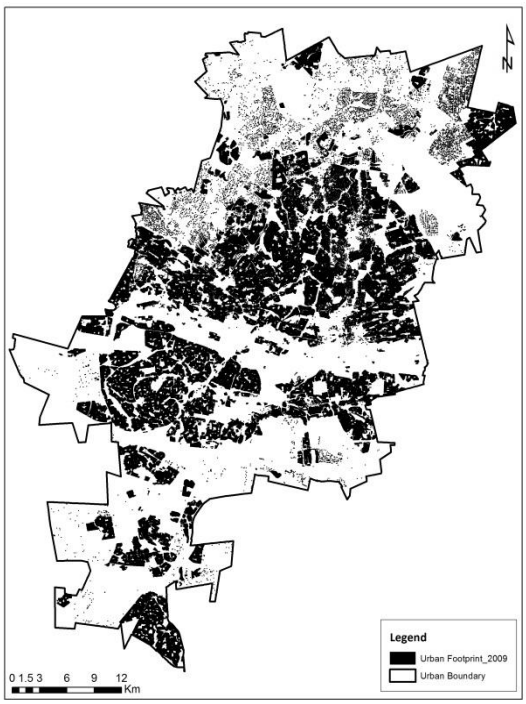
[17] Note: Tshwane is excluded from the figure, as significant boundary changes between the census years make comparability difficult.

Significantly, almost alone in the world, the densities of large South Africa cities are increasing and, arguably, over time, large South African cities will have densities approaching those of cities in Europe and Latin America.

Density increases are occurring as apartheid barriers crumble, and individuals and households are able to move closer to the urban core. Many of the density increases may be taking place informally in backyard shacks[18] and due to the higher occupancy of existing buildings (such as in inner-city precincts), but there is also formal densification through processes of subdivision and rezoning, and also through higher densities in new built areas.

Our analysis of density changes in the City of Johannesburg is based on Geo Terra Image (GTI) Growth Indicator Data for 2001 and 2009. Population estimates for 2009 are attached to the points provided in the data base, and the estimated extent of the built up area is calculated by creating a buffer of 50 metres around each formal and informal building. In this way we are able to measure the *actual* urban footprint rather than using the crude measure of the municipal area.

Map 6: Calculation of Built up area and densities for the City of Johannesburg, 2001-2009

2001	2009
	
Dwelling units – 561 000 Total population 2001 – 3.23 million Built up area – 580 km^2 Density of built up area – 5575 persons/km^2	Dwelling units – 645 000 Estimated total population 2009 – 4.16 million Built up area: 642km^2 Density of built up area: 6479 persons/km^2

[18] In the late apartheid era and the transitional years of the 1990s, many of the densities may have increased through land invasions and informal settlement development, but the shift in the informal sector is increasingly towards backyard shacks.

The Map indicates a population change for Johannesburg of 29 percent between 2001 and 2009. However, at the same time, the built up area in the municipality expanded by 10.7 percent. The population growth was significantly greater than the expansion of the urban footprint and so densities did increase – by 16.2 percent. This confirms that densification is happening with the built up areas of South Africa's large cities, and is not only happening as a gross increase within municipalities.

The impact of this densification must still be investigated. South Africa's household income and expenditure surveys, for example, suggest that household expenditure on transport in urban areas has declined modestly,[19] but the link between this gain and densification has yet to be investigated.

Socio-spatial integration

One of the stated objectives of the Urban Development Framework (Department of Housing, 1997) was the development of settlements that were "spatially and socio-economically integrated, free of racial and gender discrimination". In practice, relatively little attention has been given to the realisation of socio-spatial integration, with the focus mainly on issues of spatial integration.

The process of developing legislation on "inclusionary housing" – which would require new housing development to incorporate a mix of income groups – has been slow, and mixed housing developments are still the exception.[20] However, there have been "spontaneous" processes of socio-spatial integration in South African cities. There has been some analysis of the levels of integration for the period 1996 to 2001, but the data from Census 2011 is still to be properly analysed. Selzer and Heller (2010), for example, reveal a dramatic outmigration of professionals from Soweto towards the wealthier northern suburbs of Johannesburg from between 1996 and 2001.[21]

In the tables below, an attempt is made to provide an initial assessment of the changing levels of racial integration by ward in two metropolitan municipalities (Johannesburg and Cape Town) and in a secondary city (Mangaung).Table 2 reveals a complex story in relation to socio-spatial integration. In Johannesburg, there has been an increase in the percentage of wards that reveal extreme levels of racial uniformity. [22]

[19] According to the 2010/11 survey, households in formal urban areas spend 17.1 percent of their income on travel, with households in urban informal areas spending 16.2 percent. This was down from a 20.8 percent expenditure on transport in urban areas (formal and informal combined) indicated in the 2005/06 survey.

[20] The few attempts by specific municipalities to implement mixed-income housing developments include Cosmo City and Pennyville in Johannesburg, Wonderpark Estate in Tshwane, Amalinda in Buffalo City, Thornhill Estate in Polokwane and Hull Street in Sol Plaatjie (Landman, 2012).

[21] However, because of upward mobility among residents remaining in Soweto, the township was not denuded of a middle class.

[22] Wards are not an ideal measure, as the levels of integration partly depend on the way boundaries are drawn, but change over time gives an indication of shifting patterns of socio-spatial integration.

Table 2: Levels of racial integration by ward in Johannesburg, Cape Town and Mangaung

Level of racial segregation	1996 Census			2011 Census		
	Johannes-burg	Cape Town	Mangaung	Johannes-burg	Cape Town	Mangaung
Extreme segregation: percentage of wards with more than 90% of one race	48.7	50.0	76.8	54.6	37.8	69.5
High segregation: percentage of wards with 70–89% dominance of one race	22.0	22.0	18.6	12.3	21.6	12.2
Moderate segregation: percentage of wards with the dominant race accounting for 50–69% of the population	23.8	23.0	2.3	22.3	32.4	16.3
Low segregation: percentage of wards with no race group having more than 50% representation	5.5	5.0	2.3	10.8	8.2	2.0

The reason for this is that wards in historically black townships remain almost exclusively black, while new black enclaves have emerged in and around the inner city, including previously white working-class suburbs. Integration has, however, been occurring in previously white middle-class suburbs. Under apartheid, these suburbs were around three-quarters white, with around a quarter of the population comprising black Africans living in domestic accommodation in backyards. Currently, many of these suburbs are less than 60 percent white, with a growing number of wards having no numerically dominant race group. This has largely to do with the movement of the black middle class towards the suburbs. Previously Indian and Coloured areas are also showing processes of desegregation.

Historically, levels of high and extreme segregation in Cape Town were slightly less than in Johannesburg because the large Coloured community overlapped in places with white and African communities. Since 1996, there has been a further decline in levels of extreme segregation, with the proportion of Coloured people in previously Coloured townships declining from levels of around 90 percent to around 60 percent. As with Johannesburg, black African areas have remained almost exclusively black, but there has been a level of desegregation in historically white suburbs, although not to the extent that is evident in Johannesburg.

In 1996, Mangaung was a far more racially segregated city than either Johannesburg or Cape Town, and it still is. However, there has been a modest decline in wards that are racially uniform, and an increase in wards that are only moderately segregated. This may be indicative of higher levels of segregation in South Africa's secondary cities, but further research is required to confirm this.

Private sector-led investment on the urban edge

Turok (2012: 43-44) concluded that "private investment patterns tend to follow affluence", leading to low-income areas "being trapped in a kind of low-level equilibrium with little dynamism". With the notable exception of mall developments in townships, this is the dominant pattern in South Africa's towns and cities.

Over the period under review, property investments have been both temporally and spatially concentrated. Between 2001 and 2007, for example, there was a construction and property boom, as the expanding middle class was able to access credit at low interest rates. Property prices were rising at around 25 percent per annum and the splurge of new developments had a major effect on the spatial development of cities. The value of building plan approvals in South Africa by month had peaked at R12 billion by January 2008 (Statistics South Africa, 2013).

The property market slumped dramatically in 2008, as the global financial crisis made it difficult for firms and households to access credit. The value of approved building plans had slumped to R4.5 billion by January 2010. By 2013, however, property markets had stabilised, but macroeconomic conditions were still uncertain, with full recovery remaining elusive.

Property investment was also spatially concentrated between municipalities. In 2010, five municipalities (Cape Town, Tshwane, Johannesburg, Ekhurhuleni and eThekwini) accounted for 62.6 percent of the value of all approved building plans, and the top ten accounted for 72.9 percent. The greatest concentration was in the office and banking sector, where the top five accounted for 83.3 percent. There were some notable concentrations, such as office and banking in Tshwane and eThekwini, and industry in Ekhurhuleni, Cape Town and eThekwini.

Table 3: Top ten municipalities in terms of the value of building plans passed, 2011

Municipality	Residential	Retail	Office and banking	Industry and warehousing	Total
Tshwane	15.8	8.7	39.6	10.3	16.1
Cape Town	12.2	11.6	11.1	17.2	14.5
eThekwini	8.1	10.6	18.3	20.6	12.8
Ekhurhuleni	12.9	3.5	2.6	17.6	11.5
Johannesburg	8.6	7.2	11.7	0.4	7.7
Nelson Mandela Bay	1.7	2.9	2.6	2.9	2.5
KwaDukuza	4.2	3.1	1.3	5.2	2.4
Steve Tshwete (Middelburg)	1.9	13.9	0.2	1.7	2.0
Mangaung	2.3	3.4	0.3	0.7	1.9
Polokwane	2.2	0.3	0.2	1.9	1.5
All other municipalities	30.1	34.8	12.1	21.5	27.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Adapted from Statistics South Africa, 2013

Data on building plans (Statistics South Africa, 2013) reveals a high spatial concentration of investment in a selected number of places **within** the large cities, and mainly in places linked to areas of affluence, although there are attempts by municipalities to make linkages with poorer communities.

In eThekwini, 57 percent of the value of approved building plans in office and banking is in the northern district of the city, while 61.5 percent of the value of approved plans in retail was in the outer west of the city. Most of the new office developments in eThekwini over the past decade have occurred along Umhlanga Ridge, 25 kilometres north of central Durban, on former sugarcane fields. [23]

This development relates strongly to a belt of affluence along the coastline, although it is within commuting distance of informal settlements and townships inland of the ridge. Furthermore, there have been recent attempts to make spatial connections with these communities (such as the Bridge City development).

In Cape Town, 87.5 percent of office and banking development and 75 percent of retail was in the northern and Blaauwberg districts along a growth axis that was established when the Century City development was opened in 2000. This axis will be reinforced with the proposed multibillion rand Westcape development. Although this axis directs large-scale private development away from the dominant concentration of the urban poor in Khayelitsha and Mitchell's Plain, it connects with the previously marginalised communities of Atlantis.

In Tshwane, 81 percent of approved office and banking development and 74 percent of approved plans for industry was in the southern region, around Centurion, although retail development was more evenly spread, focusing on the east and northeast. This pattern will be reinforced with new mega developments, including Symbio-City in Centurion. Again, there is a disjuncture between population concentration and privately funded development, with the bulk of the urban population and the overwhelming preponderance of the urban poor in the north of Tshwane, in Mamelodi, Mabopane and the Winterveld.

While the plans by metropolitan municipalities to spatially integrate cities and connect wealthier and poorer areas should be acknowledged, the overall pattern of private development in large cities is a cause of concern from a spatial equity perspective, as it is generally disconnected from the major concentrations of poor people.

[23] The Umhlanga Ridge was developed by Moreland Estates, owned by the Tongaat Hulett sugar group, and links with the development of the new King Shaka Airport and Dube Tradeport, and also with the broader development corridor between Durban and Richards Bay.

Partnership-led inner city rejuvenation

While private sector-led development on the urban edge has been a powerful trend throughout the period under review, there have been counter-processes, including inner city redevelopment.

In the 1990s, many inner cities went through a troubled period, as formal business left for decentralised urban nodes. In the most extreme cases, such as Johannesburg, the primary function of the historic central business districts (CBDs) changed from business to a mix of high-density residential and informal activity. The rising densities in the inner city allowed a growing number of people, especially the urban poor, to move closer to the core of the city. The change was, however, poorly managed, with slumlords dominating the residential sector, and the management of the building stock deteriorating.

By the end of the 1990s, a number of initiatives had been launched to address the decay, generally involving private sector-led partnerships. Local government became increasingly involved from around 2000, and new models of engagement between the public and private sectors emerged. From around 2003, there was evidence of recovery in inner city property markets, and refurbishment of the deteriorating building stock. However, in the process of regeneration, many occupants of these buildings were displaced, with evictions provoking long legal battles.

The 2008 economic downturn affected inner city development, with office vacancies rising once more after a steady decline since 2003, and property price increases levelling out.[24]

Table 4: Comparison of inner-city precincts[25]

Municipality	Population, 2011	Office vacancy rate for all grades of office in Quarter 4, 2012 (percentages)
Johannesburg	236 682	17.4
Cape Town	89 231	13.1
Tshwane	92 822	8.4
eThekwini	57 771	20.8
Nelson Mandela Bay	21 026	22.5

Source: Statistics South Africa 2012 and the South African Property Owners Association, 2013

Johannesburg has the largest and most complex inner city of all South African cities. There was a massive capital flight in the 1990s, but in the 2000s, local government provided considerable resources to the inner city, including through the Johannesburg Development Agency (JDA). There has been tension in the rejuvenation process, with high-profile legal contests on the displacement of inner-city residents, but since 2006, when the Inner City Charter was launched, revitalisation efforts have been led by a broad-based Inner City Partnership. There

[24] For example, in 2003, rentals in inner-city Johannesburg were less than R20/m^2, but trended upwards sharply after that, reaching nearly R70/m^2 in 2008 before flattening out in the wake of the global financial crisis.

[25] The definition of the inner-city boundary is contentious. In this table 15, the inner city was defined liberally to include the historic CBD and high-density surrounding residential areas.

are now 236 000 people in the inner city, with around 800 000 commuters entering the area each day. With this population, pressure management is a key challenge.

In the last quarter of 2012, the percentage of office vacancies for all types of offices was 17.4 percent, indicating the effects of the global slowdown.[26] The Cape Town Partnership has made a real difference to the inner city, and is now spearheading a R30 billion rejuvenation plan. However, Cape Town has also been affected by the global slowdown and the office vacancy for all grades of offices in the last quarter of 2012 was a relatively high 13.1 percent. Cape Town's longer-term success has been a steady increase in business densities in the inner city, with residential densities also increasing, although from a low base. The CBD has emerged as a 24-hour zone, with a high concentration of international call centres, and growing clusters of small- to medium-sized firms in sectors such as legal services, finances and accounting, the creative industries, media, and information and communication technology (ICT).

The Durban CBD has been the focus of the Inner Thekweni Regeneration and Urban Management Programme (iTRUMP), one of the city's priority area-based initiatives. There have been major successes with flagship developments, such as the Convention Centre, Beachfront Upgrade and Point Redevelopment, which have secured eThekwini's premier position in international conferencing and local tourism. However, the Durban CBD has been affected by major out-of-town developments, including the one along Umhlanga Ridge. The office vacancy rate for Quarter 4 of 2012 was 20.8 percent, which was higher than that of Johannesburg.

Tshwane 2055 is a recently released strategy for the revitalisation of the old Pretoria CBD. It is also strengthened by Re Kgabisa Tshwane, a programme of national government that recognises the symbolic significance of this capital city. Although the inner city competes with developments in Centurion and in the eastern suburbs, it has shown a good degree of resilience, supported by the presence of government offices. In Quarter 4 of 2012, office vacancy rates were only 8.4 percent, although the value of office space per square metre was less than in the cities where private-sector firms dominate.

The Nelson Mandela Bay Municipality has also developed a vision for the revitalisation of inner-city Port Elizabeth, and established the Mandela Bay Development Agency as a municipal entity. It has had some success with local precinct regeneration, but faces an enormous challenge in a city with extreme unemployment and a relatively small rates base. At 22.4 percent, office vacancy rates in central Port Elizabeth are the highest of the major metropolitan centres.

[26] Office vacancies are calculated on a quarterly basis by the research division of the South African Property Owners Association (SAPOA).

The challenge of ensuring "inclusive regeneration" remains for all metropolitan municipalities. While it is necessary to protect the value of the enormous asset investment in the inner cities and to recognise the symbolic and economic importance of these central areas, municipalities should also embrace the role of the inner city in providing livelihoods, access to other urban opportunities, and accommodation to growing numbers of people, including the urban poor and new entrants to the city. A specific task beyond the period under review is to find a model for providing sustainable and affordable rental accommodation in the inner city.

Public housing investments

The National Housing Programme is one of the major outcomes of the RDP and is one of the main instruments government has had to reshape urban form. The programme has been successful in delivering affordable housing at scale, but has been widely criticised for spatial outcomes. The housing subsidy has encouraged further development on the urban edge by tacitly incentivising developers to seek out lower-priced land, which tends to be in peripheral locations. The programme has also been criticised for a failure to produce integrated and sustainable human settlements, and quality environments, as a result of its dominant focus on the delivery of top structures. As the NDP puts it, "unwittingly, post-apartheid housing policy had reinforced apartheid geography" (National Planning Commission, 2012: 268).

The Breaking New Ground Policy of 2004 responded to criticism by arguing for a "broader vision of sustainable human settlements and more efficient cities, towns and regions" and for "utilising housing as an instrument for the development of sustainable human settlements in support of spatial restructuring" (National Department of Housing, 2004). This policy shift was reflected in the change of name from the Department of Housing to the Department of Human Settlements. While the policy shift is clear, changes on the ground in relation to the form and location of settlements have taken longer to materialise. The National Development Plan argues as follows (National Planning Commission, 2012: 268–270):

- Despite the efforts, many housing projects do not create efficient urban spaces.
- There is a disproportionate number of new houses in areas of little and/or no growth.
- In general, the focus remains on housing rather than on developing quality environments for low-income communities, supported by the necessary physical, social and environmental services.
- Municipalities continue to focus on providing individual ownership units where it is easy to meet numerical targets. Policy and funding instruments for affordable inner-city housing have not been accessible.

It appears that, the Breaking New Ground Policy notwithstanding, there is still some distance to travel in addressing the spatial aspects of housing delivery. The NDP

proposes that the existing grant and subsidy regime for housing should be urgently reviewed with a view to accomplishing the following (National Planning Commission, 2012: 287):

- Ensure that state funding does not support the further provision of non-strategic housing investments in poorly located areas.
- Prioritise development in inner cities and in other areas of economic opportunities such as around transport hubs and corridors.
- Progressively shift state support from only providing top structures to investing in public space and public infrastructure.

Currently, a process is underway to produce a new white paper on human settlements, and it is anticipated that there will be an expansion of the above principles through a reform of the instruments for housing delivery.

In analysing the spatial impact of housing delivery on urban areas, the challenge is that no data is available on the spatial location of housing subsidies. The figures of the Department of Human Settlements are only at the provincial level. In total, 3 244 715 housing opportunities were provided through the programme between 1994 and 2011. These opportunities comprised 2 493 650 housing units and 751 065 sites. Table 5 indicates the allocation by province, making a comparison with the distribution of population and jobs.

While this analysis does not deal with the fine details of the spatial distribution of housing opportunities between and within municipalities, it points to a level of spatial disjuncture in the allocation of subsidies. In terms of population distribution, there is a reasonably close correlation with subsidy allocation, but less so in relation to the distribution of jobs. In broad terms, there is an under provision of housing subsidies in provinces where there is the highest concentration of jobs, and where job creation is fastest. This may at least partially explain the persistence of informal settlements in these areas.

Table 5: Delivery of housing opportunities by province, 1994–2011

Province	Percentage of housing opportunities	Percentage of jobs		Percentage of population	
		1996	2011	1996	2011
Eastern Cape	11.6	8.6	7.8	15.1	11.2
Free State	6.6	7.7	4.9	6.5	5.3
Gauteng	25.9	29.4	33.9	19.3	23.7
KwaZulu-Natal	15.8	17.4	15.5	21.1	19.8
Limpopo	7.9	6.0	6.7	11.3	10.4
Mpumalanga	6.9	6.8	7.4	7.7	7.8
Northern Cape	2.3	2.5	2.1	2.5	2.2
North West	9.9	6.5	6.4	6.7	6.8
Western Cape	13.0	15.1	15.3	9.7	11.2

Sources: Department of Human Settlements and Statistics South Africa (1998 and 2012)

The challenge for the future is to align state-funded housing more closely with patterns of job creation at all scales, from the national to the intra-urban level.

Informal accommodation

Over time, there has been a decrease in the proportion of South Africa's population living in informal accommodation, although there has been a continued increase in absolute terms. The biggest decline nationally has been in the reduction of traditional dwellings, from 18.3 percent of the total in 1996 to 7.9 percent in 2011. There has, however, also been a modest reduction in the occupation of shacks or informal dwellings, from 16.2 percent to 13.6 percent. Combined, the proportion of traditional and informal dwellings has dropped from 34.5 percent to 21.5 percent.

Within the broad category of informal dwellings, there has, however, been a shift towards backyard shacks; from 29.6 percent of the total number of informal dwellings in 2001 to around 36 percent currently. The shift is most accentuated in Gauteng, Cape Town and growing secondary cities such as Rustenburg. Point mapping of formal and informal dwellings for Johannesburg, using aerial photography for the period 2001 to 2009, reveals, for example, that there has been a 5.6 percent decline in the number of shacks in informal settlements, compared with a 28.9 percent increase in the number of formal houses with backyard shacks.

Across South Africa's cities there are different configurations of informality. In three of the city municipalities – eThekwini, The Msunduzi and Buffalo City – there is a significant presence of traditional dwellings, as the municipal boundaries have incorporated land under traditional authority. Backyard shacks are concentrated in municipalities experiencing growth pressure, including the metropolitan cities of Johannesburg, Ekhurhuleni and Cape Town, but also in Rustenburg, a secondary city that experienced growth that has exceeded formal housing provision over the period under review.

Table 6: Types of dwellings in South Africa's cities as percentage of total dwellings

Municipality	Backyard shack	Shack in an informal settlement	Traditional dwelling	Percentage informal
Johannesburg	9	9	0	18
Tshwane	6	12	0	18
Ekhurhuleni	8	14	0	22
eThekwini	4	12	4	20
Cape Town	7	13	0	20
Nelson Mandela Bay	3	9	0	12
Buffalo City	5	17	5	27
Sol Plaatje	4	13	0	17
Mangaung	4	11	1	16
The Msunduzi	3	6	16	25
Rustenburg	15	14	1	30
Mbombela	2	3	2	7
Polokwane	4	5	1	10
Emalahleni (Witbank)	5	15	2	22

Municipality	Backyard shack	Shack in an informal settlement	Traditional dwelling	Percentage informal
South Africa (average)	5	9	8	22

Source: Statistics South Africa, 2012

Transformation in historically black townships

More than 40 percent of South Africa's urban population lives in historically black townships. These were spaces of apartheid and were planned as sterile ghettoes, serving mainly as dormitory settlements for core urban areas. Millions of people lived their lives in these townships, creating vibrant social spaces, the physical and economic conditions notwithstanding.

The key question in the post-apartheid era is whether the historical townships are integrating spatially, economically and socially into the urban core and whether townships are becoming more spatially and economically balanced and diverse.

The state has given attention to township development through its various delivery programmes and through special initiatives such as the Urban Renewal Programme (URP) launched in 2001, and the Neighbourhood Development Partnership Grant (NDPG) introduced in 2006 to support community infrastructure and services in the townships. The extent to which these and other initiatives have brought about transformation in townships across the country requires an extensive investigation, far beyond the scope of this study.

There are, however, some indications from specific localities of what may be taking place. It is clear from Census 2011 that townships remain exclusively black enclaves. However, it is also apparent that in the larger, better located townships at least, there is growing socio-economic differentiation linked to the emerging black middle class.

Spatially, townships have grown, but in many instances this growth has not helped knit the urban fabric together. In the case of Soweto, for example, much of the new residential growth has occurred – and continues to occur – to the west and northwest of the existing township footprint, away from the core areas of Johannesburg (e.g. Braamfischerville, Doornkop/Lufhereng and Protea Glen).

There has been much hype around township property markets, but analysis shows that these markets have been far less vibrant than suggested in the media. The patterns for townships around Johannesburg – the focus of much of the media hype – are curious. In terms of property value, there was indeed a sharp rise between 2004 and 2008, and property values also held up well during the nationwide slump after 2008. However, since 2004, there has been a steady decline in the number of formal property transactions, and currently the annual number of transactions is minimal.

Declining numbers of transactions as property prices increased may have to do with informal transfers of lower-valued houses, with only the relatively few higher-valued houses going through a formal property transfer. Alternatively, it may have to do with extremely constrained supply as property owners in townships hold onto their dwellings, which offer income opportunities through backyard renting.

The major supply of new housing has come through the state subsidy programme. This supply has fluctuated as new housing schemes have been completed, but there has been a general downward trend. The development of a secondary housing market in new housing schemes is constrained by the eight-year prohibition on the onward sale of RDP houses, a provision introduced to prevent downward raiding in the housing market.

With the declining supply of publicly funded housing, and the failure to stimulate a secondary housing market in townships, there are reduced options for residents seeking to enter formal markets, in the large, growing cities at least. Increasingly, the dominant supply of accommodation in property markets is backyard shacks.

In terms of the economy, townships start from a very low base. The *Economic Analysis of Soweto* (City of Johannesburg, 2003) reported, for example, that Soweto contributed only 4 percent of Johannesburg's GVA, despite having around 40 percent of the population. Again, despite the hype around township development, the data does not reveal a significant gain in the formal economy. Between 2006 and 2010, for example, Soweto accounted for only 3 percent of the rezoning applications in Johannesburg (City of Johannesburg, 2010/11).[27]

The one sector of the township economy where there has been notable development is retail. This is a relatively new trend, which began initially in Soweto; the township with the largest local market. The catalyst for the retail boom was the *Retail Strategy for Soweto* (City of Johannesburg, 2005), which argued that retail spending in Soweto could expand from 25 percent to 50 percent, but the driving factor was the emergent black middle class in the townships. Over the next few years, there was a splurge of mall developments, with the opening of Protea Glen Mall, Jabulani Mall, Maponya Mall, Diepsloot Mall and Dobsonville Mall, among others. Soweto was, however, only the beginning, and today there are over 50 township malls in Alexandra, Tembisa, Daveyton, Kagiso and Temba in Gauteng, Mdantsane and Motherwell in the Eastern Cape, Umlazi and Phoenix in eThekwini, Gugulethu in the Western Cape, and Seshego in Limpopo (Market Decision, date unknown).

[27] According to *Growth Management Strategy: Growth Trends and Development Indicators*, a report prepared by the City of Johannesburg, 2010/11.

A difficult matter is the impact that these malls have on small formal and informal township retailers. Studies suggest a highly negative impact,[28] although this must be balanced against the advantages, including alternatives in terms of price and choice, that these malls bring to township consumers.

Apart from retail, there has been little development in the formal economy. There is some niche tourism in the better-known townships, but office development has not followed retail, and industrial areas near or within townships are still perceived as risky by investors. The informal sector provides a livelihood cushion for many of Soweto's poorest, but also remains relatively undeveloped with most activity in low-order retail. With densification in townships associated with the growth in backyard shacks, the market for informal retail outlets, or *spazas,* has increased and this has counteracted the effect of new malls.

While the economy of townships has yet to diversify beyond formal and informal retail, the built environment has improved in many places: roads have been tarred, lighting has been installed, and new facilities and parks have been developed.

New systems of public transport

Providing effective public transport systems may be the single-most important intervention of government to support environmental, economic and social sustainability. Transport is a major component of the budget of households, while the transport sector globally is the second-largest contributor to greenhouse gas (GHG) emissions (Organisation for Economic Cooperation and Development, 2011). According to South Africa's National Household Income and Expenditure Survey (2005/06), households in large cities spent around 20 percent of their income on transport. This decreased marginally to 17 percent in 2010/11.

South African cities face two major related challenges in terms of transport. The first is that the middle class is overwhelmingly private car-oriented and, because of this, levels of congestion and the environmental impacts of public transport are growing. Studies suggest that the road congestion in Johannesburg is among the highest in the world. The IBM Global Commuter Pain Survey, for example, rated Johannesburg as the fifth most congested of the 20 large cities it surveyed.[29]

The second challenge is that the costs of mobility for the urban poor are extremely high. Johannesburg's urban structure is highly fragmented as a result of the apartheid spatial restructuring, which led to higher densities in pockets on the urban edge (the townships and informal settlements). This was exacerbated in the post-apartheid era as a result of spatially decentralised and "edge-city" development.

[28] Ligthelm (2010) reports on a longitudinal study of around 300 firms within a five-kilometre radius of the new Jabulani Mall. It revealed that within the first year after the mall was opened, 38 percent of small businesses in the vicinity shut down, a percentage increasing to 48 percent within two years.
[29] http://www-03.ibm.com/press/us/en/pressrelease/35359.wss

Over the period under review, the dominant trends in transportation were the continued rise in the use of private motor cars and of minibus taxis as dominant modes of transport for households without cars.[30]

In 2011, 30 percent of households owned a motor car, but the breakdown of this figure varies widely across space, with less than 10 percent in many rural areas and 46 percent in Cape Town, followed by 44 percent in Tshwane and 38 percent in Johannesburg.[31] Again, there is huge variation between population groups. Across South Africa, 19 percent of black households have a motor car, compared with 91 percent of white households, 73 percent of Indian households, and 38 percent of Coloured households. For black households, in particular, the performance of the public transport system is critically important, but to reduce congestion, and to deal with environmental damage, it is also necessary to shift white and other middle-class riders to public transport.

Towards the end of the period under review, there was a shift in the dominant patterns with a new wave of investment in public transport, although it may take time for user patterns to respond significantly. One of the positive effects of the 2010 FIFA World Cup was the urgency it gave to providing new systems of public transport. In Gauteng, a rapid rail system (the Gautrain) was built that connected OR Tambo International Airport to the major business nodes in Johannesburg and Tshwane.

The bus rapid transport (BRT) system, with its dedicated lanes for frequent-service high-quality buses, is being developed in Johannesburg, Tshwane, Cape Town and Rustenburg, with BRT also in the planning stage in Mangaung and eThekwini.[32] There are ambitious plans for extensive BRT networks, but these are being developed in phases and, to date, construction has been slower than anticipated, but is continuing.

The Passenger Rail Agency of South Africa (PRASA) is investing heavily in the upgrade of passenger rail systems after decades of neglect, with new signalling systems and rolling stock. There has, however, been tension surrounding some of these developments. Segments of the minibus taxi industry, for example, have challenged the introduction of BRT.[33] In Johannesburg, this resulted in a transport strike and periodic violence, but the BRT was eventually implemented. However, in Nelson Mandela Bay, opposition to the BRT led to its construction being postponed. The relationship between the taxi industry and new forms of public transport has to

[30] The main modes of public passenger transport in South Africa are minibus-taxis (64 percent), buses (21 percent) and rail (15 percent).
[31] In the secondary cities, car ownership is still relatively low – 25 percent in Rustenburg, 27 percent in Polokwane and 28 percent in Mbombela.
[32] BRT construction in Nelson Mandela Bay was postponed because of opposition from the mini-bus taxi industry.
[33] In Johannesburg, taxi operators have become shareholders in the BRT operating company, but segments of the industry that have not benefited from the new system are determined opponents.

be carefully addressed in the future. The minibus taxi industry remains a major mode of collective transport across South Africa, and is well adapted to the complex structure of South Africa's cities. It therefore needs to be properly integrated into the emergent new multimodal transport system.

Another source of conflict – and even contradiction – in the system is the massive investment in freeway upgrades at the same time as attempts are being made to resuscitate public transportation. The user-pays financing model for the Gauteng Freeway Improvement Scheme has provoked huge public controversy. However, for the future, government will have to consider how it will align investment in transport systems against the overall objective of improving public transportation.

There is a close relationship between shifting forms of transportation and the spatial development of cities. The massive expansion of the freeway system in South African cities from the late 1960s to the 1980s led to lateral expansion and de-densification. Today, however, the emergence of new forms of public transport offers the prospect of restructuring the city form according to transit-oriented development (TOD). To date, there has been strong investment interest in the Gautrain precincts, but it is not yet clear what impact BRT systems are having on investment decisions in the property market, and whether the new investment in rail will realise opportunities for TOD that have been missed in the past.

One of the other tough challenges still to be addressed – which impacts directly on spatial form – is the subsidised commuter bus system. While this system reduces the cost of travel in a highly fragmented urban system, it maintains ultimately unsustainable land-use and settlement patterns (for example, the extreme separation between the central business core in Tshwane and displaced urbanisation in the former KwaNdebele homeland).

3. Reflection on achievements

There is much to celebrate. The analysis provided above clearly shows that the barriers to human movement created by apartheid have been overcome and that people and jobs are coming together in an increasingly closer alignment. More people are living closer to jobs and livelihood opportunities than ever before.

At a national scale, the movement is into South Africa's inner core – metropolitan and secondary cities. Even within the inner core, it is the cities that produce the most jobs that display the biggest increase in population. The proportion of the country's population living in the former Bantustan areas is dropping steadily.

As this movement continues, South Africa's big cities are densifying, bucking the global trends towards lower urban densities. Densities are increasing as people find formal and informal accommodation opportunities – through the occupancy of inner-

city buildings and backyard shacks, but also townhouse developments and state-provided housing.

The economic growth in the inner core has a positive impact in more peripheral areas, in terms of the labour market at least. Because of outmigration, unemployment rates in the periphery are dropping, and fewer people are living in so-called poverty traps.

There are many other positives: a growing proportion of the population lives in formal accommodation, gender inequalities in access to jobs are declining across all regions of the country, new public transport systems are being developed, parts of cities are desegregating, inner cities are being regenerated, and levels of service delivery are rising in urban areas.

4. Towards improvement

In some respects, the positive changes have come about because of the ending of apartheid and the removal of spatial restrictions, rather than because of proactive responses by government or the private sector (with important exceptions such as investment in public transport and inner-city development initiatives).

The single-most important spatial intervention by the post-apartheid government was the housing programme, which indeed contributed significantly to the declining proportion of households living in non-formal accommodation, but which had ambiguous – perhaps negative – spatial outcomes.

Private-sector investment has made an essential contribution to the development of South Africa's space economy, but, again, it has not always supported the overall goal of a more efficient, equitable and sustainable spatial form. Over the past decade, there has been some new investment in the inner cities of large urban areas. This is positive, as government needs to preserve the huge assets invested in these well-located urban centres. However, much of the private investment in the non-residential sectors – in offices, retail and industry – has been made on the urban edge; in areas that are generally distant from the major concentration of the population, and that are often also poorly located in relation to public transportation systems.

While there has been a degree of socio-spatial integration in some areas of the cities – specifically in previously white middle-class suburbs and previously Coloured townships – the overall pattern of socio-spatial segregation is still largely intact. The previously black-occupied areas of the cities have remained almost exclusively black, and new black enclaves have emerged in and around inner cities, and in the new state-provided housing estates. Government initiatives to promote desegregation in terms of race and income have been limited to a few local cases, with a systemic programme to support "inclusionary housing" still being awaited.

The better-located townships have transformed to some degree, attracting large capital expenditure from government and private investment in the retail sector, but the goal of integrating townships into the urban core remains elusive. In many instances, state and private-sector investment in new housing has supported further spatial fragmentation. A secondary housing market has also largely failed to develop in townships, and with the general decline in state-provided housing, an increasing number of households find rental accommodation in backyards, as well as informally rented subsidised housing stock.

At a national scale, more could be achieved in terms of aligning people and jobs. The metropolitan areas could be absorbing a far greater number of job-seekers. Although the performance of these big cities has exceeded the national average, it remains modest. Gauteng is the strongest performer, but has only managed a small decline in unemployment, while Cape Town has seen actual rises in unemployment, and the other metropolitan centres along the coast, in the Eastern Cape and in KwaZulu-Natal have worryingly high levels of unemployment.

The secondary cities in South Africa still account for a very small share of the national economy and employment, and are a long way off from becoming a viable alternative to metropolitan development. There are specific concerns in gold-mining areas – and now also in the Platinum Belt – where large-scale retrenchments have taken place.

A more balanced spatial outcome could be achieved if the potential for job creation outside the cities was realised. However, although there are growth dynamics in a few places, in the main, these areas have depressed economies. The poor performance of agriculture, especially in terms of job creation, dampens the prospects of these areas, and outmigration remains the best prospect for many households for improving their life chances.

Environmental sustainability remains a concern across the country. South Africa's economic growth has, to a very large extent, been fuelled by the depletion of natural resources (minerals, soil, water, biodiversity), and has been the source of environmental pollution (air and water pollution, land degradation, and GHG emissions). Major conflicts have emerged between development and environmental imperatives, including, for example, between tourism development and the protection of biodiversity, and between mining development and the protection of scarce water resources. There is also the threat of climate change with hotter and drier conditions over the western half of the country posing new threats to an already beleaguered agricultural sector, and hotter and wetter conditions in the northern interior increasing the dangers of flooding and extreme weather events.

5. Summary and recommendations

Government's central task for the future must be to further facilitate the alignment between people, on the one hand, and jobs, livelihood opportunities and services, on the other. At a national scale, this will involve facilitating the movement of people towards places where jobs are being created. The focus must be on improving the absorptive capacity of the inner core, as the weight of the economy, and of job creation, is massively oriented towards this segment of South Africa's space economy, and especially towards the large metropolitan agglomerations. Given South Africa's extremely high unemployment levels, in international terms, the country cannot afford spatial experiments that may detract from an overall ability to produce jobs.

In order to improve the absorptive capacity of the municipalities in the inner core, they should have the resources to provide the infrastructure and services required to handle inmigration, and to ensure that their residents are adequately accommodated. These municipalities should also do what they can to remove the bottlenecks and inefficiencies that prevent these areas from producing more jobs.

The spatial structure of urban areas needs to be addressed. People are finding their ways into parts of the city that are close to jobs or livelihood opportunities, but this process is often occurring despite the interventions of government. More needs to be done to ensure that the following is accomplished:

- All future housing financed by government is well located in relation to jobs.
- There are strong spatial planning frameworks that regulate the location of private-sector investments.
- Well-located informal settlements are upgraded in situ.
- The importance of backyard shacks should be recognised, but incentives have to be provided to ensure that this accommodation is upgraded to acceptable standards.
- Affordable rental accommodation is provided at scale in the inner cities and other nodes of livelihood opportunities (in a way that does not allow slumlords to dominate).
- Measures are taken to mitigate the negative effects of densification (for example, the provision of green space and more attention to the quality of public infrastructure).
- The current investment in transportation infrastructure needs to be upscaled and more attention should be given to the sustainability of this investment and to integration between modes of transport and across municipal boundaries.
- The emerging transportation network should provide the backbone for spatial restructuring for greater urban efficiency, equity and sustainability through the adoption of TOD.

While the urgency of the current situation requires government to support and enhance the processes underway to bring people closer to jobs and livelihoods, there are also opportunities to bring jobs to people. This must be done in a way that does not detract from, or undermine the capacity of the inner core to maximise growth and job creation. In other words, jobs must be created, and livelihood opportunities provided wherever possible, but state support for job creation should focus on places where jobs can be created most efficiently.

Critical interventions outside the inner core to support job creation may include transport infrastructure to unlock mining potential and targeted support for the regeneration of agriculture. Special attention should be given to areas outside the inner core where economic dynamism is evident.

In all of this, government should ensure that development processes are sustainable. In particular, attention should be given to the water-food-energy nexus, ensuring, for example, that the key water production zones in South Africa are properly conserved, that determined efforts are made to shift energy production towards the use of renewable resources, that areas of high food production potential are protected and that agriculture is intensified in and around large concentrations of people.

Finally, to ensure that all this is accomplished, urgent attention should be given to the quality of spatial governance. Government needs to complete processes leading to national spatial, urban and rural policy, and to implement the comprehensive proposals in Chapter 8 of the NDP for the reform of the spatial planning system.

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