

**Spatial Guidelines for Infrastructure Investment and Development
(SGIID)**

NATIONAL SPATIAL DEVELOPMENT PERSPECTIVE (NSDP)

**Policy Co-ordination and Advisory Services,
The Presidency**

March 2003

OVERVIEW OF CONTENTS

This document consists of five parts:

PART 1: Sets out the background to, need for and objectives of the NSDP. It outlines the proposed content, role and status of a NSDP and indicates constraints under which the NSDP was produced.

PART 2: Provides an overview as a narrative of the changing spatial economy and its impact on the Government's commitment to social reconstruction, sustainable economic growth and social and environmental justice.

PART 3: Interprets the spatial narrative to indicate the hard choices that government will face in reconciling its many objectives. Government's response to the spatial trends identified in Part 2 will be described in terms of their impact on infrastructure investment and development spending.

PART 4: Describes the procedures required to operationalise the Guidelines. This procedure seeks to bring together planning and policy co-ordination in the three spheres of government to identify policies and programmes that will ensure that people in different localities will have greater possibilities of achieving their potential.

PART 5: Compares the NSDP to other recent national and transnational spatial planning exercises and indicates where the NSDP is in line with or ahead of international best practice.

Part 1: The context of the NSDP

Background

Since 1994, concerns have been raised in government about the spatial consequences of national investment and development programmes. It is believed that these programmes are not fully addressing the distortions of the past apartheid space economy. In an attempt to address this problem, several spatial co-ordinating and integrating mechanisms were initiated in the national sphere, the most recent of these being the National Spatial Development Framework (NSDF) and Spatial Planning Task Team (SPATT) in 1996 –1998. While these initiatives highlighted a variety of concerns with spatial planning in government, no clear proposals were adopted by government.

In 1998, Cabinet delegated the Co-ordination and Implementation Unit (CIU) in the Executive Deputy President's Office¹ (now the Policy Co-ordination and Advisory Services [PCAS] in The Presidency) to undertake a study into the spatial implications of government infrastructure and development programmes. PCAS launched a project to analyse the spatial impact of existing infrastructure and development programmes and to recommend mechanisms aimed at ensuring better alignment between infrastructure investment and development programmes than is presently the case.

This project was undertaken as an integrated and consultative process in which:

- research was commissioned into key areas of policy concern
- output of the research was brainstormed with focus groups
- outcomes of the research and brainstorm sessions were presented and tested at a series of workshops with researchers and officials
- draft guidelines for infrastructure investment and development spending and procedures to operationalise the guidelines were formulated
- interviews were held with senior officials in all spheres of government to understand their perspectives on these issues, to provide them with feedback on the progress of the project and to test the draft guidelines and instruments².

This process culminated in the proposed National Spatial Development Perspective (NSDP) that received broad support from all those involved in the above processes. The NSDP also included a mechanism aimed at aligning spatial choices around government investment and development spending across all spheres of government. In broad terms, the cumulative outcome of the NSDP was a process entailing that:

1 See Cabinet Memorandum 27 of 1998.

2 Interviews, conducted by the PCAS project team with senior managers in key departments and agencies involved in spatial planning, revealed that the absence of national spatial guidelines was hindering their current planning activities. It has had successful meetings with the DGs from Transport, Water Affairs and Forestry, Environmental Affairs and Tourism, Housing, Provincial and Local Government, Mineral And Energy Affairs, Communications, Agriculture (including the Deputy Minister), Labour, Education, Welfare/Social Development, Health, National Treasury, Gauteng and North-West provinces. Generally there has been strong support for the framework.

- the national space economy would be defined by a NSDP that would identify the development potential of localities in terms of certain Categories of Development Potential (see Table 1 below), a spatial narrative which summarised the key demographic, economic and environmental trends and a set of normative principles to guide dialogue about government's spatial priorities
- national government departments, provinces and local authorities should use the categories of development to help identify the relative comparative advantage of localities in receipt of infrastructure investment and/or development spending
- these agencies of government would report annually on how their strategic choices with regard to infrastructure investment and development spending related to the NSDP
- The Presidency would use the information provided through these annual reports, plus any new data and/or research and the output of key strategies formulated by the different spheres of government to periodically update the NSDP for Cabinet (anticipated to be every three years to align with the Medium-term Strategic Framework (MTSF)/Medium-term Expenditure Framework (MTEF) planning cycle
- Cabinet, after any processes of review it may deem necessary, would approve the new NSDP that then could be used to inform future dialogue about government's spatial priorities.

The key output of this project is the conceptualisation of the national space economy as defined by the Categories of Development Potential (see Table 1 below). NSDP Guidelines proceed from the premise that the reconstruction and development of South African society should include the reconfiguration of apartheid spatial relations. This requires an acknowledgement in our development planning of the existing and changing spatial patterns of population settlement, economic development and general potential. Further, whatever spatial priorities are implemented, they should be guided by these realities as well as the Constitutional imperative to provide basic services to all South Africans, wherever they may be located.

This approach, which differs from the more empirical descriptions used in other spatial perspectives³, seeks to focus the bulk of fixed investment⁴ of government on those areas with the potential for sustainable economic development. It can be shown⁵ that it is in these areas that the Government's objectives of both promoting economic growth and alleviating poverty will best be achieved. In areas of limited potential, it is recommended that, beyond a level of basic services which all citizens are entitled, government should concentrate primarily on social investment such as human resource development, labour market intelligence and social transfers, so as to give people in these areas better information and opportunities to gravitate towards areas

³ Such as the European Spatial Development Perspective and other examples referred to in Part 5 below.

⁴ In the context of this proposal, infrastructure refers both to economic (roads, railways, ports) and social (household, schools and clinics) investment. Development funding refers largely to investment in the improvement of human potential, both in order to overcome past inequities, as well as to enable people to adjust to new circumstances and environments.

⁵ This understanding will be validated with reference to both the spatial narrative in Part 2 as well as the maps provided in Appendix 1. A key finding of the research and mapping exercise is that areas of high poverty are part of or adjacent to areas where there is high economic growth and/or economic potential.

with greater economic potential. It is assumed, in line with international trends and research explicitly commissioned for this project, that people tend to move to areas of greater economic potential from the localities in which they currently reside.

Table 1: Categories of Development Potential

Category	Description
Innovation and experimentation.	Research and development and the application of technology to production processes.
Production: High value, differentiated goods (not strongly dependent on labour costs).	All forms of production that focus on local and/or global niche markets such as manufacturing, and some specialised agricultural or natural resource-based products.
Production: Labour-intensive, mass-produced goods (more dependent on labour costs and/or natural resource exploitation).	Industries in this category, such as iron and steel producers, and agricultural and mining activities, are highly dependent on proximity or good, cheap transport linkages to the huge volumes of natural resources that they use in their production processes, as well as the availability of greater numbers of unskilled and semi-skilled labour.
Public services and administration.	The processes of production, consumption and circulation need to be organised through business and public management. This category also includes social services such as health, welfare and education.
Retail and services.	Retail, catering and personal services are major components of any economy and a large employer of semi-skilled workers in the major post-industrial economies of the world, such as the United States of America (US), the United Kingdom (UK) and Europe and Japan. The locational requirements for this category are the presence of enterprises and people who are willing and able to pay for goods and services.
Tourism.	Key components of tourism include the need for a tourist-attraction (e.g. eco-scenery, cultural, heritage), good transport routes, safety and, in many instances, high-quality restaurants and hotels.

Motivation for, objectives, contents, role and status of the proposed NSDP

The proposed Spatial Guidelines were motivated by the fact that all departments consulted expressed concern regarding the lack of a clear set of spatial priorities in government⁶. To summarise, the main issues raised by the senior managers consulted included the following:

⁶ These include Transport, Water Affairs and Forestry, Environmental Affairs and Tourism, Housing, Provincial and Local Government, Mineral And Energy Affairs, Communications, Agriculture (Deputy-Minister and Executive Committee), Labour, Education, Welfare/Social Development, Health, Finance, Gauteng and North West provinces.

- current budget constraints mean that they all apply some form of rationing in allocating funds to the infrastructure and development programmes they administer
- they recognise that this rationing implies that choices are either explicitly or implicitly made
- they also pointed out that they currently use no spatial criteria to guide the choices they make⁷
- instead, most choices are made in terms of those communities that have attracted the most attention
- however, all those consulted thus far believe that a spatial perspective would assist them to prioritise more effectively, especially since it should enable them to better co-ordinate their programmes with those of other line-function departments and/or provinces.

The key objectives of the NSDP are to:

- provide a framework within which to discuss the future development of the national space economy by reflecting the localities of severe deprivation and need, of resource potential, of infrastructure endowment and of current and potential economic activity by describing the key social, economic and natural resource trends and issues shaping the national geography
- act as a common reference point for national, provincial and local governments to analyse and debate the comparative development potentials of localities in the country by providing a coarse-grained national mapping of potential
- identify key areas of tension and/or priority in achieving positive spatial outcomes with government infrastructure investment and development spending
- provide national government's strategic response to the above for a given time frame.

Given these objectives, the NSDP consists of a spatial narrative, a set of maps, and a strategic response.

The **spatial narrative** (Section 2) summarises the current reality including an overview of:

- demographic trends
- human settlement and settlement patterns
- the national economy and trends and issues in the national space economy
- the state of the national resource base
- broad patterns of infrastructure and development spending.

The **set of maps** (Appendix 1) indicates:

⁷ Apart from the Integrated Sustainable Rural Development Programme (ISRDP) and Urban Renewal Programme (URP) which primarily uses poverty criteria to identify spatial priorities. The views reported above were expressed at a time when the ISRDP and URP were in a process of being conceptualised. Notwithstanding the spatial focus of these programmes, they do not provide departments with a more general framework to spatially orientate their investment and development decisions.

- the natural, human and infrastructural resource potential of the country
- areas of high-value agricultural land and environmentally sensitive areas
- population distribution
- areas of severe social deprivation and need
- intersectoral development potential
- current economic growth
- existing and proposed areas of national, provincial and local government infrastructure investment and development spending.

The **strategic response** (Section 3) of government indicates:

- its growth and development priorities
- a set of normative principles for infrastructure investment and development spending
- the implications arising from applying these principles to the space economy as described
- a national spatial vision.

While the perspective is not expected to have the *status* of a 'national development plan/framework' and will not be used by the national sphere to make decisions unilaterally that affect other spheres of government, it is designed to act as an indicative planning tool for all spheres of government. This will require that the NSDP be used as an instrument for policy co-ordination with emphasis on the spatial implications of infrastructure and development policy and programmes in national, provincial and local government. It is intended that the implementation of the strategies of different agencies and spheres of government be monitored in accordance with the NSDP principles and contents. In this sense, it will be seen as contributing to the principle of co-operative governance.

The process of preparing the draft NSDP and the constraints under which it was produced

The initial NSDP was prepared through an interactive process that:

- built upon the research outcomes of the project⁸ and statistical data to prepare a base set of maps, a spatial narrative of the current reality and a set of normative principles
- culminated in a workshop that was held in November 1999 at which representatives from national line departments discussed their departments' spatial priorities and also brainstormed the concept of the NSDP and its contents with the project team and academics in the field of planning and economics
- resulted in the draft NSDP which was prepared on the strength of the available data, the presentations by line departments and the brainstorming sessions at the workshop.

⁸ The research outputs are available on the accompanying CD Rom.

The production of the draft NSDP was done using what data and research were available to The Presidency at the time of initial preparation⁹. Since completing the first draft in January 2000, the data has been reviewed and analysis and maps have been updated in 2002, where necessary. It is evident that the NSDP will always remain dependent on the best available data and analysis at the time of its preparation and that new data and analysis will become available in time¹⁰. The Presidency is nonetheless confident that the current version of the NSDP has made use of the best sources and researchers available to government and that no new current information will invalidate the overall interpretation provided in this document. However, it is recognised that the NSDP will need to be periodically revised, and The Presidency believes that the process of review and updating described in Part 4 below, will ensure that government can rely on the interpretation of the space economy as presented in the NSDP. It is also recognised that while the normative principles may be modified with overall changes in government policy, they are likely to remain consistent over the lifespan of the NSDP.

Taking the NSDP forward

The development of the NSDP is an ongoing process of elaboration, refinement and revision that takes into account the dynamic nature of the space economy and of settlement processes. There can be no once-off document but rather an evolving perspective that is linked to a system of continual spatial monitoring and amendment. In Part 4, the process whereby the NSDP is used and reviewed will be described in more detail. It is proposed that although the NSDP represents a national spatial perspective, the process of dialogue about spatial priorities within and between spheres of government will ensure that the perspective will undergo an iterative process of review, refinement and elaboration. This process of review, refinement and elaboration will make full use of the resources of all agencies in all spheres of government to ensure that its understanding of spatial, environmental, social and economic trends enables it to define each locality's potential through a top-down, bottom-up process of dialogue whereby the interpretation of any one agency in any sphere will be tempered by the interpretation of others.

Although different spheres of government have different strategic objectives, and naturally differing scales of spatial perspective (that is, national, provincial and local), it is expected that the process of dialogue between spheres will over a few years help generate an informed consensus on the nation's spatial priorities. It is believed that such a dialogue about spatial priorities will inform, and be informed by, the broader national strategic and policy priorities.

⁹ Initial data analysis and research took place between September 1998 and November 1999. At the time certain significant data sets, including the 1996 census, were only partially available and others, such as the GGP data, had not been collected since 1994. It was decided to use the best available data on the understanding that the data would be reviewed periodically to ensure that the trends reported were correctly described.

¹⁰ A number of departments, including Housing, DWAF, DPLG and Agriculture are in the process of building useful data-warehouses and models for analysis. It is expected that discussions amongst these departments will lead to a consolidation of information for Government.

Part 2: Describing the space economy

The unfolding space economy of South Africa

It is extremely difficult to condense the rich detail of information provided by research and data to comprehensively describe the South African space economy¹¹. What follows therefore are the main points of emphasis that need to be understood:

1. Macro-economic constraints (low levels of domestic savings, limited foreign direct investment and a high propensity to import, especially technology) indicate that economic growth is likely to be limited to between 2 – 4% over the next five or more years (*Budget Review 2002; Medium-term Budget Policy Statement 2002*). These constraints are likely to limit the level of new investment and the ability of the economy to restructure in the face of increasing globalisation, and they are likely to impose significant fiscal limits.
2. These fiscal limits will restrict further increases in infrastructure and/or development spending and suggest that existing budgets will largely be re-prioritised rather than expanded¹². However, as a result of reducing government's debt costs and improving financial management in the provinces, the Government has been able to increase infrastructure spending by more than R11 billion over the current MTEF period (*Budget Review 2002*). Current policies therefore can be expected to contribute to significant economic growth in the medium term and this will provide further resources for government investment and development in future.
3. Infrastructure and development spending has favoured economic rather than social infrastructure (by a factor of nine to one) over the past 10 years and this has largely occurred through public corporations and other parastatals (*South Africa Yearbook 2000/01, Infrastructure p169*). The relatively low contribution of fixed social infrastructure investment is, however, largely compensated by the massive increases in the operating budgets of the social-sector departments (Health, Social Development and Education).
4. The spatial analysis of infrastructure and development spending indicates that in most instances it favours large population concentrations in urban areas (and the peri-urban periphery) with the exception of the provision of water to households

¹¹ The original research will be provided on a CD-ROM. Research commissioned for this project included both overview or theme papers which described main areas of research and in-depth reports commissioned where further detail was required and data was available. Through a process of work-shopping the theme papers, the project team was able to identify areas that needed further research. In some cases, even where further research would have been useful, at the time, there were no data sources which would have enabled this research to be completed in the time period set out by the original project. When the project was revisited in January and February 2002, the project team assessed recent research that was available and decided that no new work would necessarily change the overall conclusions. Current work been undertaken by a range of Government departments including Housing, DPLG, Agriculture, Land Affairs and DWAF may improve the understanding of key trends but it is not expected to change the overall interpretation.

¹² Only one province, Gauteng, has been able to reprioritise at this stage. They plan to spend an additional R1 billion a year over the next three years on economic infrastructure.

that focuses equally on urban and rural areas (see Maps 1a-c, 2, 3). In terms of the national distribution of most household services, the eastern coastal and north/north-western regions are mostly underserved although most of the metropolitan areas show a similar per capita backlog in services (i.e., they have the same absolute number of people without adequate services – see Maps 3, 13a).

5. A coarse analysis of Gross Geographic Product (GGP) at a magisterial district level (Map 4a) shows a relatively static spatial pattern of the national space economy dominated by the metropolitan areas and their immediate surroundings. While there has been some variation in this spatial distribution, when in the 1960's so-called 'platteland' areas were favoured by decentralisation policies, the core and coastal metropolitan areas have consistently seen the greatest degree of economic growth over time (McCarthy). In addition to the economically core regions, a number of secondary inland cities/towns, such as Bloemfontein, Polokwane, Pietermaritzburg, Potchefstroom, Kimberley, Witbank, Upington, Newcastle and Nelspruit and the secondary coastal/port cities of Port Elizabeth, East London and Richards Bay stand out as areas of significant economic activity arising from historical or natural resource path dependencies. Projections of GGP in 2006 indicate that this pattern is not changing (Map 4b). Recent analysis of changing work opportunities in the formal sector shows that these are concentrating in areas of high potential (Map 4c).
6. The 'glacial' pace of change in the national space economy can be contrasted by relatively rapid change within the metropolitan core and some other areas (in terms of subregions, sectoral predominance and economic structure, Goga and Wolpe). While manufacturing, construction, financial and commercial services employment is largely concentrated in the metropolitan and other urban localities, mining, agriculture and community services (education and health) reflect a more dispersed distribution, providing some sectoral balance in the labour market (Wittenberg, see Maps 5a,b).
7. Other non-metropolitan areas can be distinguished between a relatively small number of localities that have the economic potential to restructure and a significantly large number that are ultimately likely to decline since they seem to possess limited resources to generate sustainable economic activity (see Maps 21a – 26a).
8. Recent government policy and the greater integration of the South African economy into the global economy have seen an acceleration of these trends with the metropolitan areas growing at an even faster pace than non-metropolitan areas. The rural areas are becoming even more marginal as sectors (either industrial or public-sector employment) that benefited from previous decentralising policies, have lost the limited incentives they previously received (see Maps 21b – 26b).
9. There is a long-term shift from a mining and agricultural economy to one that is increasingly focused on exportable manufacturing and service sectors, although the backward (the provision of services to these sectors) and forward (the processing or beneficiation of their products, especially for the export market) linkages to the mining and agricultural sectors are still extensive, and make the economy relatively vulnerable to external shocks (McCarthy, Goga and Wolpe).

10. Gauteng will continue to dominate other centres such as the Western Cape in terms of the 'knowledge based' economy or 'smart regions' despite the latter having a more favourable environment and so-called 'high-tech' parks (Rogerson, Goga and Wolpe). Gauteng, primarily the northern corridor between Johannesburg and Pretoria, has a significant advantage in terms of both high-technology production and information technology services due to agglomeration economies and because of the market-size of the region (see Maps 21a – b).
11. The education levels of the population show a strong concentration of people with a secondary and higher education in Gauteng, and the Durban metropolitan areas and their surrounding magisterial districts (see Map 6). Other areas of medium to high concentration are the Cape Metropolitan area, the port cities of Port Elizabeth, East London, and Richards Bay and the secondary cities of Bloemfontein, Kimberley, Polokwane, Potchefstroom and Nelspruit. On a provincial level, the provinces of Gauteng, Kwazulu-Natal, North West and Limpopo feature strongly.
12. Analysis of professional scientific and managerial employment shows that this remains highly concentrated in the major metropolitan areas and associated university towns, representing both a relative and absolute concentration of these skills in these localities (Wittenberg, see Maps 7, 8). These areas also contain the most diverse populations in the form of a much higher level of in-migrants as compared to other localities (Map 9). By contrast, the former homeland areas reflect not only the lowest level of skills (with the exception of those employed in community services such as health and education) but they are the least diverse, indicating very little in-migration.
13. The growing reliance on semi-skilled and skilled labour, increasingly concentrated in the major metropolitan and other economic growth centres, and the progressive marginalisation of unskilled labour in the more peripheral (especially rural) areas are creating a dual labour market characterised by predominantly urban 'insiders' and predominantly rural 'outsiders' (Wittenberg)¹³. Analysis of the labour market dynamics indicates that post-secondary education and the presence of another employed person in the household are the two main determinants of employment. It would seem that the quality of education is also important, indicating that poorly resourced rural localities offer a significantly lower return from earnings. By contrast, having an employed household member is much more significant in rural areas than in urban areas, emphasising the importance of access to information about the labour markets.
14. Employment probabilities vary significantly between urban and rural areas with the urban populations having up to a 60% probability versus a less than 40% probability for rural people in most age groups between 20 and 60 years (Wittenberg). The probability of being unemployed and searching for

¹³ One of the key insights of the NSDP is that the categories 'urban' and 'rural' as used in South Africa have little meaning. Not only are the so-called 'rural' areas dependent with up to 85% of their transfers of so-called 'urban' centres, a pattern reinforced by significant social interaction, but the statistical definition of urban is based on Apartheid definitions of proclaimed urban areas. There are many dense settlements that operate now as part of the 'urban' areas which fall outside of the statistical definition.

employment seems to share virtually similar probabilities, but the discouraged unemployed are more likely to be found in rural than urban localities (with a rural probability of between 50% and 60% for most age groups versus an urban probability of between 25% and 35%).

15. Economic growth in the formal sector, even in the metropolitan areas, appears to be largely 'jobless' growth and unemployment remains high even in these areas. In other areas, the lack of labour-market intelligence, and the breakdown in social networks spanning the urban and rural divide, means that unemployment levels are even higher. This suggests that the 'discouraged' unemployed are concentrated in rural areas (as 'outsiders'), while the better connected urban 'insiders' retain greater access to the labour market.
16. The density of human settlement shows a large concentration of the population in the eastern half of the country (Cross, see Maps 9, 10). Other than significant concentrations of people in and around Gauteng, the Cape metropolitan area, George and Port Elizabeth, the western half of the country is sparsely populated. In the eastern half the pattern is that of high concentrations in and around the metropolitan areas, the secondary cities/towns and the port cities, with very few magisterial districts of low population density. The only areas of low density being the north-western parts of North West and Limpopo and the Kruger National Park.
17. The completion of a demographic transition reflects a more settled, slowly growing, mainly urban population contrasted with an increasingly mobile and more vulnerable, mainly rural population losing both its natural and social capital resources (Cross).
18. Projected annual population growth for the period between 1995 and 2025 indicates areas of strong positive growth occurring in Limpopo and Gauteng, the metropolitan areas of Cape Town and Durban/Pietermaritzburg, East London/Bisho, southern Cape, Bloemfontein, Richards Bay, Witbank/Middleburg and Nelspruit (Schlemmer). Areas of strong negative growth will occur in large portions of KwaZulu-Natal, parts of the Karoo, the west coast and virtually the entire Northern Cape (Map 11). Recent analysis confirms these trends, showing that most localities outside of the major metropolitan areas will experience a net decline in population due to out-migration, declining fertility and the impact of HIV/AIDS (Map 11b)
19. While people are moving closer to places where economic activity is sustainable and where levels of income and employment are higher (especially some metropolitan areas), there are also significant movements into areas with weak, declining or non-existent economic activity (especially smaller towns and/or dense peri-urban or rural settlements) (Cross, see Map 9). Therefore, while there is some reduction of the disjuncture between employment localities and population settlements as created by apartheid settlement policies, significant spatial disjunctures remain.
20. Due to the dire circumstances of the majority of the rural population, there is significant migration to metropolitan centres (despite massive unemployment

there), but many prefer to stay where they are or to migrate to dense settlements located in former resettlement areas and/or small towns that are better serviced with infrastructure (Cross, also see Map 10).

21. Estimates of the incidence of HIV/AIDS indicate that the South African population could peak at around 45 – 48 million over the next 20 years, representing a 15 – 20% decline in overall population projections. While there is considerable spatial difference between current levels of infection (see Map 12), the distribution is expected to spatially normalise over time. The impact of HIV/AIDS is likely to be devastating to households, severe for individual enterprises and significant in terms of macro-economic impact.
22. Analysis of the poverty gap and unemployment statistics in the 1991 and 1996 Census data (and 2000 projections) indicates that socio-economic conditions have worsened in key localities. While the increase in poverty is evident in almost all areas, the rural districts of the former homelands seem to have been most affected. However, metropolitan areas have also seen an increase in the absolute numbers of those in poverty supporting the migration trends discussed above (Human Sciences Research Council [HSRC], see Maps 13 a – e). A similar pattern is shown for unemployment (HSRC, see Map 14).
23. South Africa has limited productive agricultural potential (see Maps 15a, b and 16). Current estimates by the Department of Agriculture suggest that less than 4% of the total agricultural land area of the country is high potential land, while only about 11% is arable. The limited areas of high agricultural potential (class 2 – 3) are located in KwaZulu-Natal, with significant portions in Mpumalanga, Gauteng and strips extending along the coast southwards through the Eastern Cape into the Western Cape. As far as the rest of the country is concerned, a very crude distinction can be made between land to the east and the west of an imaginary line stretching from East London to Kimberley. The land to the east of the line is generally of medium potential while that to the west of it is generally of low potential.
24. The Environmental Resource Sensitivity Index (Map 16) indicates that high human population pressure occurs in the relatively few areas of high potential natural resources that exist, thus increasing the environmental vulnerability of these areas. This is most apparent in the eastern and northern provinces of the country, with a strong concentration of localities in the provinces of Kwazulu-Natal and the Eastern Cape. The major urban areas and some secondary cities also exhibit high environmental sensitivities (also see Map 15b).
25. The dominant pattern of settlement and economic activity in South Africa is largely out of line with water availability with especially Gauteng, and parts of the North West and Limpopo being highly dependent on water from catchments in the east of the country and Lesotho. The same can be said of the Cape metropolitan area, the port cities of Port Elizabeth and East London and the secondary inland cities of Bloemfontein and Kimberley. This picture becomes even bleaker when future water utilisation in the year 2025 is considered (see Map 17a, b). Parts of Gauteng, the Cape metropolitan area, Mpumalanga, Kwazulu-Natal, Northern Cape, the North West and Limpopo will face water deficits in both low and high

growth scenarios. These deficits become especially acute for the areas south of Johannesburg, Cape Town and the Pietermaritzburg-Durban corridor if higher growth rates are realised (Map17b).

26. Climate change arising from global warming is likely to significantly affect the availability of water (with up to a 10% reduction in run-off water), agriculture (a 10% reduction in cattle farming, a 10 – 20% reduction in maize farming), forestry, biodiversity (38 – 55% reduction of the areas covered by the current biomass), with related problems with increased pests and invasive plants, fire intensity (an increase of 10%) and health problems (increased water-borne and vector-borne diseases and other problems such as increased occurrence of strokes, skin rashes and cancers). Climate change is likely to cause South Africa's seven existing terrestrial biomes to shrink by 40%. Forty four percent of plant and 80% of animal species will undergo a significant alteration to their geographic ranges which could mean an increased extinction risk for these species. (see Map 18).
27. Information on the use of the various roads and railway lines in the country indicates that a few routes in the country (eight routes) carry a significant percentage of the total freight movement (almost 50%), while 40% of the routes carry less than 5% of the total. Projections by the national Department of Transport of freight movement by 2020 also indicate very little change from the present pattern, with the main freight movement still taking place between Gauteng, the coastal metropolitan areas and the other major port cities (see Map 19). These areas largely correspond with the areas showing high levels of potential for the different categories of potential (see Maps 21a –26a).
28. The initial analysis of spatial distribution of settlements and economic activities indicates that although there is a policy preference for concentration and densification, such spatial forms seem out of line with subsidy policies, economic developments and the circumstances of many of the poor (Biermann, Mabin). All these factors suggest that dispersed development may persist.
29. The massive train and bus subsidies, R1, 6 billion/annum and R1,2 billion/annum respectively, continue to be a very costly burden on the present Government. The main subsidy areas are in and around the metropolitan areas, a number of secondary cities/towns, such as Bloemfontein, Nelspruit, Pietermaritzburg, Newcastle and Polokwane, and the port cities of Port Elizabeth, East London and Richards Bay.
30. Public transport is more efficient and transport costs are lower with corridor development, which may be more suitable due to the present fragmented form of South Africa's cities and towns than any attempt at creating compact cities. The proposed transport corridors should help to integrate peripheral settlements through activity corridors stretching through to city centres (although not exclusively focused on the centre). It can be argued that higher densities should be located specifically along transport corridors and that more dispersed settlements could be discouraged through a reworking of the subsidy formulae and by changing the incentive and control systems governing urban land-use (Oranje).

31. The whole of urban South Africa is well-served by the existing electrification grid (see Map 20) and since the 1994 election the number of households in previously disadvantaged areas with electricity has also grown exponentially. Whereas only 12% of the rural population had access to electricity in 1994 that figure now stands at 42%. Urban electrification reached 80 – 90% in 2000 and the national average is about 65%. Further grid-based electrification in rural areas is, however, at least two to three times more costly due to the high associated costs and low levels of consumption, suggesting that off-grid based provision may be the better option in these areas.
32. In the apartheid era there were limits to the ability of the South African Government to significantly influence spatial distribution of people and economic opportunities, despite massive policy interventions and force, and it seems unlikely that the Government will be able to significantly change the distribution of economic potential in the future (McCarthy).
33. There is an apparent alignment of current government infrastructure and development spending (and industrial policy) which favours the metropolitan growth areas (both in terms of population and economic activity) and suggests that efficiency criteria (improving the productivity of the labour force) would complement equity considerations (supporting livelihoods of the destitute), given that these areas contain the highest concentration of the poor (see Maps 1a – c, 2).
34. In terms of the globalised economy, certain centres in southern Africa are expected to play more specialised roles in future (Goga and Wolpe). The NSDP can therefore be expected to be progressively extended and to incorporate a southern African perspective in the identification of areas of potential and in identifying transportation and communication links that will ensure a better integration of the regional economy.

Categories of Development Potential¹⁴

The NSDP departed from the more conventional approaches to mapping the national space economy. Unlike the other development perspectives referred to in Part 5, which use such generic categories as ‘areas with potential’, ‘areas of decline/growth’ and ‘vulnerable areas’, the NSDP uses economically functional categories to describe the space economy in South Africa. In recognition of a need to both reflect the diverse and unique attributes of localities and to prioritise government infrastructure and development spending in areas where it will have greatest impact, an attempt was made to map development potential.

Six Categories of Development Potential (see Table 1) were defined and mapped by grouping the traditional GGP data in terms of each of these categories. The assumption underlying this approach was that localities that have exhibited past activity in a particular category are more likely to have the potential to continue doing

¹⁴ The important work of Martin Wittenberg (University of Witwatersrand), Mark Oranje (University of Pretoria) and Sharon Bierman (CSIR) should be acknowledged here in conceptualising and applying these categories to the South African space economy. The analysis that follows in the next three sections of Part 2 is based largely on their contributions.

so in the future¹⁵. Of course, this does not mean that localities not identified through this process as areas with a particular development potential may not have that potential, but that the current interpretation of the available data will need to be supplemented by more local area assessments of potential as required by the process described in Part 4. In particular, it is assumed that the development of local authority Integrated Development Plans (IDPs) will assist government in identifying locality-specific comparative advantage in terms of the six categories of development potential.

In the following discussion, the national spatial distribution of each of the categories of development potential is briefly discussed making use of maps generated primarily from GGP data¹⁶ (see Maps 21a – 26a). The data was classified into three categories: high, medium and low, using the standard deviation of the values found in the disaggregated GGP data. This method reflects the extent to which each attribute's value differs from the mean of all the values. Class breaks are placed above and below the mean at intervals of one standard deviation. Standard deviations below the mean are classified as low potential, those above the mean to a standard deviation of one are classified as medium potential and anything greater than one standard deviation above the mean is classified as high potential which seems a reasonable assumption in terms of expected geographic spread of economic activity in each category of development potential. A sample of the data indicates that the number of records that typically fall into the high potential class is around 5%, with about 10% occurring in the medium potential class and 85% in the low potential class.

(a) Innovation and experimentation

Globally, this highly specialised activity is typically located in metropolitan or secondary urban areas where highly skilled labour, good communication networks and high-quality living environments are available. The current spread of innovation and experimentation is limited primarily to the metropolitan areas and a number of secondary cities/towns areas in which universities and/or research institutions are located, such as Potchefstroom, Pietermaritzburg, Grahamstown and Stellenbosch (see Map 21a), although specialised innovation and experimentation centres may exist in other areas associated with high-value production and/or the beneficiation of certain natural resources. As with the other categories discussed below, such locally specific information will only be available when the IDP data becomes accessible. The 2006 projections show that even further concentration of these activities is likely (Map 21b).

(b) High-value differentiated goods

This category includes all forms of production that focus on local and/or global niche markets such as manufacturing, and some specialised agricultural or natural resource-based products. The locational requirements of this category of production are similar

¹⁵ This assumption was empirically tested in the South African context for this project by McCarthy and it is independently confirmed by international research (Amin 1996, Storper 1997). Unfortunately McCarthy did not directly compare his findings to the international research, but the project team is confident that South African trends can be interpreted thus.

¹⁶ A major constraint is the unavailability of official GGP data beyond 1994, although the project team was able to access some data from the 1996 Manufacturing census and projections were made until 2000.

to those that apply in the case of 'Innovation and Experimentation' (see Table 1 in Part 1). In some aspects these requirements also correspond with those of labour-intensive mass-production, such as the need for good transport routes. However, in the case of high-value production there is an additional need for facilities such as air transport and/or possible good information and communications technology. The major difference between this category and labour-intensive production, however, are the requirements for more skilled labour and a lesser dependency on the availability of natural resources, such as iron ore and coal.

The geographical spread of this activity (see Maps 22a, b) is once again around the major metropolitan areas, with a particularly high concentration in and around Gauteng and a strong concentration in the Cape Town and Durban metropolitan areas. Research into the metropolitan economies indicates that Cape Town has the most diversified economy, while Johannesburg and Durban reflect more regional concentrations (see Goga and Wolpe). Much in line with the total GGP picture (see Map 4), the cities of Richards Bay, East London and Port Elizabeth feature strongly, as do the secondary inland cities/towns of Bloemfontein, Nelspruit, Polokwane, Newcastle and Kimberley, reflecting historical path dependencies and/or specialised niche activities. The 2006 projection shows that even further concentration of these activities is likely (Map 22b).

(c) Labour-intensive mass-produced goods

Industries in this category, such as iron and steel producers and agricultural and mining activities, are highly dependent on proximity or good, cheap transport linkages to the huge volumes of natural resources that they use in their production process, as well as the availability of greater numbers of unskilled and semi-skilled labour. The location of these industries on the map is similar to that of high-value production, but with the addition of some key agricultural areas in the Western Cape, Mpumalanga and Northern Cape and mining areas in North West, the Free State and Mpumalanga (see Maps 23a, b). The 2006 projection shows that even further concentration of these activities will continue.

(d) Public service and administration

The processes of production, consumption and circulation need to be organised and controlled through business and public management. This typically takes place in metropolitan areas, as well as in towns and cities performing a regional or provincial administrative function. Over and above the metropolitan areas, the provincial capitals and regional centres in predominantly rural areas, such as Bloemfontein, Pietermaritzburg, Bisho, Kimberley, Upington, George, Kroonstad, Nelspruit and Polokwane stand out clearly (Maps 24a, b). The 2006 projection shows that further concentration of these activities is unlikely and government's initiatives to remove redundancy in the Public Service may change the current distribution significantly.

(e) Tourism

The specific locational requirements of this specialised type of activity, which has become a key economic driver in the 20th century and which has shown strong growth in South Africa over the last couple of years, are difficult to group together as a result of the diverse nature of tourism. Key components and broad generalisations are

however possible, such as the need for a tourist attraction (e.g. eco-scenery, cultural, heritage), good transport routes, safety and, in many instances, high quality restaurants and hotels (see *Tourism Infrastructure Report*).

Tourism paints a very mixed locational picture, with some areas coming to the fore while they don't feature on the other maps, such as the south coast of Kwazulu-Natal and some scenic areas in rural Mpumalanga, Limpopo and North West. In addition to this, the main metropolitan areas and the port city of Port Elizabeth once again feature strongly (see Map 25a). Unfortunately the GGP data does not do justice to the tourism potential in the country. It is useful to compare the above map with the one generated by the Tourism Infrastructure Study to get a clearer indication of areas with tourism potential. The 2006 GGP projection shows that even further concentration of these activities is likely (Map 25b).

(f) Services and retail

Retail, catering and personal services are major components of any economy and a large employer of semi-skilled workers in the major post-industrial economies of the world, such as the US, UK, Europe and Japan. The locational requirements for this category are the presence of enterprises and people who are willing and able to pay for goods and services. It is especially the ability to pay that gives this category a strong urban bias, as these are the areas housing the largest portion of the higher income members of the population. Services provided in the urban areas are also typically of a higher monetary value and hence show a larger contribution to the GGP of that area.

Spatially, the spread bears out the 'urban orientation' of this category, with the metropolitan areas and other towns and cities with significant numbers of willing and able customers, such as Port Elizabeth, East London, Bloemfontein, Nelspruit, Pietermaritzburg, Kimberley, Kroonstad, Witbank, Polokwane and Potchefstroom, featuring strongly (Map 26a). The 2006 projection shows no significant change from 2000 (Map 26b).

Procedure used to develop a composite spatial representation of resource potential, human need and existing economic activity

In order to compose a national juxtaposed picture of resource potential, localities with severe human need and existing economic activity (see Maps 27a, b – 32a, b), the following procedure was used:

- The data was categorised, where possible, into low, medium and high potential.
- Data on resource potential was divided into three categories, natural, human and infrastructure. Natural resource potential was indicated by three data sets, agricultural potential, environmental sensitivity and the availability of water. For human resource potential, levels of skills and human density were used. The infrastructure that was indicated was the existing and proposed road and rail infrastructure and the main electricity grid.
- Human need was presented in terms of the spread of poverty and the size of the poverty gap.

- Existing economic activity was indicated in terms of total GGP, as well as in terms of each of the categories of development potential.

For the purposes of analysis, the categories of development for medium and high were combined and the data sets overlain on the same base map. This made it possible to crudely distinguish between the following types of spaces in which:

- resource potential is medium to high, human need medium to high and economic activity medium to high
- resource potential is medium to high, human need medium to high and economic activity low
- resource potential is medium to high, human need low and economic activity medium to high
- resource potential is low, human need medium to high and economic activity medium to high
- resource potential is low, human need medium to high and economic activity low
- resource potential is low, human need low and economic activity medium to high
- resource potential is low, human need low and economic activity low.

From this analysis, broad guidelines can be put forward:

- In areas in which resource potential is medium to high, future economic growth should be carefully managed in order not to further exacerbate environmental vulnerabilities.
- The further concentration of people in need in areas of low potential should not be encouraged and where possible, people should be assisted through social investment to become more mobile so that they may choose to move out of such areas.
- Future economic growth should primarily be explored in those areas with a medium to high resource base and medium to high human need where there may be economic potential to be exploited. Taking into consideration agglomeration and institutional economies, economic activity should be encouraged and supported by infrastructure investment where there is already a medium to high level of economic activity and where (natural or human) resource potential is medium to high.

Analysis of overlays

For the purposes of analysis of the current situation, the categories of medium and high potential were combined and the data sets overlain on the same base map (see Maps 27a, b-32a, b). These spatial representations are intended to serve purely as a guide to further dialogue within government on infrastructure investment and development spending and should not be seen as a blueprint for implementation by national government. It is possible to crudely distinguish between five types of space¹⁷, each of which are discussed in turn:

¹⁷ There were some combinations that were unlikely and yielded no meaningful information given the level of disaggregation used for the analysis. These included “resource potential is low, human need medium to high and economic activity medium to high” and “resource potential is low, human need

- **Resource potential is medium to high, human need medium to high and economic activity medium to high.** Localities that fall into this category are the Durban-Pietermaritzburg area, Newcastle, Richards Bay, Upington, Kimberley, Kroonstad, Umtata and their surrounding areas, portions of Gauteng, the Eastern Cape port cities and the central part of Mpumalanga. The portions in towns and cities will typically be the areas in which large sections of the formerly disadvantaged are concentrated.
- **Resource potential is medium to high, human need medium to high and economic activity low.** These are primarily areas surrounding Gauteng, namely the northern Free State, western Mpumalanga, eastern North West and southern Limpopo. Other areas include the eastern half of the Eastern Cape and the northern parts of Kwazulu-Natal.
- **Resource potential is medium to high, human need low and economic activity medium to high.** Parts of the three metropolitan areas, the secondary cities/towns and the port cities fall into this category. These would typically be the affluent sections of the former 'white' parts of these localities.
- **Resource potential is low, human need medium to high and economic activity low.** The central Free State, excluding Bloemfontein and Kroonstad, the Limpopo, the western and northern parts of the Eastern Cape and portions of central Kwazulu-Natal fit in this class.
- **Resource potential is low, human need low and economic activity low.** Areas in the country that fall into this category are the southern halves of the Northern Cape and the southern Free State (excluding Bloemfontein), a small portion of the eastern half of the Western Cape, the western side of the Eastern Cape and the western part of the North West.

Impact of focusing on categories of development

While the idea of limiting the focus of government spending on infrastructure on areas with some potential for development may seem to exclude many other areas, an analysis of the localities initially identified (in Maps 27a, b – 32a, b) reveals that although these localities only involve 20% of all magisterial districts, they account for approximately 89% of total GGP and 57% of all poor households (see Table 2 below). If localities with medium to high levels of poverty immediately adjacent to the areas of potential were included then 75% of poor households would be included¹⁸. While the focus on places, that is, the geographical distribution of localities with development potential seems quite narrow, the focus on people and economic potential addresses the majority of the population.

low and economic activity medium to high". There were also no geographic localities identified for these combinations.

¹⁸ This assumption can be validated by examining commuting patterns and other research that shows linkages between settlement areas and work opportunities (see Cross, Wittenberg). The research of the Municipal Demarcation Board and Moving South Africa demonstrate similar patterns.

Table 2: Summary of economic and demographic characteristics of localities with development potential

	Number of magisterial districts	Total GGP 2000	Households below MLL 2001	Total households 2001
Innovation and experimentation	27	326 059 254	808 471	2 298 770
High-value differentiated goods	45	417 274 876	1 416 860	3 656 981
Labour-intensive mass produced goods	62	447 715 794	1 588 249	3 969 877
Public services & administration	73	446 929 270	2 442 497	5 311 407
Services & retail	48	425 046 928	1 646 898	4 108 190
Tourism	60	425 792 581	1 998 630	4 562 882
Total for affected magisterial districts in all categories of potential (duplicates removed)		503 951 921	2 975 466	6 229 903
Total for magisterial districts with medium to high levels of poverty immediately adjacent to the areas of potential (duplicates removed)		518 798 801	3 964 501	7 466 460
Total for all magisterial districts		566 120 712	5 255 280	9 220 961
Percentages in localities identified with potential in one or more categories		89%	57%	68%
Percentages in immediately adjacent localities with medium to high levels of poverty		92%	75%	81%

Since some of these localities have a number of different categories of development potential, especially in the metropolitan and other urban centers, the total GGP and total number of poor households positively affected by the approach proposed by the NSDP is less than it would be if development potential was more evenly distributed. Nevertheless, the maps and table show that the range of localities affected by this focus on development potential is broad enough to reach the majority of the population (68 – 81% of all households) and is reasonably diverse (in that, although there is a significant overlap, a larger set of localities is affected than may seem evident from an initial review of the maps). As will be argued in Part 3, this approach therefore manages to address concerns of both economic efficiency (that is, there is sufficient economic resources and potential to promote growth) and social equity (that is, a sufficiently large proportion of the poor are included).

Part 3: Interpreting the space economy for policy and formulating guidelines

Introduction

This Part attempts to interpret the response that government may choose to make to the spatial trends described above. This interpretation will take the form of normative principles that can be used by the different spheres of government when making decisions on infrastructure investment and development spending. The principles are described first, followed by a brief explanation of the approach used to generate the principles. The principles are interpreted in the light of the spatial narrative in Part 2. Finally, Part 3 is concluded with a national spatial development vision that seeks to capture the main themes covered in this section.

Normative principles

National government is committed to economic growth, employment creation, sustainable service delivery, poverty alleviation and the eradication of historic inequities. All infrastructure investment and development spending programmes should therefore support these objectives. In order to meet these objectives in the most cost-effective, sustainable and equitable way, it is proposed that the following *normative principles* be used as a guide by all spheres of government when making decisions on infrastructure investment and development spending:

- Economic growth is a prerequisite for the achievement of other policy objectives, key among which would be poverty alleviation.
- Government spending on fixed investment, beyond the constitutional obligation to provide basic services to all citizens (such as water, electricity as well as health and educational facilities), should therefore be focused on localities of economic growth and/or economic potential in order to attract Private-sector investment, stimulate sustainable economic activities and/or create long-term employment opportunities.
- Efforts to address past and current social inequalities should focus on people not places. In localities where there are both high levels of poverty and development potential, this could include fixed capital investment beyond basic services to exploit the potential of those localities. In localities with low development potential, government spending, beyond basic services, should focus on providing social transfers, human resource development and labour market intelligence. This will enable people to become more mobile and migrate, if they choose to, to localities that are more likely to provide sustainable employment or other economic opportunities.
- In order to overcome the spatial distortions of apartheid, future settlement and economic development opportunities should be channelled into activity corridors and nodes that are adjacent to or link the main growth centres. Infrastructure investment and development spending should primarily support localities that will

become major growth nodes in South Africa and the Southern African Development Community region to create regional gateways to the global economy.

Generating the principles

A simple way of understanding the thinking behind the principles is to look at where people and jobs and/or livelihoods are and whether the money government is spending on infrastructure and development programmes is going into these areas. Of course, the legacy of apartheid and the particular path of capitalist development in South Africa have created a spatial disjunction between people, mainly black and mostly poor and unskilled with few other resources, and jobs (and/or livelihoods), largely in the formerly white metropolitan areas.

The question raised by this approach is therefore: should government spending seek to redress these spatial, social and economic disjunctures in a manner that reconciles with its progressive objectives? Unfortunately it is difficult to answer this question unequivocally at this stage due to a number of issues:

- The most obvious, and perhaps least important, is the lack of available official statistics and information describing post-1994 socio-economic trends. Although this has been partially addressed by the release of the 1996 Census figures, it is only when the 2001 Census figures and new GGP data¹⁹ are released (perhaps by 2003/04) that it will be possible to assess the true impact of post-apartheid policies.
- A more important constraint lies in the understanding of the role of government in addressing spatial and other disjunctures. Arguments presented by many involved in developing this perspective suggest that, on the basis of both local and international experience, there are limits to the capacity of the State to reshape the space economy, either in terms of policy and/or in terms of the resources that the State can mobilise to implement such a policy. In terms of the simple model presented above, these arguments imply that the current disjuncture between people and jobs (and/or livelihoods) is likely to persist, if not worsen. This prognosis is unacceptable, and the recommendations that follow will seek to identify the possibilities that may lie in a (slowly) changing space economy.
- The ability to change the space economy is conditional on another constraint, in that the future cannot necessarily be anticipated, especially when considering the 30 to 50 (or 100)-year time horizons associated with significant changes in the space economy. Extrapolating from the information summarised in Part 2, it is recommended that government spending becomes better aligned with people and jobs and/or livelihoods. Adopting a five to 10-year policy horizon, it is possible to assume that such spending will then ensure the realisation of some, if not all, of the objectives of government as listed above. As long as government does not

¹⁹ The last GGP survey was in 1994. Statistics South Africa (SSA) are still in a process of conducting a new GGP survey and it is still unclear whether this survey will provide data at a magisterial district level.

actively discriminate against people in areas of low potential, by ensuring that any diminution of fixed investment is compensated by better social transfers (in line with the principles of equitable share), then government spending is likely to reinforce longer-term economic, demographic and environmental trends.

It can therefore be argued that spending by government is likely to be more effective and efficient (and possibly more equitable) if aligned with the primary social, environmental and economic trends described in this document. This argument is based on the understanding that economic growth is most likely to continue where it has previously occurred, and that therefore economic potential is highest in these localities. Even in localities with unexploited potential arising from natural resource endowments, human resources and/or backward or forward linkages to other economic processes, it is likely that such potential can only be unlocked if it can be linked to the primary centres of economic growth. International and local research has shown that the primary growth centres provide the human, financial and institutional resources necessary to develop the underexploited potential of other localities. Moreover, local research is showing that even in areas of low potential, linkages to the areas of economic growth provide vital support to people in these areas in the form of remittances, social transfers, access to cheap commodities and all-important information about employment and business opportunities²⁰. It is therefore worthwhile emphasising that the ongoing support of the current centres of economic growth remains an essential requirement for sustainable development in both these localities and elsewhere.

By focusing infrastructure spending on the main localities of economic growth and/or potential, there is of course a danger that the historical inequities described in Part 2 could actually worsen if specific interventions are not instituted to ameliorate the most immediate distress. In mitigation of this danger, it is assumed that, in line with international and local trends, people will ultimately move to localities where jobs or other livelihoods are available. Although it is believed that the actions of the public and private sectors should be directed at ensuring that the available social, economic and other resources of each locality be used to improve the welfare of the nation as a whole, it is obvious, given the spatial discrepancies described in Part 2, that some localities will be privileged over others.

It is possible to argue, in line with other international experience, that such locational inequality does not necessarily mean greater social inequality because the available data indicates that the localities of higher growth also include a large number of the poor, and migration trends confirm that the absolute number of poor is likely to increase in these areas. Thus, one of the key assumptions underlying the principles above (and recommendations in the next Part), is that efforts to address past social inequalities should focus on people and not places in localities where it would be difficult if not impossible to promote sustainable social and economic growth. While it is true that current settlement patterns show that a significant number of people are in places that are also severely prejudiced in terms of economic opportunities and

²⁰ This information is included in the papers of Catherine Cross and Martin Wittenberg prepared for this project (see CD Rom). Wittenberg is currently working with a joint team from the Universities of Witwatersrand and Princeton to analyse in-depth survey data of almost 50 000 households in the Agincourt sub-district of Limpopo. The data will provide detailed household analysis of urban-rural linkages over the crucial 1992-2001 period. The researchers hope to report later this year.

service delivery, it is suggested that, apart from the constitutional necessity to ensure the provision of basic services, further assistance from the State should be directed at the people and not the places.

It can be shown that if both efficiency and equity criteria are met by focusing on large poor populations in, or adjacent to, areas of current and/or future economic growth, the overall return on the Government's investment in infrastructure and development spending will be higher than if such expenditure were distributed to more dispersed areas where there are both fewer beneficiaries and the cost of delivering services is much greater. As demonstrated by Table 2 in Part 2, by focusing on localities where both the majority of people reside (that is areas where between 57 – 75% of poor households) and on areas that have greatest potential to develop (89 – 92% of GGP), government policies will be more equitable and efficient and therefore more likely to succeed in addressing social and economic objectives.

Returning to the simple model presented above, the main recommendations encapsulated in the proposed normative principles are that government investment in infrastructure and development programmes should reinforce the dominant trends defining the present and future space economy. Although these principles will continue to be tested in the unfolding policy process, engagements with senior officials in most of the key departments confirm that these principles capture key elements of the Government's current policy. In particular, the first principle emphasises that it is primarily through economic growth that the other (more socially oriented) objectives of government will be addressed. Other recommendations will suggest social programmes to address the extremely difficult circumstances of the poor and vulnerable sections of the population (the majority). However, such recommendations will seek to ensure that future economic growth will generate the resources necessary to fund such social programmes.

The second broad principle described above seeks to capture a view that future government spending on infrastructure and development programmes should not be in localities that would ultimately become 'poverty traps'²¹. As far as possible, this investment should occur in localities that display dynamic social and economic growth (mainly in the larger urban and industrial areas, areas with tourism potential, areas with mineral potential and some technologically advanced agricultural sectors). However, so as not to ignore the vast majority of people living in places where such conditions do not prevail, it is recommended that government provides resources to those areas and sectors which have the potential to restructure where this is economically feasible.

Government will also need to provide resources in places where there is a limited potential of generating economic growth to enable people to become more mobile. These latter kinds of resources could include social transfers (a major provider of livelihoods for those in peripheral areas), but would increasingly focus on human resource development (such as the 'top-slice' of the Skills Development Fund) and

²¹ Research commissioned for the NSDP and also Moving South Africa identified many displaced urban settlements which were areas where people have settled although there is little likelihood of employment (see Cross). Such places are likely to become concentrations of the poor with little potential for development.

labour-market intelligence²². In shifting government support from hard infrastructure to social support in areas of low potential, government must take responsibility to ensure that these services (be they welfare, education, or labour-market preparation) can be delivered. This may require that greater attention be placed on developing the capacity of the institutions that currently deliver these services to ensure that they can reach those people in out-lying areas. Given current bottlenecks in social-service delivery in some rural areas, it should be recognised that the plight of the poor in these areas can be immeasurably improved if they can even gain access to current forms of social transfers. In light of the recommendation to increase social services in these areas of low potential, government has a responsibility to improve the current levels of service delivery to these areas.

The final principle is largely based on dominant thinking in certain sections of government as well as international examples that bear out the logic and necessity of overcoming the spatial distortions of apartheid. Although, as has been argued above, the State has limited ability to substantially change the space economy, by reinforcing and densifying the corridors between growth centers and also by strengthening the regional and global linkages between these centers and the rest of the world, the Government is more likely to generate sustainable development. This means primarily increasing the existing 'footprint' of development rather than initiating development in areas where it is unlikely to succeed. The critical role that certain metropolitan areas play in integrating South Africa into the regional and global economy needs to be supported through appropriate investment in key infrastructure such as roads, railways and ports. However, given that these centres also attract large numbers of job-seekers, they also need to be provided with appropriate human settlements. To overcome the metropolitan spatial distortions between home and work, greater emphasis should be given to medium-density settlements closer to the workplace and the metropolitan transport systems need to be maintained. Therefore, although the State cannot dramatically change the macro and micro space economies of South Africa, focusing on corridors and densification will mean that previous spatial distortions will start to be addressed.

A reading of the spatial narrative in light of the normative principles

Maximising return on investment

Two distinct types of government expenditure are those:

- which directly improve the welfare of the population
- that improve the functioning of the economy.

Clearly government cannot emphasise one at the expense of the other. Unless government manages to maintain and develop the current sources of economic growth, it is assumed that there will be less to redistribute in social programmes in later years. However, unless the conditions of extreme and worsening poverty and deprivation that the majority of people find themselves in, are addressed, it is unlikely

²² As noted in paragraphs 13 and 14 of Part 2, Wittenberg's research for this project indicates that the primary advantage to gaining employment is access to labour markets either through proximity or through family networks (see Wittenberg). Ironically the breakdown of the old-style migrant labour system through employment bureaux has significantly contributed to the undermining of the information flows between areas of employment and peripheral settlements.

that economic growth, social cohesion and political stability will be maintained. At this stage, therefore, it is not suggested that the actual amount of economic and social transfers that is currently established by the Cabinet be changed, but that the manner in which this funding is spent become more spatially focused.

In terms of the economic investment in infrastructure, it is proposed that the Government continues to exploit economies of scale and comparative advantage to ensure that such investments are focused on those few localities that already demonstrate positive agglomeration economies (mainly the metropolitan areas), and/or less-developed areas with proven potential to generate such economies. Such a focusing of economic investment should also generate a greater return on investment than a more dispersed approach. In terms of social investment, it is proposed that a similar logic prevail to target localities where the density of the poor is higher, and conversely, the cost of servicing such population is lower. Available data indicates that this will be mainly in or around the areas of economic growth and/or potential, therefore ensuring that the efficiency and effectiveness of such investment is maximised.

Investing in people, not places

Although the overall thrust of these recommendations is to maximise the social and economic return on investment, it is recognised that for the foreseeable future there will be many people living in localities that have limited potential to develop. The distribution of these localities is uneven across the South African space economy, as shown on the maps (Appendix 1) and discussed in the narrative (Part 2). It should be recognised that there are many more districts and provinces that are localities of low potential than there are localities of high potential. However, any form of equitable share which strictly distributes government funds in terms of locational disadvantage, would result in many areas of low potential being targeted for fixed investment even though they do not have the economic potential or population density to justify such investment.

In order not to discriminate against people who are currently locationally disadvantaged, it is proposed that Government seek to redress these inequities by maintaining the current distribution of fiscal resources to these areas, but that this investment is shifted into less fixed assets. This could mean that only a very basic level of infrastructural services is provided and that an additional amount of money (at least equal to current transfers) goes into skills development, labour-market information, and other resources that will enable those living in these areas to become more mobile. Where possible, such social investment should seek to exploit the local comparative advantages (as can be identified through integrated development planning) in order to give people the option of remaining in these localities if they so choose. However, it is assumed that given the low level of economic potential, many people will eventually move to areas of greater economic potential.

This is not necessarily a negative outcome since international experience shows that such migration is an inevitable result of economic development that sees certain localities develop and others decline. Although there are fewer localities of economic growth and/or potential than there are of low potential, the overall distribution of localities with medium to high potential is sufficiently widespread to ensure that such

a social and economic shift will not generate excessive diseconomies of scale. The maps shown in Appendix 1 (especially Maps 21a, b – 32a, b) indicate that economic development will reinforce existing economic nodes and spread outside these along recognisable corridors. While this pattern of development will not be evenly distributed across districts and/or provinces, it is likely to be distributed over a reasonably broad range of localities (see Table 2).

The disjuncture between people and economic opportunities

Although government spending on infrastructure and development programmes has largely followed the main spatial trends described in Part 2, a major area of concern remains that there is still disjuncture between current location of human settlements and current economic activity, especially at the subregional level. Much of government spending on social infrastructure has been focused on areas of high population density, which, because they contain large proportions of the poor and are part of, or adjacent to, areas of current economic activity, has ensured that the absolute number of beneficiaries of this investment has been greater than if a more dispersed focus had been adopted (see Maps 1a – c).

However, the reality remains that a significant proportion of people have been concentrating in economically unsustainable dense settlements in rural or peri-urban localities. While it is evident that it will be difficult, if not impossible, to bring economic opportunities to many of these areas, it cannot be easily assumed that economic growth in the major metropolitan centres will necessarily provide economic opportunities for both those already settled around these centres, as well as for new migrants. At present, economic growth in metropolitan areas has largely occurred without the creation of net additional employment, and unless further economic opportunities are promoted, it is unlikely that these areas will be able to support additional people who may move from more marginal areas²³.

It would seem that while the overall focus on investing in areas of economic growth and/or potential should be emphasised, policy will need to be more discriminating in addressing the current disjunctures. On the one hand, policies to promote economic growth need to ensure that a wider range of opportunities are unlocked both in localities of current economic activity as well as in localities that only show economic potential. Such a range of economic opportunities will need to span the divide between large and smaller scale enterprises, as well as between the formal and informal economies. On the other hand, greater emphasis is also required in identifying the comparative advantage of localities that do not currently appear to have significant economic potential. It is here that the proposed mechanism (local governments' IDPs) can be useful. By requiring that all localities identify their comparative advantage in terms of the different categories for development potential, and then having these assessed in relation to other localities, it is likely that a broader range of development options will be exploited since localities with low potential relative to localities of current economic activity will be pushed to find new areas of comparative advantage.

²³ Recent employment data from Statistics SA seems to suggest that although the informal sector played a role in counter-balancing the decline in formal employment there has been no significant gain of jobs in the economy.

Re-assessing government subsidies to address the disjuncture between settlement and economic policies

In addition to seeking new opportunities for developing economic activities by exploiting the potential of different localities, government needs to re-assess its current subsidy programmes especially to address the existing disjuncture between the location of human settlements and economic activity. Even in cases where people are based in magisterial districts that reflect adequate levels of economic activity, the poor are generally located some distance from these opportunities. Unfortunately, although the current subsidy programmes for human settlement (housing subsidies and the Consolidated Municipal Infrastructure Programme [CMIP]) have managed to provide over one million housing opportunities, many of these settlements are located on the peripheries of the urban centres, thus reproducing the apartheid spatial planning forms (*State of Human Settlements Report*, also see Maps 1a – c).

Although part of the problem of dispersed settlements lies with the developer-driven model used to deliver the bulk of housing subsidies, since developers have been taking advantage of available land holdings to keep down costs, the other part of the problem arises because the current subsidies (housing and CMIP) are generally inadequate to cover the costs of well-located land in many of the major urban centres (Bierman)²⁴. Since the Government currently spends more than R2 billion on road and bus subsidies to address these spatial disjunctures in the major cities, the opportunity exists to redirect some of these funds to acquiring better-located land²⁵.

However, dispersed settlement is unlikely to be addressed unless government plays a more proactive role in controlling the decentralisation of high-income residential, commercial and industrial developments. Not only has decentralisation created unsustainable urban forms, but in some areas such settlements are encroaching on high-value agriculture land and scenic locations that have tourism potential, thereby undermining the longer-term economic potential of these areas (see Maps 15b, 16). Part of this problem can be addressed through stricter land-use controls, and part of it through changing the incentive structures. In particular, developers who seek to build in decentralised locations should be required to pay a full contribution for the increased transport costs arising from that development. Unfortunately, if the subsidy policies are adjusted before decentralisation is controlled, it is likely that the poor will become even more marginalised.

The re-assessment of the subsidy policies will also need to consider the current allocation of household subsidies in large-scale infrastructural development to areas of economic vulnerability and decline. A number of departments involved in the delivery of household infrastructure have indicated that, in the absence of any national guidelines to the contrary, provinces are allocating such subsidies to localities that have almost no potential to develop. As a result, these settlements are not being fully utilised because the ostensible owners of the household infrastructure are living elsewhere in informal settlements in areas where they are employed. While it is not

²⁴ A third problem arises because of the current practice of tying CMIP funds to new ('greenfields') housing development rather than allowing more of such funds to be used for upgrading existing *in-situ* settlements.

²⁵ Currently these funds are committed in long-term contracts which run until 2003 or later, but these funds could be redirected once these contracts run their course.

suggested that people in localities of low potential never become recipients of such subsidies, (in the light of the likelihood that many of these areas will decline and that their populations will move to more economically viable areas, as well as in the light of the anomaly of working people living in shacks while poorly located housing stands empty), it can be argued that at this stage areas of low potential receive lower priority for household subsidies (beyond the provision of basic services).

The politics of 'big push' versus 'unbalanced development'

The current debates about how development should unfold in South Africa are not much different from similar arguments that have persisted in the development arena for many years. The discussion of how to alleviate poverty while ensuring the economic growth necessary to provide the resources to realise South Africa's developmental objectives involves some implicit assumptions about the manner in which these objectives can be achieved.

Most policy discussion in government assumes the benefits of co-ordinated or integrated action in addressing developmental objectives. In its most simple form, this commitment to integration seeks to ensure that developmental activities are not mutually contradictory but rather complementary, so that one intervention, e.g. the provision of water, will support another, e.g. the provision of primary health care. Much of the work of The Presidency, the Cabinet, and other cross-cutting departments such as National Treasury and Provincial and Local Government, is directed at ensuring better co-ordination of developmental projects and programmes. Part of the problem is that co-ordination even at these levels of government is seen largely in terms of integrating programmes and projects and less about agreeing on common outcomes and objectives. Even this form of simple co-ordination may, however, be difficult to sustain operationally beyond some of the high-profile projects (Special Integrated Presidential Projects [SIPPs]), the Integrated Sustainable Rural Development Programme, the Urban Reconstruction Programme.

In a more complex form, this commitment to integration seeks to benefit from the advantages of co-ordinated development that were initially described in the 'big-push' theories of Paul Rosenstein-Rodan. In the late 1940's, he emphasised the 'pecuniary external economies' of simultaneous action that would yield economies of scale (such as having complementary industrial development so that the output of one industry is used for another). He also highlighted the cost of 'social overhead capital' (such as the existence of canals, ports and railways of Britain that made further industrialisation viable) that was required before private-sector investment could be justified. Thirdly, he noted that there were certain 'technological external economies' (such as developing human capital) that would occur only within particular institutional environments²⁶. The influence of this more complex notion of integration has informed much of government's thinking about development, notably the Reconstruction and Development Programme, and remains fundamental to most regional economics, including that which informed this project.

²⁶ For example, in the absence of some social institutional support, workers are more likely to be trained under slavery than under free enterprise systems since the slave owner can retain control over his investment.

The importance of this more complex form of integrated developmental activity is that it seeks to create the mutually reinforcing dynamics of co-ordinated investment (whether economic, such as in the case of upstream or downstream beneficiation, or social, as in the case of ensuring that communities have housing, clinics, schools and churches to create a wider sense of social solidarity). While such complex co-ordination is still a valid developmental goal, it was challenged in part by the analysis of Albert Hirschman, who presented a case for ‘unbalanced growth’. Although he was largely working within a paradigm that accepted that complex integration was still desirable, he argued that within certain economic and social limits, the absence of a complementary activity might not in itself be a constraint to further development. ‘Unbalanced growth’ may actually promote development, since, under certain favourable conditions, someone would seek to fill the gaps arising from such a process. This could lead to a more dramatic developmental path for the economy and society as it would entail more focused development giving rise to gaps, which would in turn then be overcome, providing an unbalanced but nevertheless dynamic path of development²⁷.

Both these simple and complex approaches to co-ordination and integration have relevance to the NSDP and other policy discussions. In the sense of the complex understanding of integration, it is important to ensure that those promoting different sectoral policies in the different spheres of government have an understanding of the potential to draw upon Rosenstein-Rodan’s external economies and to provide the social capital to ensure that the greater benefits of development are achieved. However, drawing from Hirschman, it may be possible within certain economic and social limits to tolerate some degree of unbalanced growth, since this is already a reality. Unbalanced growth could, however, also lead to a more dynamic development trajectory than may otherwise be achieved through co-ordinated development.

The NSDP actually draws on both these insights. On the one hand, it proposes to focus upon localities that demonstrate some economic potential and high levels of social need in the understanding that greater benefits will be achieved by focusing resources and effort on these localities. The NSDP therefore uses the notion of external economies to support the need for providing sufficient and adequate social capital (social and economic infrastructure) to leverage in private-sector investment as its strategy to address both economic growth and poverty alleviation. On the other hand, the NSDP also accepts that some degree of unbalanced growth will continue to exist and that, within certain social and economic limits, may actually contribute favourably to long-term development. In recognising the importance of these social and economic limits, the NSDP principles are clear in stating that, in localities not targeted for fixed capital investment, the people there should be assisted through increased social transfers, training and labour-market information. Such investment is expected to mitigate some of the negative effects of unbalanced growth (in terms of creating greater economic and social inequality) while at the same time supporting the

²⁷ In his later reflections on this theory, Hirschman emphasised that there was a limited extent to which the growth path could be unbalanced for social and economic reasons. If the gaps became too large, there was little potential for them being overcome.

broader demographic, environmental and economic trends which suggest that spatially unbalanced growth is likely to remain in the medium to longer term²⁸.

The mismatch between economic development and South Africa's natural resources

Analysis of the space economy indicates that South Africa's current development path is threatening the natural resource base upon which lies much of its comparative advantage (see Maps 15a, b, 16, 17). As noted above, poorly located human settlements and urban decentralisation are encroaching on high-value land with agricultural and/or tourism potential. But the problem lies much more deeply, in that South Africa's previous development path was built on a careless disregard for the long-term environmental impact of such development (see *State of the Environment Report*). Some immediate concerns can be identified around issues of water and energy utilisation.

It is well recognised that South Africa has limited water resources and that these are generally located along the eastern escarpment or outside the borders. As a result, many of the main areas of industrial and agricultural output are net importers of water. While there currently remains a water surplus in the existing system, over the next 20 to 30 years most of the major centres of economic activity will be experiencing a significant water deficit and South Africa will need to import a large amount of its water requirements from elsewhere (see Map 17). It is important that, in addition to developing such water supplies, South Africa start focusing on re-allocating water between users. Re-allocation may be achieved through a pricing mechanism, since the rate of return from industrial utilisation is about 250 times that of agriculture, although such a radical re-allocation may more severely impact upon the poor unless basic services are provided. Another mode of re-allocation could entail a shift in trade where South Africa begins to import products (such as maize and lucerne) that are relatively inefficient users of water, and focuses its exports on products that are more efficient water users. Another solution to the problem of water scarcity lies in the maintenance, rehabilitation and upgrading of existing water infrastructure to curtail losses in transit and storage²⁹.

The proposed method of integrated development planning and assessing localities' comparative advantages through the NSDP should assist in ensuring that valuable resources are used appropriately since it will be possible to identify localities where conflicting uses of scarce resources may arise. The method should also lead to a more appropriate use of natural resources, because the NSDP will focus attention on the comparative advantage of different regions. Localities that are currently engaged in inefficient utilisation of valuable natural resources will lose any perverse subsidies, and the incentive structure should begin to favour those areas that have comparative advantage in the use of scarce resources.

²⁸ These arguments apply mainly to the macro space economy. At the micro or local authority level, more success can be achieved with spatial integration, although this is still most likely in activity nodes and corridors.

²⁹ DWAF, Water Resources Strategy published in June 2002.

Globalisation and sustainability

The analysis of the South African space economy indicates that future policy needs to be focused upon ensuring the long-term economic sustainability of those areas and sectors that will be able to restructure in the face of increasing globalisation. While the main implications of globalisation are generally understood by government, it is still not clear to what extent South African enterprises will be able to remain competitive in a dynamic and rapidly changing international economy. It should be evident that the country cannot be complacent about the risks of re-integrating into the world economy, as the experience in Eastern Europe has shown that integration without adequate restructuring can devastate a nation's industrial and commercial base.

Under current (and future) international trade agreements, the provision of infrastructure remains one of the main acceptable methods of improving industry competitiveness. Therefore, in line with other proposals in this document, it can be argued that increased investment in economic infrastructure is essential to ensure that the South African industry continues to remain competitive in a world where other nations invest significantly more than South Africa does in infrastructure.

International trade agreements have other consequences for the competitiveness of South African firms, in that environmental effects, and especially the energy utilisation of the production processes, will increasingly determine the competitiveness of products and services. While cheap energy has contributed to South Africa's short-term comparative advantage, it has also contributed to energy inefficiency, which will make it increasingly difficult to market goods and services in terms of certain international conventions. Other conventions dealing with greenhouse emissions and waste disposal may also begin to negatively affect South Africa's trading position over the next decade (Geach).

Focusing infrastructure investment on appropriate levels of service

Beyond the more general requirement to focus infrastructure investment in areas where South Africa's comparative advantages can be enhanced, investment in particularly economic infrastructure, but even social infrastructure (since it contributes to the productivity of the workforce), may still need further targeting. In particular, long-term projections around economic growth suggest that economic activity is unlikely to shift from localities in which it currently occurs, although the mix of products and services is likely to change (McCarthy)³⁰. This means that the primary transport road and rail routes are going to continue to be extensively used and will require their capacity to be enhanced over the next 30 years (see Maps 18, 19). In addition, the current capacity and operating performance of the nation's port infrastructure is severely overextended, and in need of rehabilitation and upgrading if South Africa's industries are to become more internationally competitive.

³⁰ While this was a result of research specifically for the project, it is confirmed by research commissioned by the Department's of Transport (see Map 19) and Water Affairs and Forestry (see Maps 11, 17).

However, other transport infrastructural networks may not remain priorities as the economic activity is focused on areas of comparative advantage and if previous spatially distorting subsidies are phased out. It is believed that the proposed NSDP will aid in the alignment of different development thrusts (in various production sectors, agriculture, mineral extraction and tourism) so as to minimise the disruption to these sectors when freight transport routes are rationalised. While such alignment is unlikely to address the development potential of all sectors, the current analysis of development potential as described in Part 2 suggests that considerable synergies may be obtained. The NSDP should also assist in identifying the infrastructural requirements for promoting the greater integration of the southern African regional economy, although the affordability constraints of any extensions to the current network will need to be tested for economic feasibility.

The focusing of South Africa's infrastructural networks is also needed in the energy sector. South Africa is well serviced by the national electrification grid (see Map 20), but it is becoming increasingly evident that the extension of the network to low-density settlements is economically unsustainable and will need to be supplemented with off-grid options, such as solar power. The problem with rural electrification ultimately highlights a key proposal arising from this document, in that the provision of infrastructure should be tailored to the appropriate level of service for the locality.

Maintenance versus new investment

The interpretation of the space economy indicates that economic growth is likely to occur largely in metropolitan and other urban centres. Unfortunately, although these areas are already endowed with an adequate stock of infrastructure, there is growing evidence that this infrastructure is rapidly reaching the limits of its workable life-cycle, and that unless significant investment is made in maintaining, rehabilitating and upgrading it to meet new demands, these areas are likely to lose their comparative advantage³¹. While such a focus may create the impression that the better-resourced localities will continue to be favoured over less well-endowed areas, these areas need to be considered as contributing to the national comparative advantage and as such their neglect could affect the welfare of all. Most metropolitan councils and provinces, such as in Gauteng, have already identified this problem and are seeking innovative solutions to address the maintenance, rehabilitation and upgrading backlog such as public-private partnerships and other alternative service arrangements.

Such approaches take advantage of the fact that these areas have the economic resources and utilisation volumes to support these facilities on a pay-for-use basis. They should also help to address equity concerns since future users can be charged for the sunk costs of infrastructure that was previously provided by the fiscus. However, in promoting new methods of financing infrastructure in these areas, two issues need to be kept in mind. Firstly, a significant proportion of the poor live in these areas and some forms of alternative service delivery will raise their costs as well (the principles of non-divisibility and non-substitutability of public goods such as roads apply here). Secondly, while every effort should be made to ensure that economic infrastructure pays for itself, given the strategically economic significance of these areas, it will be

³¹ See the 1998 MTEF Review: Infrastructure Investment.

necessary to phase in the full cost of infrastructure provision in order not to undermine the competitiveness of their industrial and commercial bases.

Measuring the potential of different localities

The final issue that needs to be considered in this Part concerns the question of how the potential of different localities will be assessed. Although there are some measures of economic potential, it is important to note that it is difficult to develop uncontested and objective measures, and that any assessment of potential will in part rely on a value judgement of how certain preconditions may be translated into actual economic growth. International experience shows that potential can be attributed to such measurable and observable factors as existing concentrations of economic activity, available human resources (as suggested by such indicators as levels of education), availability and quality of infrastructure, and existing natural resources, as well as less quantifiable qualities such as local initiative and institutional capacity. It is also important to recognise that potential is also constantly shifting as local and global markets change, often in ways that cannot easily be predicted.

This NSDP can therefore provide an initial interpretation of the potential of different localities and sectors to develop, but it will not be able to provide any definitive measure. Once the IDPs are prepared and assessed, it will be possible to provide a more rigorous assessment of potential based on local knowledge, but it must be recognised that even these assessments will have to be re-evaluated periodically in order to ensure that the national interpretation of local comparative advantage is updated to take account of the effects of ongoing investment and development. The annual review of government performance in all spheres will enable the Government to re-assess the NSDP in the light of both changing circumstances and also the impact of its investment on the development potential of specific localities. In some cases, it is probable that unanticipated local and/or international developments will enable previously identified low or medium potential localities to develop some comparative advantage, while in other cases, and perhaps despite any government investment, some localities will lose their favoured ranking. Although such changes will not be uncontroversial since localities likely to be disadvantaged will seek to contest any changes of their status, the use of an NSDP within clearly defined criteria will enable the re-assessment to take place with some degree of objectivity.

A national spatial development vision

Given the foregoing interpretation of the normative principles as read against the spatial narrative, government's national spatial development vision can be described as follows:

South Africa will become a nation in which investment in infrastructure and development programmes support government's growth and development objectives:

- *by focusing economic growth and employment creation in areas where this is most effective and sustainable*
- *by supporting restructuring where feasible to ensure greater competitiveness*
- *by fostering development on the basis of local potential*

- *by ensuring that development institutions are able to provide basic needs throughout the country.*

PART 4: An institutional machinery for the NSDP

Introduction

It is difficult to determine how the NSDP will be used in government at this stage since the Intergovernmental Planning Framework is in a process of being implemented. It is, however, possible to suggest in light of these processes how the NSDP may find its place in government. It is important at the outset to set out some of the planning principles³².

Intergovernmental planning principles

The relationship between a national planning perspective such as the NSDP, provincial plans such as Provincial Growth and Development Strategies (PGDS) and IDPs should be determined in the context of a set of intergovernmental planning principles.

Such principles could include:

- National development guidelines and principles should inform planning for development in all spheres.
- Each sphere has its own distinct development tasks and related planning tasks corresponding to the scale of operations and the area of jurisdiction.
- Integrated development planning by municipalities is a tool to integrate and co-ordinate implementation in terms of geographical space and time in that locality. They have to inform, and be informed by, the planning of other spheres of government, including sectoral/departmental planning of line agencies.
- The necessary mutual alignment between national principles/guidelines, sectoral planning requirements (standards, provincial strategies) and local needs, conditions and resources, must be conducted in the spirit of co-operative governance whereby the plans of one sphere should support those in another. As argued below, this should not entail that all plans are in complete agreement, but that, at the very least, contradictory policies are not promoted, and that they align themselves around the national policy priorities established by Cabinet.

Focus on potential

The NSDP is not a national plan but a perspective that provides an indication of potential in various geographic spaces across the country. The relationship between PGDS, Municipal IDPs and the NSDP should be informed by the identification of development potential within their respective areas of focus (municipal, provincial and national). The NSDP should assist in expanding information flow and knowledge about development and will not necessarily directly impact on allocation decisions

³² Much of what follows comes from a document prepared by DPLG but has been edited by the project team in light of other discussions including those within the Presidency.

that will occur through existing budgeting frameworks. It should, however, provide Government as a whole with a better appreciation of development potential in each district. The existing planning framework, incorporating as it does the MTSF and MTEF planning and budgeting cycle should remain the primary framework in which these decisions are made. The NSDP is expected to inform this planning framework and other medium to longer-term strategies of government.

The purpose of the NSDP

The NSDP is an indicative guideline that will encourage creative interaction and co-ordination between departments and spheres of government about the nation's spatial priorities. It will function as a basis for discussion and negotiation. The gist of these statements is that the NSDP will function not as a policy that prescribes expenditure choices, but an instrument for discussing spatial development priorities for South Africa within government. However, through dialogue it will impact on rationing choices in the Budget.

The NSDP is expected to guide discussions around policy and programme co-ordination with regard to infrastructure investment and development spending in all spheres of government. It is proposed that decisions regarding infrastructure and development spending made by national, provincial and local government be monitored through existing reporting mechanisms and that current inter-governmental forums be used to influence how future spending may be spatially aligned in accordance with NSDP principles. In this manner, the NSDP will act as an indicative guideline for spatial planning by the three spheres of government within the framework of co-operative governance.

The NSDP acknowledges that the process of developing IDPs by local government structures, which themselves cover the length and breadth of the country, is a critical element of spatial planning. The assessment of these IDPs and their synchronisation with national spatial development planning will be crucial to the realisation of NSDP objectives. Thus, at a broader strategic level in terms of the NSDP normative principles, and concretely in the unfolding of PGDs and IDPs, the perspective would find practical manifestation.

Consequently, the NSDP will function as

- a first model of influence for, but not a component of, the MTSF that informs executive decision-making, but does not prescribe policy choices
- an instrument for dialogue within and between spheres of government that departments will comment on vis-à-vis their particular strategies
- a conceptual organising tool for debating categories of development within all spheres of government.

Possible institutional arrangements

The institutional arrangements for the NSDP would be based on the above three functions. In addition, any arrangements should speak to government's commitment

to ‘integrated governance’ and ‘strengthening the centre of government’³³. An appropriate mix of formal and informal processes should adequately provide some structure to these processes of dialogue while preserving the NSDP’s flexibility as a national perspective on spatial development priorities. Specific core processes that the NSDP would have to engage are the following:

- the preparation of the NSDP by The Presidency to inform Cabinet decision-making
- annual comments on the NSDP (comments on how their strategies are informed by the NSDP principles, their comments on the spatial narrative in Part 2, and their maps) by departments to provide a platform for further dialogue on the relationship of departmental strategies and programmes to NSDP
- dialogue between spheres, and between departments and institutions within spheres, which will be informed by PGDS and IDPs to ensure a top-down bottom-up process of planning for development.

Data and information

The project team in preparing the NSDP did not seek to create its own information management system but used collated data available from national departments and other research institutions. Any future process of compiling or reviewing the NSDP would require a greater capacity to manage data and other policy information. The Presidency is in the process of developing its own electronic information management system and this should assist in the preparation and review of future NSDPs. It is proposed that The Presidency take advantage of the work done by the departments of Agriculture, Provincial and Local Government, Housing, Water Affairs and Forestry, and Statistics South Africa to provide such data and information. Specifically with respect to the planning components, The Presidency should take advantage of the IDP Nerve Centre being developed by the Department of Provincial and Local Government which should provide national, provincial and local governments with development-related data.

³³ Currently there is discussion around these concepts and the final forms of such processes and structures is not yet known.

Part 5: International comparisons

The project team commissioned a report to compare the NSDP to other current national spatial planning initiatives (Oranje). The report covered 13 international existing and proposed examples of the new wave of national and supra-national planning instruments. The international examples of national and trans-national spatial planning that are covered are set out in the following table:

Table 3: National and Transnational Spatial Planning Instruments

Category	Country	Instrument
Countries that have prepared or are preparing a national spatial planning instrument	The Netherlands	The Fifth Report on Physical Planning
	Ireland	National Spatial Strategy
	Wales	Wales Spatial Plan – Pathway to Sustainable Development
	Qatar	National Physical Development Plan
	Denmark	National Planning Report for Denmark
	Mauritius	National Physical Development Plan
	Estonia	Estonia 2010
	Belarus	National Plan of Spatial Development of Belarus
Countries in which national spatial planning instruments have been proposed	Australia	National Spatial Framework
	United Kingdom	National Spatial Planning Framework
Macro-regions	Baltic States Region	Vision and Strategies around the Baltic Sea 2010 Plus (VASAB 2010 Plus)
	North Sea Region	Norvision: A Spatial Vision for the North Sea Region
Continental	Europe	European Spatial Development Perspective

The international examples are not a homogenous group against which to measure the NSDP since they were all born out of a particular need and in a particular context. Such heterogeneity dictates against the existence of such a single international standard, in that there are as many differences as there are similarities, but notwithstanding this, certain similarities that can be extracted from the examples. Therefore a comparative analysis of the NSDP and these examples was performed.

The comparative analysis yielded the following insights:

1. Most of the examples share a desire to ensure greater intergovernmental co-operation between the planning actions and infrastructure investment and development spending decisions between different levels of government. Despite this desire for co-ordination and integration, very few of the examples move beyond putting in place concrete mechanisms as to how adherence to a national framework will be ensured. In most cases it is stipulated that such integration is either voluntary, or that either a provincial or national authority will 'use its monitoring function' to ensure this. Even in a country with a very long history of national spatial planning, such as the Netherlands, such a mechanism is lacking, and is an issue that has enjoyed severe critique from a number of role-players in that country. The NSDP is unique in the sense in that it proposes a mechanism that will link local, provincial and national planning in one integrated system of planning for development.
2. Most of the international examples have an indicative character, with most often no legal status and with even those countries that traditionally deployed far more nationally prescriptive plans, like the Netherlands and Denmark, of late coming up with 'reports' that combine strong national positions on a few key issues with substantial provincial and local maneuvering space. The NSDP is very similar in this regard, with its four guiding principles providing a strong national directive, while at the same allowing municipalities and provinces to plan for the particular needs of their localities and by making use of the unique comparative advantages they have.
3. The need for a link between the national spatial planning document and other sectoral policy documents is referred to, but is not easily achieved. The NSDP faces the same problem, leaning on other policy documents and legislation to guide the preparation of the spatial development framework that every municipality has to produce.
4. Most of the frameworks are seen as mechanisms for dialogue and for discussing, debating and gaining a better understanding of issues of shared importance for more than one level/sphere of government. The NSDP also foresaw this role.
5. Generally, the international examples are becoming more principle-based and less map-based. Maps are increasingly used to present layers of geographic information system (GIS)-based data and for making sense of the space economy, not for portraying planning blueprints. The NSDP was initially conceived as a text that would be planless, in that sense being at the cutting edge of thinking in the field. Even though maps are used in the NSDP, these are not necessary for the document to be used.
6. The focus on regions as the key spatial categories in the national and trans-national space economies, with especially Denmark taking a leading role in this regard, is echoed in the NSDP.

7. The reasons for preparing national spatial plans/frameworks/strategies are very similar in most of the examples. These are in most cases those of ensuring greater rationality, integration and co-ordination in infrastructure investment and development spending, sustainability, social justice, maintenance and expansion of urban economies and rural regeneration. Whilst the NSDP has very similar objectives, it does not put such a strong focus on the issue of place, with far greater emphasis on people.

8. In all of the international examples an attempt is made to provide a concise description of the national space economy. In many of these plans, this description is not very successful, not giving the reader sufficient and focused information to assess the state of this space economy. The eloquent and crisp treatment of this section in the NSDP in the form of a narrative is one of the better attempts at this task.

9. The notion of ‘potential’ is used as one of a number of structuring elements in a couple of the overseas examples, such as Ireland and Denmark. In the case of the NSDP, this and the prevalence of poverty, are used as the only two structuring elements in the reading of space. In addition to that, the NSDP takes a much stronger view than for instance the Danes regarding potential, arguing that some areas may have potential, but that that potential is not one of the limited number of potentialities national government sees as necessary and desirable to support.

10. Most of the international examples were, or are being produced with significant levels of involvement from role-players in all spheres of government, the business community, civil society and representatives from neighbouring countries. While a process of consultation with a variety of role-players in the three spheres of government was embarked upon in preparation of the NSDP, this process did not involve role-players outside of national, provincial and local government. While this can be seen as an attempt not to involve, among other things, ‘the public’, the speed at which the NSDP had to be completed, the experimental nature of the exercise and the sensitivities around it, dictated against such an expanded exercise.

11. In many of the countries that were studied, the national spatial plan has a home in a government department and has a number of structures that attend to and assist in its preparation. An *ad hoc* team of consultants and an official in The Presidency produced the NSDP.

12. In nearly all of the international examples, reports were commissioned from experts to provide those producing the plan with the most up-to-date information on a particular issue/situation. The same was done to great effect in the case of the NSDP.

13. Many of the international frameworks are available on the Internet and can be downloaded with ease. None of the international examples, however, come close to the sophistication of the electronic NSDP with its hotlinks to source documents and explanatory maps.

14. While most of the frameworks are seen as policies that will shape/inform plans produced in the other spheres of government, the frameworks often become more than that – they do not only put in place a framework or policy, but move into the domain of plan preparation at national level. This is problematic in countries with distinctly defined areas of competence for each sphere/level of government. The NSDP is merely a narrative (National government's reading of the South African space economy); national government's reading of that narrative; a statement of its preferred categories of expenditure; a set of principles that will be followed in national government's support of proposals for infrastructure and development spending; and a mechanism by which spending at national, provincial and local government levels are structured, integrated and co-ordinated.

The conclusions of the report are that the NSDP is a state-of-the-art document in that it shares many of the themes/elements of the other instruments, such as:

- moving away from a fixation with maps dictating what a territory should be, to the use of maps as a way of making better sense of the territory
- limiting national government involvement in spatial planning to strategic issues only
- instituting both top-down and bottom-up planning, by providing only a core set of norms/principles in terms of which other spheres of government must plan their investment and development spending, instead of national government trying to plan for the use of space from above.

In a number of respects, the NSDP is a cutting-edge instrument that is ahead of many of the others. Ground-breaking components of NSDP are that it:

- puts in place a concrete mechanism in terms of which integrated development planning in the local sphere, provincial planning and national spatial guidance are formally linked up
- moves away from lengthy analyses of the national space economy and instead captures the essentials in an eloquent narrative, supported by research reports and GIS-generated maps
- provides an example of what policy articulation/translation could mean in practice as it uses the existing IDPs that have to be prepared by local government and links up, supports and utilises existing national and provincial legal and policy frameworks in the areas of local government planning, land development/use planning and transportation planning
- uses the two crucial components in planning for developing countries, i.e. *need* and *potential*, to read the national space and frame the parameters in terms of which infrastructure investment and development spending are to be planned and undertaken.